



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Jan 1 Gb eSn 18 08 07  
cont. i 18 08 35  
iSg 18 08 39  
D = 590 km = 5.3°.  
Ka e 18 09 47  
iSg 18 09 54  
West coast of Norway,  
61.8°N, 5.5°E. Origin  
time = 18 05 45.

" 1 Up iP 23 51 14 C  
iS 00 00 06  
microns sec  
S E 1.9 7  
M E 1.1 17  
M N 3.0 20  
M Z 1.7 21  
D = 7450 km = 67°.  
Ki iP 23 50 21  
iS 23 58 34  
microns sec  
S N 1.2 5  
M E 2.6 16  
M N 1.7 17  
M Z 4.7 18  
D = 6600 km = 59½°.  
Sk iP 23 50 54  
Gb iP 23 51 34 C  
Rat Islands, Aleutian  
Islands (h = 30 km).

" 2 Up iP 12 27 31 D  
iS 12 31 07  
i 12 31 19  
iSS 12 31 29  
i 12 33 09  
i 12 33 31  
microns sec  
P Z' 0.2 0.5  
S E 0.7 3  
M N 4.7 8  
M Z 4.0 7  
D = 2150 km = 19½°.  
Ki iP 12 25 49 D  
iS 12 27 56  
iSS 12 28 02  
i 12 29 33  
microns sec  
P Z' 0.9 0.6  
M E 12 8  
M N 9.9 7  
M Z 13 7  
D = 1300 km = 11.5°.  
Sk iP 12 26 51  
Gb iP 12 27 58 C

1962  
Jan 2 Gb iPP 12 28 18  
cont. iPPP 12 28 32  
iLg1 12 34 53  
iLg2 12 35 14  
Ka iP 12 28 10 C  
i 12 28 56  
i 12 32 40  
iLg1 12 35 33  
Svalbard region (h = 50 km).  
Magn. = 5.6 (Up).

" 2 Ki iP 13 46 30  
" 2 Ki iP 15 35 40  
" 2 Up iP 19 15 50 C  
Ki iP 19 15 22  
Mariana Islands (h = 180 km).

" 2 Up i(P) 21 29 29  
" 2 Up iP 23 28 03  
i 23 28 14  
microns sec  
P Z' 0.1 0.5  
Ki iP 23 27 45 D  
Sk iP 23 27 59

" 3 Up iP 18 03 54  
i 18 04 06  
microns sec  
P Z' 0.1 1.0  
Ki eP 18 02 58  
Gb iP 18 04 12  
Rat Islands, Aleutian  
Islands (h = 70 km).

" 3 Up iP 21 01 58  
Ki iP 21 01 33  
" 3 Ki iP 21 32 24 C  
microns sec  
P Z' 0.2 0.7

" 4 Up iP 01 25 11  
i 01 25 18  
Ki iP 01 25 16  
Near coast of Sumatra  
(h = 140 km).

" 4 Up iP 04 27 21  
iPP 04 30 06  
microns sec  
P Z' 0.4 1.0

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Jan 4 ~~/~~ Ki iP 04 26/44  
cont, microns/sec  
P Z' 0.1 1.2  
~~/~~ Sk iP 04 27 15  
~~/~~ Gb iP 04 27 40  
Near coast of Honshu,  
Japan (h = 180 km).

" 4 Up iP 04 47/11  
~~/~~ i 04 47 13  
iS 04 56 37  
microns sec  
P Z' 0.4 1.0  
S E 1.5 4  
S N 1.6 4  
M E 8.5 21  
M N 8.0 19  
M Z 6.7 17  
D = 8050 km = 72.2°  
~~/~~ Ki iP 04 46/36  
i 04 47 21  
iS 04 55 32  
iScS 04 56 26  
microns sec  
P Z' 0.2 1.0  
M E 14 21  
M N 8.3 17  
M Z 14 18  
D = 7450 km = 67°  
~~/~~ Sk iP 04 47 10  
~~/~~ Gb iP 04 47/31 C  
i 04 47 42  
i 04 50 00  
~~/~~ Ka iP 04 47 30  
Near Shikoku, Japan  
(h = 60 km).  
Magn. = 6.3 (Up, Ki).

" 4 Up iP 14 28 57  
microns sec  
P Z' 0.1 0.6  
Ki iP 14 30 22  
Gb iP 14 28 12

" 4 Ki iP 20 13 49 C  
Near coast of Sumatra  
(h = 60 km).

" 4 Up iP 21 36 41 C  
Ki iP 21 36 16 D  
Off east coast of  
Formosa (h = 40 km).

1962  
Jan 5 Up eL 01 17  
microns sec  
M E 1.5 18  
M N 4.1 20  
M Z 3.7 18  
Fiji Islands region  
(h = 25 km).

" 5 Up iP 04 08 00  
i 04 08 01

" 5 Up iP 04 34 39  
iPP 04 36 17  
microns sec  
P Z' 0.1 0.5  
Ki iP 04 34 46  
Gb iP 04 35 03  
Ka iP 04 34 45 D  
Hindu Kush (h = 180 km).

" 5 Up i(P) 05 53 00

" 5 Up i(P) 11 20 53

" 5 Up iP 11 36 22

" 5 ~~/~~ Up iP 14 14/29  
~~/~~ Ki iP 14 14 29  
i 14 14 46  
Near south coast of  
Sumatra (h = 25 km).

" 5 Ki iP 16 00 34  
Near south coast of  
Sumatra (h = 25 km).

" 5 Up iP 23 19 21  
Rat Islands, Aleutian  
Islands (h = 70 km).

" 6 Up i(P) 23 49 07

" 7 Up i(P) 00 04 27

" 7 ~~/~~ Up iP 01 24/55 C  
microns/sec  
P Z' 0.1 0.7  
~~/~~ Ki iP 01 24 02  
i 01 24 15  
microns sec  
P Z' 0.1 1.2

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Jan 7 Sk iP 01 24 29  
cont. ✓ Near Kodiak Island  
(h = 30 km).

" 7 Up iP 01 40 53  
Rat Islands, Aleutian  
Islands (h = 60 km).

" 7 Up iP 10 07 05  
i 10 07 09  
iS 10 10 13  
iLg1 10 11 28  
i 10 12 46

microns sec  
P N 2.7 9  
P Z' 0.2 0.6  
S N 0.4 3  
M E 14 8  
M N 52 7  
M Z 40 5

D = 1800 km = 16°.

✓ Ki iP 10 08 34  
iS 10 13 02  
i 10 15 39  
iLg1 10 16 02  
iLg2 10 16 27  
iRg 10 18 30

microns sec  
P N 4.0 5  
P Z' 0.5 1.0  
S E 1.8 7  
S N 4.1 10  
S Z 4.6 13  
M E 19 8  
M N 31 12  
M Z 55 12

D = 2650 km = 24°.

✓ Sk iP 10 07 50  
i 10 09 01  
i 10 14 43

✓ Gb iP 10 06 44  
iLg1 10 10 54  
iLg2 10 11 31

✓ Ka iP 10 06 17  
Yugoslavia (h = 30 km).  
Magn. = 6.3 (Ki).

" 7 Up iP 15 15 39

" 7 Sk iP 18 12 01  
Yugoslavia.

1962  
Jan 7 Up iP 19 28 32  
Ki iP 19 29 58

microns sec  
P Z' 0.1 1.0  
Sk iP 19 29 14  
Yugoslavia.

" 8 Up iP 01 11 54 D  
i 01 12 02  
iS 01 21 18  
i(PS) 01 21 58

microns sec  
P E 0.7 1  
P Z 0.6 2  
P Z' 0.2 0.9  
S E 1.9 5  
S N 0.5 2  
M E 19 24  
M N 16 24  
M Z 24 24

D = 8050 km = 72½°.

✓ Ki iP 01 11 53  
iS 01 21 23

microns sec  
P Z 2.0 6  
P Z' 1.5 2.1  
S E 5.9 10  
S N 3.4 10  
M E 28 23  
M N 14 25  
M Z 42 23

D = 8050 km = 72½°.

✓ Sk iP 01 11 38  
iPcP 01 12 00  
i 01 12 19  
i 01 15 32

✓ Gb iP 01 11 38  
iPcP 01 11 57  
✓ Ka iP 01 11 49

Near south coast of  
Dominican Republic  
(h = 60 km).  
Magn. = 6.7 (Up, Ki).

" 8 Up iPcP 06 02 20  
microns sec

PKP Z' 0.1 0.7  
✓ Ki iPcP 06 02 09  
✓ Sk iPcP 06 02 17  
✓ Gb iPcP 06 02 29  
✓ Ka iPcP 06 02 31

Tonga Islands region  
(h = 130 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962	Jan 8	Up	iP	22 32 35	
			i	22 32 39	
			iPP	22 34 13	
				microns sec	
			P	Z' 0.2 1.0	
			PP	Z' 0.1 1.0	
		Ki	iP	22 32 44 C	
				microns sec	
			P	Z' 0.2 1.1	
		Sk	iP	22 33 00	
			ipP	22 33 47	
		Gb	iP	22 32 58	
			iPP	22 34 40	
		Ka	iP	22 32 42	
			ipP	22 33 27	
				Hindu Kush (h = 210 km).	
				Magn. = 5.7 (Up, Ki).	
	" 9	Up	i(P)	00 44 15	
	" 9	Ki	iP	11 53 08	
	" 9	Up	iP	12 51 49 C	
			i	12 52 32	
				microns sec	
			P	Z' 0.1 0.7	
			M	E 3.1 15	
			M	N 6.9 18	
			M	Z 6.5 20	
		Ki	iP	12 51 01	
				microns sec	
			P	Z' 0.2 1.5	
			M	E 11 22	
			M	N 8.1 21	
			M	Z 14 20	
		Sk	iP	12 51 41	
			ipP	12 52 04	
		Gb	iP	12 52 09	
			ipP	12 52 32	
			i	12 52 36	
		Ka	iP	12 52 10	
				Near coast of Hokkaido,	
				Japan. h = 90 km (Sk, Gb).	
				Magn. = 6.0 (Up, Ki).	
	" 9	Up	i(P)	18 42 06	
	" 9	Up	iP	22 23 45	
			iPcP	22 24 14	
				microns sec	
			P	Z' 0.1 0.5	
				Sea of Okhotsk	
				(h = 480 km).	
1962	Jan 10	Gb	iPKP	00 14 20 C	
				Fiji Islands region	
				(h = 600 km).	
	" 10	Sk	iP	00 29 11	
	" 10	Up	iP	02 16 46	
		Sk	iP	02 17 27	
				Greece.	
	" 10	Up	iP	02 30 53	
		Ki	iP	02 30 00	
				Fox Islands, Aleutian	
				Islands (h = 40 km).	
	" 10	Up	iP	03 27 06	
	" 10	Up	iP	12 41 43 D	
			i	12 41 52	
			iS	12 45 59	
				microns sec	
			P	Z' 0.1 0.6	
				D = 2650 km = 24°.	
		Ki	iP	12 42 53	
		Gb	iP	12 41 31 D	
				Aegean Sea-southwestern	
				Turkey.	
	" 10	Up	i(P)	18 32 53	
	" 10	Up	iP	20 38 40	
			i	20 38 46	
				microns sec	
			P	Z' 0.1 0.6	
	" 10	Up	i(P)	22 10 36	
	" 11	Up	iP	03 11 00 C	
			i	03 11 34	
				microns sec	
			P	Z' 0.3 0.6	
		Ki	iP	03 11 00	
				microns sec	
			P	Z' 0.1 0.8	
		Gb	iP	03 11 23	
				Nepal (h = 40 km).	
	" 11	Up	iP	05 08 54	
			iS	05 11 58	
			iSS	05 12 06	
			i	05 14 36	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Jan 11 Up  
cont. microns sec

P	N	1.3	1
P	Z	1.2	1
P	Z'	0.6	1.0
S	E	1.0	3
M	E	17	8
M	N	70	10
M	Z	71	10

D = 1800 km = 16°  
 Ki iP 05 10 23  
 i 05 15 05  
 i(SS) 05 15 19  
 iL(3.27) 05 18 48

microns sec  
 P Z' 0.8 1.0  
 M E 31 11  
 M N 34 12  
 M Z 60 12

Sk iP 05 09 40  
 iL(3.21) 05 16 33  
 Gb iP 05 08 36 D  
 i 05 08 58  
 iLg1 05 12 48

Near coast of central  
 Yugoslavia (h = 25 km).  
 Magn. = 6.0 (Up, Ki).

" 11 Up i(P) 05 52 27

" 11 Ki iP 05 55 25  
 Sk iP 05 54 43  
 Yugoslavia.

" 11 Sk iP 06 51 11  
 Yugoslavia.

" 11 Up iP 07 00 06

microns sec  
 P Z' 0.3 1.0  
 Ki iP 06 59 13  
 Gb iP 07 00 19

Andreanof Islands,  
 Aleutian Islands  
 (h = 60 km).

" 11 Up i(P) 10 06 43

microns sec  
 M E 3.3 12  
 M N 6.1 10  
 M Z 7.5 11

Ki iP 10 08 04  
 Sk iP 10 07 22  
 Yugoslavia.

1962

Jan 11 Ki iP 12 35 18  
 Sk iP 12 36 34

" 11 Sk iP 19 48 55  
 Yugoslavia.

" 11 Up iP 20 36 40 C

" 11 Up i(P) 22 30 13  
 Ki iP 22 30 20

" 12 Ki iP 00 13 22  
 Sk iP 00 12 39  
 Yugoslavia.

" 12 Ki iP 09 02 49

" 12 Ki eP 10 05 04

microns sec  
 P Z' 0.1 0.8

" 12 Sk iP 10 59 33 C  
 Yugoslavia.

" 12 Up iP 12 14 51

" 12 Up iP 12 23 09

" 12 Ki iP 13 48 25  
 Hokkaido, Japan  
 (h = 100 km).

" 12 Up i(P) 20 52 06  
 iP 20 52 33  
 Ki iP 20 53 54

microns sec  
 P Z' 0.1 1.3  
 Sk iP 20 53 11  
 Yugoslavia.

" 13 Up eP 00 59 07  
 Sk iP 00 59 51  
 Yugoslavia.

" 13 Up iP 04 51 57

Ki iP 04 53 21  
 Sk iP 04 52 38  
 Yugoslavia.

" 13 Up iP 04 59 29 C  
 Ki iP 04 58 35  
 Rat Islands, Aleutian  
 Islands (h = 50 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
Jan 13	Up	iP	05 43 28 C	Jan 16	Ki	iP	09 50 10
		P	microns sec Z' 0.2 0.5	cont.			
		Ki iP	05 43 11	" 16	Up	iPKP	11 55 25 C
		Sk iP	05 43 34				microns sec
			Mindoro, Philippine Islands (h = 60 km).			PKP Z'	0.6 0.8
"	13	Ki iPKP	11 25 06			M E	4.0 21
			North Island, New Zealand (h = 25 km).			M N	6.2 23
"	13	Up i(P)	11 36 28			M Z	8.0 24
"	13	Up iP	12 21 14			Ki iPKP	11 55 04
		i	12 22 00			i	11 55 13
"	13	Ki iP	13 06 48				microns sec
		P	microns sec Z' 0.1 1.0			M E	6.7 22
		Sk iP	13 06 02			M N	4.0 22
			Yugoslavia.			M Z	7.7 21
"	14	Up eP	07 35 52			Sk iPKP	11 55 19
			Hokkaido, Japan (h = 30 km).			Gb iPKP	11 55 31
"	14	Up iP	13 44 30 C			i	11 55 39
		Ki iP	13 43 46			Ka iPKP	11 55 35
			Off northwest coast of Hokkaido, Japan (h = 190 km).				Kermadec Islands (h = 40 km). Magn. = 6.5 (Up, Ki).
"	14	Ki iP	16 48 33	"	16	Up iP	18 28 14
		Sk iP	16 47 51				microns sec
			Yugoslavia.			P	Z' 0.1 0.9
"	14	Up iP	19 54 42			Ki iP	18 28 45
"	15	Ki iP	08 33 48				microns sec
		Sk iP	08 33 25			P	Z' 0.1 1.2
		i	08 33 40				Mid-Atlantic Ocean (h = 30 km).
			Off coast of Venezuela (h = 80 km).	"	17	Ki iP	15 42 32
"	15	Sk eP	08 40 58				Molucca Passage (h = 25 km).
			Yugoslavia.	"	17	Ki iP	15 56 24
"	16	Up iP	06 30 30				Molucca Passage (h = 70 km).
"	16	Up iP	09 49 58	"	17	Up iP	19 59 04
		i	09 50 03	"	18	Up iP	13 40 37
				"	18	Ki i(P)	18 37 10
				"	19	Up iP	03 44 06
						i	03 44 20
						Ki iP	03 44 06
						Sk e(P)	03 44 57
				"	19	Up iP	06 11 52
						Ki iP	06 10 56
						i	06 11 12
							Off southeast coast of Kamchatka (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962	Jan 19	Up	iP	19 42 51	
			i	19 43 02	
			iS	19 46 52	
			i	19 46 55	
				microns sec	
		M	E	5.4	16
		M	N	8.5	16
		M	Z	8.6	18
				D = 2400 km = 21½°.	
		Ki	iP	19 44 06	
			iS	19 48 59	
				microns sec	
		P	Z'	0.2	1.4
		M	E	6.5	15
		M	N	3.7	13
		M	Z	6.0	12
				D = 3200 km = 29°.	
		Sk	iP	19 43 33	
		Gb	iP	19 42 38	
		Ka	iP	19 42 08	
				Greece (h = 40 km).	
				Magn. = 5.5 (Up, Ki).	
"	19	Ki	iP	20 55 52	
			i	20 56 07	
				Negros, Philippine Islands (h = 100 km).	
"	19	Up	iP	22 23 12	
			ipP	22 23 29	
			iS	22 27 13	
				microns sec	
		M	E	3.5	17
		M	N	5.1	18
		M	Z	4.6	18
				D = 2350 km = 21°.	
		Ki	iP	22 24 27	
				microns sec	
		M	E	2.4	15
		M	N	1.4	12
		M	Z	2.7	12
		Sk	iP	22 23 55	
		Gb	iP	22 23 02	
			i	22 23 05	
				Greece (h = 60 km).	
"	20	Up	iP	03 38 19	
		Ki	iP	03 38 59	
				Iran (h = 40 km).	
"	20	Up	e(P)	18 36 07	
1962	Jan 21	Up	iP	02 55 30	
			i	02 59 10	
				microns sec	
			M	E	2.2 12
			M	N	3.9 10
			M	Z	3.1 10
		Ki	iP	02 56 56	C
				microns sec	
		P	Z'	0.1 1.0	
		M	E	1.3 12	
		M	N	0.9 12	
		M	Z	1.5 13	
		Sk	iP	02 56 12	
				Near coast of central Yugoslavia (h = 30 km).	
"	21	Up	iLg1	06 10 06	
			iSg	06 10 18	
				D = 820 km = 7.4°.	
		Ki	iPg	06 07 20	
			i	06 08 00	
			iSg	06 08 07	
				D = 370 km = 3.3°.	
		Sk	iPg	06 07 19	
			iSg	06 08 01	
				D = 360 km = 3.2°.	
				Off west coast of Norway, 67.0°N, 12.2°E. Origin time = 06 06 15.	
"	21	Up	iSKP	13 13 03	
		Ki	iSKP	13 12 31	
		Sk	eSKP	13 12 48	
				Fiji Islands (h = 560 km).	
"	21	Up	iP	18 04 28	
			i	18 04 31	
		Ki	iP	18 03 43	
		Ka	iP	18 04 52	
				Hokkaido, Japan (h = 50 km).	
"	21	Ki	iP	19 48 30	
		Sk	eP	19 47 47	
				Yugoslavia.	
"	22	Ki	iP	00 05 47	
"	22	Up	iP	00 08 38	
"	22	Gb	i(P)	06 45 49	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962	Jan 22	Up	iP	07 34 47 C		1962	Jan 24	Up	iP	11 29 23 C	
				microns sec						microns sec	
			M	E 3.4 18					P	Z' 0.1 0.7	
			M	N 3.7 17							
			M	Z 2.0 14			"	24	Up	iP 15 51 28	
			Ki	iP 07 34 11						ipP 15 51 49	
				Lake Baikal region						microns sec	
				(h = 70 km).						P Z' 0.1 0.9	
	"	23	Up	iP 11 45 18 C				Ki	iP 15 51 04 D		
				microns sec						ipP 15 51 25	
			P	Z 0.1 0.7						Near east coast of	
			Ka	iP 11 44 36						Formosa. h = 80 km (Up, Ki).	
	"	23	Up	iP 16 10 18			"	25	Ki	iP 00 59 18	
				iPcP 16 10 43				"	25	Ki	iPKP 02 09 06
			Ki	iP 16 09 25						microns sec	
			i	16 09 36						M E 1.2 18	
				microns sec						M N 0.7 17	
			P	Z' 0.1 1.3						M Z 1.4 18	
				Fox Islands, Aleutian						Solomon Islands	
				Islands (h = 25 km).						(h = 80 km).	
	"	23	Up	iP 17 35 19			"	25	Gb	i(P) 06 24 32	
				i 17 35 35				"	25	Up	iP 07 01 59 D
				microns sec						microns sec	
			P	Z' 0.1 1.1						P Z' 0.1 0.7	
			Ki	iP 17 36 48			"	25	Up	i(P) 07 15 08	
			Sk	iP 17 36 02					Ka	e(P) 07 14 57	
				Near coast of Emilia			"	25	Up	i(Pg) 07 21 27	
				Romagna, Italy						i(Sg) 07 21 38	
				(h = 60 km).			"	25	Ka	iP 08 16 41	
	"	23	Up	e(P) 18 34 14			"	25	Up	i(P) 09 11 50	
	"	24	Up	iPKP 05 05 24			"	25	Up	i(P) 09 11 50	
			Ki	iPKP 05 05 11 C			"	25	Ka	i(P) 09 56 39	
				microns sec			"	26	Up	iP 05 34 03	
				PKP Z' 0.1 0.9						i 05 34 09	
			Sk	iPKP 05 05 21						ipP 05 36 58	
				New Hebrides Islands						microns sec	
				(h = 130 km).						P Z' 0.4 0.7	
	"	24	Up	iP 05 35 54				Ki	iP 05 33 28 C		
	"	24	Up	i(P) 08 25 06						ipP 05 36 08	
				microns sec						microns sec	
			(P)	Z' 0.1 0.6						P Z' 0.4 0.9	
				Seismic?							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962					
Jan 26	Sk	iP	05 33 59	Jan 26	Up	iP	20 30 47		
cont.		iPP	05 36 53	"	26	Up	iP	21 54 22	
	Gb	iP	05 34 22	"	27	Up	iP	05 01 39	
	Ka	iP	05 34 17 C			i	05 01 41		
		iPP	05 37 21				microns sec		
	South of Honshu, Japan (h = 330 km).					P	Z' 0.1 0.5		
	Magn. = 6.2 (Up, Ki).			"	27	Up	iP	05 47 29	
"	26	Gb	iPKP	06 28 43		Sk	iP	05 48 11	
	Tonga Islands region (h = 210 km).				(Greece).				
"	26	Up	iP	08 23 00 C	"	27	Up	i(P)	07 37 15
		iS	08 27 25			Ki	i(P)	07 36 23	
			microns sec	"	27	Up	iP	08 37 06 C	
	P	E	0.7 2			i	08 37 11		
	P	N	1.9 2			Ki	iP	08 38 25	
	P	Z'	1.0 0.5		(Greece).				
	S	E	1.0 2	"	27	Up	iP	12 20 29 D	
	S	N	2.9 2	"	27	Ki	iP	12 42 06	
	M	E	23 15	"	27	Ki	iP	23 19 29	
	M	N	17 15				microns sec		
	M	Z	20 15			P	Z' 0.1 1.3		
	D = 2800 km = 25°.				Gulf of California (h = 20 km).				
	Ki	iP	08 24 10 C	"	28	Up	e(P)	00 35 53	
		iS	08 29 20	"	28	Sk	e(P)	00 58 23	
		iLg2	08 35 43		(Greece).				
			microns sec	"	28	Up	i(P)	02 26 56	
	P	N	1.0 3			i	02 27 06		
	P	Z'	2.3 1.5	"	28	Up			
	S	E	0.9 5				microns sec		
	S	N	1.3 3			M	N 1.4 22		
	M	E	15 14			Ki	iPKP	05 59 13 C	
	M	N	6.3 12		Tonga Islands (h = 25 km).				
	M	Z	10 12	"	28	Ki	iP	16 54 26 D	
	D = 3600 km = 32½°.						microns sec		
	Sk	iP	08 23 38 C			P	Z' 0.1 1.0		
	Gb	iP	08 22 48 C		Northern Celebes region (h = 100 km).				
		i	08 23 03						
	Ka	iP	08 22 24 C						
		iS	08 26 20						
	D = 2400 km = 21½°.								
	Mediterranean Sea, west of Crete (h = 30 km).								
	Magn. = 6.5 (Up, Ki).								
"	26	Ki	iPKP	12 07 50 C					
			microns sec						
		PKP	Z' 0.1 1.0						
	Kermadec Islands region (h = 170 km).								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Jan 29 Up i(P) 13 40 49  
i 13 40 51

Sonic boom?

" 29 Gb i(P) 15 07 51

" 29 Up i(Sg) 19 10 13  
Sk eSn 19 08 26  
iSg 19 08 54  
D = 570 km = 5.1°.  
Gb e(Pn) 19 07 47  
iSg 19 09 34  
Um iSg 19 10 49

Off west coast of  
Norway, 61.7°N, 2.2°E.  
Origin time = 19 06 06.

X ✓ 30 Um iP 08 47 00  
i 08 47 17

Near coast of  
Nicaragua (h = 100 km).

" 30 Up iP 15 35 25 D  
i 15 35 59

microns sec  
P Z' 0.1 0.5

X ✓ Ki iP 15 34 57  
ipP 15 35 46  
✓ Sk iP 15 35 21  
✓ Gb iP 15 35 40  
✓ Um iP 15 35 06  
✓ Ka iP 15 35 44 C

Mariana Islands region.  
h = 200 km (Ki).

" 30 Up iP 17 22 20  
Ki iP 17 21 16  
Gb iP 17 22 31  
ipP 17 22 47  
Ka iP 17 22 59  
Laptev Sea (h = 60 km).

X ✓ 31 Up iP 00 13 20  
i 00 13 23  
iPP 00 14 44  
✓ Ki iP 00 13 28  
✓ Sk eP 00 13 43  
✓ Gb iP 00 13 42  
Um iP 00 13 17  
i 00 13 21  
✓ Ka iP 00 13 30

Tadzhik, U.S.S.R.  
(h = 60 km).

Ingrid Pettersson Markus Båth  
September 3, 1962



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Feb 2 ✓ Up iP 17 31 16  
 ✓ Ki eP 17 30 31  
 ✓ Gb iP 17 31 37  
 ✓ Um iP 17 30 48  
 ✓ Ka iP 17 31 34

Kurile Islands  
(h = 50 km).

" 2 Up iP 17 50 19

" 3 ✓ Up iPP 00 56 29  
 ePS 01 05 44  
 iSS 01 11 33

microns sec

M E 8.3 17  
 M N 6.9 20  
 M Z 13 18

D = 11700 km =  $105\frac{1}{2}^\circ$ .

✓ Ki eSKS 01 02 26  
 iS 01 03 12  
 e 01 04 48  
 eSS 01 10 21

microns sec

SKS E 1.5 11  
 S N 1.6 12  
 M E 13 19  
 M N 7.2 19  
 M Z 17 20

D = 11200 km =  $101^\circ$ .

✓ Gb ePP 00 57 01  
 ✓ Um iP 00 51 53  
 iPP 00 56 13  
 iSKS 01 02 32  
 iS 01 03 35  
 ePS 01 05 11  
 eSS 01 10 45

D = 11400 km =  $102\frac{1}{2}^\circ$ .

North of New Guinea  
(h = 20 km).

Magn. = 6.6 (Up, Ki).

" 3 Ki iPg 09 01 42  
 iSg 09 01 47

microns sec

Sg Z' 0.1 0.8

Explosion?

" 3 Up iP 10 21 20

" 3 Up iP 10 50 01

" 4 Um iP 00 27 15

1962

Feb 4 Um iP 06 53 42

" 4 Up iP 10 48 21  
 Sk iP 10 49 00  
 Ka iP 10 47 44

" 4 ✓ Up iP 21 40 28 C

microns sec

P Z' 0.1 0.6

M N 3.7 15

M Z 6.7 17

✓ Ki iP 21 41 11

i 21 41 23

microns sec

P Z' 0.2 1.5

✓ Gb iP 21 40 06

South Atlantic Ocean  
(h = 20 km).

Magn. = 5.8 (Up, Ki),

" 5 Up iP 04 25 18 C

" 5 Up i(P) 08 32 15  
 Seismic?

" 5 Up i(P) 12 12 56 C  
 Seismic?

" 5 Up iP 19 39 54

" 5 Up iP 23 07 09 C

i 23 07 27

ipP 23 07 44

microns sec

P Z' 0.4 1.0

✓ Ki iP 23 06 30 C

ipP 23 07 05

microns sec

P Z' 0.4 1.0

✓ Gb iP 23 07 29 C

ipP 23 08 06

✓ Um iP 23 06 47 C

ipP 23 07 20

Central Honshu, Japan.

h = 140 km (Up, Ki, Gb, Um).

Magn. = 6.2 (Up, Ki).

" 6 Ki iP 04 50 27

Kodiak Island region,  
Alaska (h = 80 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962												
Feb	7	Up	iP	03	31	53	D	Feb	9	Up	iP	14	39	45		
			i	03	31	55				Um	iP	14	39	29		
		Ki	i(P)	03	31	33		"	9	Ki	iP	22	04	33		
		Sk	iP	03	32	05		<del>X</del>		Um	iP	22	04	35		
"	7	Up	iP	12	20	24				Celebes (h = 50 km).						
"	8	Up	e(P)	06	03	38		"	10	Sk	eP	19	42	55		
		Ki	iP	06	01	28		<del>X</del>		Leeward Islands (h = 70 km).						
"	8	Up						"	11	Up	iP	02	53	56		
				microns sec							ipP	02	55	34		
		M	E	2.4	18						microns sec					
		M	N	2.8	20					P	Z'	0.5	0.5			
		M	Z	2.7	17					Ki	iP	02	53	24		
		Ki		microns sec								microns sec				
			M	E	3.7	20				P	Z'	0.2	1.0			
			M	N	1.9	20				Sk	iP	02	53	52		
			M	Z	6.9	20				ipP	02	56	56			
		Um	iPS	12	17	09				Gb	iP	02	54	15		
		New Guinea (h = 90 km).								Um	iP	02	53	37		
"	8	Up	iP	14	18	38				Ka	iP	02	54	19		
"	8	Ki	iP	16	56	48				South of Honshu, Japan. h = 390 km (Up).						
"	8	Up	iP	19	53	01		"	11	Up	iP	10	12	22		
				microns sec								microns sec				
			P	Z'	0.1	0.9				P	Z'	0.1	1.0			
		Ki	iP	19	53	01				Um	iP	10	11	56	C	
		i		19	53	13		<del>X</del>		Fox Islands, Aleutian Islands (h = 50 km).						
				microns sec					"	12	Gb	i(P)	02	42	33	
			P	Z'	0.2	1.0		"	12	Ki	iP	17	36	34		
		Sk	iP	19	53	15		<del>X</del>		Southern Honshu, Japan (h = 320 km).						
		Gb	iP	19	53	14		"	12	Up	iP	23	37	00		
		Um	iP	19	52	58				Bonin Islands region (h = 170 km).						
		Ka	iP	19	53	05		"	13	Ki	iP	00	52	18		
		Sumatra (h = 40 km).								North Atlantic Ocean (h = 25 km).						
"	9	Up	iP	01	13	48		"	13	Up	iP	02	33	02		
		Um	iP	01	12	57	D			Kurile Islands (h = 50 km).						
		Central Honshu, Japan (h = 25 km).														
"	9	Ki	iSKP	12	23	35										
		Gb	iPKP	12	21	14										
		Kermadec Islands region (h = 540 km).														

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Feb 13 Up iP 20 44 39  
Ki iP 20 43 54 D  
Near coast of Hokkaido,  
Japan (h = 110 km).

" 14 Um iP 00 09 00

" 14 Up iP 00 24 11

" 14 Up iP 06 54 57  
i(PP) 06 56 30  
iPP 06 56 37  
i 06 56 42  
iSKS 07 01 46  
iSKKS 07 03 29  
iPS 07 06 25  
iPPS 07 07 54

microns sec

PP E 0.8 4  
PP N 0.6 3  
PP Z 2.9 4  
SKS E 1.5 8  
SKKS E 5.0 11  
SKKS N 1.0 5  
M E 120 24  
M N 63 20  
M Z 110 21

D = 13550 km = 122°.

Ki iP 06 55 02  
iPP 06 56 57  
i 06 58 17  
iSKS 07 02 00  
iS 07 04 59  
iPS 07 06 51  
ePPS 07 08 37  
eSS 07 13 55  
iSSP 07 14 17

microns sec

PKP Z' 0.3 1.0  
PP E 16 20  
PP Z 12 11  
PP Z' 1.6 2.5  
SKS E 4.5 10  
S N 4.0 10  
M E 110 22  
M N 72 22  
M Z 170 21

D = 13900 km = 125°.

Gb iP 06 54 51  
i 06 55 05  
Um eP 06 51 40  
iPKP 06 54 58

1962  
Feb 14 Um i 06 55 17  
cont. ✓ iPP 06 56 47  
i 06 58 14  
i 07 05 37  
iPPS 07 08 22  
Ka iP 06 54 59  
i 06 55 08

Near coast of Chile  
(h = 40 km).  
Magn. = 7.4 (Up, Ki).

" 14 Up iP 07 23 27 C

" 14 Ki iP 08 30 22

" 14 Ki iP 11 56 24 C  
Near coast of Mindanao,  
Philippine Islands  
(h = 150 km).

" 14 Up iP 22 10 26

" 15 Ki iP 02 03 43

" 15 Um iSKP 15 51 04  
South of Fiji Islands  
region (h = 560 km).

" 15 Ki iP 23 51 26  
South of Honshu, Japan  
(h = 260 km).

" 16 Up iP 13 50 32 D

microns sec  
P Z' 0.1 0.8  
Ka i(P) 13 49 55  
Albania.

" 16 ✓ Up iP 16 05 21  
Ki eP 16 04 30  
Kurile Islands  
(h = 25 km).

" 16 Up iSg 22 15 49  
Ki iP 22 12 19  
iPg 22 12 32  
iSn 22 13 08  
iSg 22 13 20

microns sec  
Sg Z' 0.2 0.5  
D = 400 km = 3.6°.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962									
Feb	16	Sk	ePg	22	12	35	Feb 18	Up					
cont.			iSg	22	13	24	cont.		P	Z'	0.1 0.8		
			D = 420 km = 3.8°.						Ki	iP	17 37 45 D		
			Off west coast of							ipP	17 37 58		
			Norway, 67.5°N, 11.1°E.							iS	17 47 59		
			Origin time = 22 11 21.										
"	17	Um	iP	10	12	54 D			P	Z	1.5 5		
"	17	Up	iP	18	43	36			P	Z'	0.6 1.5		
		Ki	iP	18	44	35			S	E	0.8 12		
"	17	Up	iP	22	39	24			M	E	1.3 22		
			i	22	39	29			M	N	1.5 24		
		Ki	iP	22	38	29			D = 9400 km = 84.1°.				
			iPcP	22	39	17			Sk	iP	17 37 30 D		
		Um	iP	22	38	55				ipP	17 37 44		
		Fox Islands, Aleutian							Gb	iP	17 37 31		
		Islands (h = 30 km).								ipP	17 37 44		
"	18	Up	i(P)	00	28	30				i	17 37 50		
"	18	Up	iP	01	39	25			Um	iP	17 37 47 D		
		Ki	eP	01	38	29				ipP	17 38 02		
		Kurile Islands								eS	17 48 06		
		(h = 50 km).							D = 9450 km = 85°.				
"	18	Up	iP	07	05	29			Ka	iP	17 37 36		
				microns sec					Northern Colombia.				
		M	E	4.7	18				h = 60 km(Up,Ki,Sk,Gb,Um).				
		M	N	3.6	18				"	19	Ki	iP	00 11 09 D
		M	Z	2.9	18				"	19	Um	e(P)	06 09 27
		Ki	iP	07	06	36			"	19	Up	iP	11 21 41
				microns sec							Ki	iP	11 21 37
		M	E	5.0	18						Um	iP	11 21 35
		M	N	1.6	20				"	19	Sk	e(P)	15 33 08
		M	Z	3.3	18				"	19	Up	i(P)	15 47 22
		Sk	iP	07	05	58					Ka	i(P)	15 46 36
		Um	iP	07	06	12			"	19	Up	iP	20 39 17
		Tunisia. Magn. = 5.3 (Up, Ki).							"	19	Up	iP	20 52 07
"	18	Ki	iP	10	52	55			"	20	Up	iP	09 27 46
			i	10	53	16					Ki	iP	09 27 49
		Um	iP	10	53	14					Sk	iP	09 28 03
		Near coast of Hokkaido,									Um	iP	09 27 45
		Japan (h = 40 km).									Nicobar Islands		
"	18	Ki	iP	11	14	30					(h = 30 km).		
"	18	Up	iP	17	37	43			"	20	Up	i(P)	10 11 49
			ipP	17	37	57			"	20	Um	iP	10 13 19
											i	10 13 30	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Feb 20 Up iPKP 10 25 47 D  
microns sec  
PKP Z' 0.4 0.5  
Ki iPKP 10 25 25  
iSKP 10 28 08  
microns sec  
SKP Z' 0.2 1.0  
Sk iPKP 10 25 41  
Gb iPKP 10 25 57 D  
i 10 26 01  
Um iPKP 10 25 36  
Ka iPKP 10 25 57  
South of Fiji Islands  
region (h = 660 km).

" 20 Um iPKP 14 30 31 D  
La Rioja Province,  
Argentina (h = 140 km).

" 20 Up iP 16 16 44 C  
ipP 16 17 02  
microns sec  
P Z' 0.4 0.7  
M E 5.7 20  
M N 6.1 20  
M Z 9.0 20  
Ki iP 16 16 00 C  
eS 16 24 08  
microns sec  
P Z' 0.5 1.0  
S N 2.2 11  
M E 9.1 20  
M N 7.6 22  
M Z 16 21  
Sk iP 16 16 35 C  
ipP 16 16 49  
Gb iP 16 17 05 C  
Um iP 16 16 19 C  
ipP 16 16 34  
Ka iP 16 17 07  
Near coast of Hokkaido,  
Japan. h = 60 km (Up, Sk,  
Um). Magn. = 6.5 (Up, Ki).

" 20 Up iP 19 19 36  
Um iP 19 19 18  
Kurile Islands  
(h = 20 km).

" 20 Up iP 20 00 34 C

1962  
Feb 20 Up iP 22 13 02 D  
iS 22 21 28  
iSS 22 25 53  
microns sec  
P Z' 0.5 0.9  
M E 11 20  
M N 36 20  
M Z 12 16  
D = 6900 km = 62°.  
Ki iP 22 12 52 D  
iSS 22 25 09  
eSSS 22 27 51  
microns sec  
P Z' 0.6 1.0  
M E 14 13  
M N 21 17  
M Z 17 13  
D = 6800 km = 61°.  
Sk iP 22 13 18  
Gb iP 22 13 22 D  
Um iP 22 12 52 D  
iS 22 21 11  
D = 6800 km = 61°.  
Ka iP 22 13 13  
Northern Burma (h = 25 km).  
Magn. = 6.6 (Up, Ki).

" 21 Up iPKP 00 25 31  
microns sec  
PKP Z' 0.3 0.7  
Ki ePKP 00 25 19  
Um iPKP 00 25 20  
Tonga Islands region  
(h = 40 km).

" 21 Up iP 10 04 53  
Rat Islands, Aleutian  
Islands (h = 40 km).

" 21 Up iP 12 29 15

" 21 Up iSn 12 46 55  
i 12 47 08  
iS<sup>x</sup> 12 47 22  
iSg 12 47 40  
D = 750 km = 6.7°.  
Ki e 12 48 29  
iSg 12 49 06  
Sk iPn 12 45 08  
i 12 46 20  
iSg 12 46 26  
D = 490 km = 4.4°.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Feb 21 Gb i 12 46 17  
cont. iSn 12 46 30  
i 12 46 51  
iSg 12 46 58  
D = 590 km = 5.3°.  
Ka i(Sn) 12 47 18  
iSg 12 48 14  
D = 870 km = 7.8°.  
Off west coast of Norway,  
61.4°N, 4.4°E. Origin  
time = 12 43 59.

" 21 / Ki iP 17 34 16 D  
/ Um iP 17 34 25 D  
Chiapas, Mexico  
(h = 80 km).

" 22 Up iP KP 10 09 49  
Sk iP KP 10 09 45 C  
Um iP KP 10 09 39  
Kermadec Islands  
(h = 250 km).

" 22 Up iP 16 49 47  
Ki iP 16 49 16  
Sk iP 16 49 47  
Gb iP 16 50 18  
Um iP 16 49 28  
Ryukyu Islands  
(h = 25 km).

" 23 Up i(P) 07 27 53

" 23 Up iP 11 37 54

" 23 Um i(P) 14 23 06

" 23 Um e(P) 18 09 18

" 23 Up iP 19 42 02  
Ki iP 19 41 39  
Um iP 19 41 49 D  
Samar, Philippine Islands  
(h = 100 km).

" 23 Ki iP 20 12 57  
Samar, Philippine Islands  
(h = 100 km).

" 23 Up iSS 20 56 52

1962

Feb 23 Up microns sec  
cont. M E 1.9 20  
M N 4.1 20  
M Z 4.5 20

Ki microns sec  
M E 2.8 21  
M Z 4.3 19  
New Britain (h = 25 km).  
Magn. = 6.1 (Up, Ki).

" 24 Um iP 01 16 04 C  
Off coast of El Salvador  
(h = 40 km).

" 24 Um i(P) 06 18 39  
Near coast of Sumatra  
(h = 25 km).

" 24 Up iP 10 03 34

" 24 Sk i(P) 13 57 59  
i(Sg) 13 58 25

" 24 Ki iP 14 01 20 D  
Sulu Sea (h = 25 km).

" 24 Up iP 18 14 39  
Sk iP 18 15 06  
Um iP 18 14 39  
Afghanistan-Pakistan  
border (h = 25 km).

" 25 Ki iP 05 44 53

" 25 Um iP KP 06 25 21  
New Hebrides Islands  
(h = 190 km).

" 25 Up iP KP 06 59 08 C  
Tonga Islands (h = 430 km).

" 25 Um iP 09 09 49

" 25 Up iP 13 12 30 D  
i 13 12 38  
Sk iP 13 12 24  
Um iP 13 11 41  
i 13 12 19

" 25 Up e(P) 20 06 05

Up = Uppsala, Ki = Kiruna, Sk = Skelstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Feb 26 Ki iP 01 04 25  
Um iP 01 04 57  
i 01 05 21

" 26 ~~Up~~ iP 01 24 28  
~~Ki~~ iP 01 23 51  
~~Sk~~ eP 01 24 26  
~~Um~~ iP 01 23 59  
i 01 24 09  
South of Hokkaido,  
Japan (h = 60 km).

" 26 Up iPKP 02 50 35  
i 02 50 44  
Sk iPKP 02 50 21  
i 02 50 26  
Um iPKP 02 50 17  
i 02 50 30  
Kermadec Islands  
(h = 25 km).

" 26 Um iP 13 50 21

" 26 Up iP 16 06 32  
Ki iP 16 05 44  
Sk iP 16 06 22  
Gb iP 16 06 51  
Um iP 16 06 05  
Kurile Islands  
(h = 25 km).

" 27 Up iP 05 35 48 D

" 27 ~~Up~~ iP 05 48 30  
microns sec  
P Z' 0.1 0.5  
~~Ki~~ iP 05 48 38  
microns sec  
P Z' 0.1 0.7  
~~Sk~~ iP 05 48 55  
~~Gb~~ iP 05 48 51  
~~Um~~ iP 05 48 27  
~~Ka~~ iP 05 48 36  
Hindu Kush (h = 100 km).

" 27 Up iP 06 02 05  
i 06 02 08  
Ki iP 06 01 08 D  
Sk eP 06 01 37  
i 06 01 39  
Gb iP 06 02 28  
Um iP 06 01 40 D  
iPeP 06 02 44  
Central Alaska (h = 100 km).

1962  
Feb 27 Um iP 06 12 21 D

" 27 ~~Up~~ iP 06 45 25  
microns sec  
P Z' 0.1 0.8  
~~Ki~~ iP 06 45 10 C  
microns sec  
P Z' 0.1 1.0  
~~Sk~~ iP 06 45 36 C  
~~Um~~ iP 06 45 13 C  
Szechwan, China (h = 40 km).  
Magn. = 5.8 (Up, Ki).

" 27 ~~Up~~ ePP 13 01 13  
ePS 13 11 08  
microns sec  
M E 6.7 20  
M N 6.1 20  
M Z 9.7 20  
~~Ki~~ iPKP 12 59 43  
i 12 59 52  
e 13 11 10  
iSS 13 18 43  
microns sec  
M E 5.7 21  
M N 2.6 20  
M Z 10 22  
D = 14000 km = 126°.

~~Um~~ iPKP 12 59 40  
eSS 13 18 29  
Near coast of central  
Chile (h = 40 km).  
Magn. = 6.5 (Up, Ki).

" 27 Ki iP 14 35 05  
Ceram Sea (h = 40 km).

" 27 Up iP 21 37 35 D  
i 21 37 50  
microns sec  
P Z' 0.1 0.5  
Ki iP 21 39 00  
i 21 39 06  
iPeP 21 39 26  
i 21 43 27  
Gb iP 21 37 34  
i 21 37 39  
Um iP 21 38 17  
i 21 38 22  
Ka iP 21 37 02  
Romania (h = 115 km).

- 9 -

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Feb 28 / Up iP 07 31 36  
i 07 31 43  
/ Ki iP 07 31 01  
/ Gb iP 07 31 57 C  
/ Um iP 07 31 16  
South of Honshu, Japan  
(h = 60 km).

Markus Båth

September 10, 1962

1962

March

Copied HS

PRELIMINARY

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala (Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna (Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan (Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg (Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå (Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona (Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

M A R S 1 - 31, 1962

1962  
Mar

1	Up	iP	05 03 43	
			microns sec	
	P	Z'	0.2	1.0
	Ki	iP	05 03 16	
	Sk	iP	05 03 46	
	Gb	iP	05 04 03	
	Um	iP	05 03 27	
	Ka	iP	05 04 01	
			Ryukyu Islands (h = 50 km).	
"	1	Up	iP	07 31 13
			Andreanof Islands, Aleutian Islands (h = 25 km).	
"	1	Up	iP	09 54 19 C
		Sk	iP	09 55 02
		Um	iP	09 54 59
		i		09 55 09
			Greece.	
"	1	Up	iP	12 37 35
		Sk	iP	12 39 10
"	1	Ka	i(P)	16 26 04
			Seismic?	
"	1	Up	iP	18 46 19 D
			microns sec	
		P	Z'	0.2 0.5
		Ki	iP	18 45 34 D
			microns sec	
		P	Z'	0.2 1.2
		Sk	iP	18 46 09
		Gb	iP	18 46 40
		Um	iP	18 45 52 D

1962

Mar	1	Ka	iP	18 46 43 D
	cont.			Near east coast of Hokkaido, Japan (h = 50 km).
"	1	Um	iP	22 26 17
				Near south coast of Spain (h = 25 km).
"	1/2	Up	eSSS	00 24 53
				microns sec
		M	E	3.4 22
		M	N	5.1 20
		M	Z	5.2 20
"	X	Ki		
				microns sec
		M	E	4.7 20
		M	N	3.2 22
		M	Z	12 23
		Um	iPKP	00 00 12 D
			eSS	00 19 29
				Samoa Islands (h = 70 km).
"	2	Up	iP	02 26 06
				Andreanof Islands, Aleutian Islands (h = 25 km).
"	2	Up	iP	04 32 37
"	2	Up	iP	09 08 20
				Andreanof Islands, Aleutian Islands (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962									
Mar	2	Up	iP	13 16 21	C				
				microns sec					
		P	Z'	0.1	1.0				
		M	E	1.9	20				
		M	N	2.2	18				
		Ki	iP	13 16 04					
				microns sec					
		P	Z'	0.3	1.6				
		M	E	3.1	22				
		Sk	iP	13 16 27					
		Um	iP	13 16 10					
			i	13 16 37					
		Ka	eP	13 16 16					
		Off south coast of Mindanao, Philippine Islands (h = 30 km).							
"	2	Ka	iP	15 52 24					
"	2	Um	iP	14 29 03					
"	2	Um	iP	17 02 57					
"	3	Up	iP	01 04 48					
		Ki	iP	01 04 36					
		Sk	iP	01 05 05					
		Um	iP	01 04 38					
		Sikang Province, China (h = 25 km).							
"	3	Up	eP	10 14 59					
		Molucca Passage (h = 25 km).							
"	3	Up	i(P)	10 49 31					
"	3	Up	iP	12 28 00	D				
			i	12 28 12					
				microns sec					
		P	Z'	0.1	0.7				
		M	E	2.3	20				
		M	N	1.6	18				
		M	Z	3.2	20				
		Ki	iP	12 27 42	D				
			i	12 27 53					
				microns sec					
		P	Z'	0.3	1.0				
		M	E	4.1	18				
		M	N	2.1	18				
		M	Z	5.0	19				
		Sk	iP	12 28 04	D				
			i	12 28 32					
		Gb	iP	12 28 16	D				
		Um	iP	12 27 48	D				
			i	12 28 03					
1962									
Mar	3	Um	eS	12 38 29					
cont.				D = 10050 km = 90 $\frac{1}{2}$ °.					
		Ka	iP	12 28 10	D				
		Near east coast of Mindanao, P.I. (h = 90 km).							
		Magn. = 6.1 (Up, Ki).							
"	4	Um	i(P)	03 08 51					
"	4	Um	i(P)	03 12 08					
			i	03 12 35					
"	4	Up	eP	11 49 42					
		Ki	eP	11 48 40					
		Gb	iP	11 50 05					
		Um	iP	11 49 08					
			i	11 49 23					
		Ka	eP	11 50 17					
		Near NE coast of Chukotsky Peninsula, U.S.S.R. (h = 15 km).							
"	4	Up	iP	13 01 48					
			i	13 02 02					
		Ki	iP	13 01 20					
		Sk	eP	13 01 49					
		Gb	eP	13 02 14					
		Um	iP	13 01 32					
		Ryukyu Islands (h = 25 km).							
"	5	Up	iP	03 55 34	C				
		Ki	iP	03 55 33					
		Sk	iP	03 55 47	C				
		Um	iP	03 55 31	C				
		Near south coast of Sumatra (h = 80 km).							
"	5	Up	eP	07 56 08					
		Ki	iP	07 55 36					
		Um	iP	07 55 56					
		Off coast of California (h = 25 km).							
"	5	Ki	iPKP	10 34 28					
		Sandwich Islands (h = 25 km).							
"	5	Up	iP	15 48 05					
"	5	Up	iP	16 58 34	D				
		Ki	iP	16 58 14	D				
		Sk	iP	16 58 41					
		Um	iP	16 58 21					
		Off northwest coast of Luzon, P.I. (h = 15 km).							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962						
Mar	5	Um	iP	18 25 16	D	Mar	7	Um	i(P)	05 48 40
"	5	Ki	eP	18 50 32		"	7	Ki	iP	08 24 26
			i	18 50 38					Kirghiz, U.S.S.R. (h = 25 km).	
"	5	Up	iP	20 37 18		"	7	Up	iP	11 12 55
"	6	Up	iP	06 07 02					iPP	11 16 47
			i	06 07 10					e	11 21 41
			i	06 07 59					iSKS	11 22 20
				microns sec					iS	11 22 47
		P	Z'	0.1	0.6				iSP	11 24 02
		M	N	3.7	20				isS	11 26 56
		M	Z	1.7	18				microns sec	
		Ki	iP	06 07 02				P	Z'	3.5 1.0
			i	06 07 09				PP	Z	2.0 10
				microns sec				SKS	E	2.7 10
		M	E	4.7	20			S	E	2.2 6
		M	N	2.9	19			S	N	2.4 6
		M	Z	5.6	19			M	E	3.1 20
		Sk	iP	06 07 19				M	N	3.6 19
			i	06 07 38				M	Z	3.3 19
		Gb	iP	06 07 20				D = 10100 km = 91°.		
			i	06 07 28				Ki	iP	11 12 28
		Um	iP	06 06 58					i	11 16 27
			i	06 07 07					iSKS	11 21 43
			eS	06 16 03					i(S)	11 21 46
			e	06 24 20					i(SP)	11 22 53
				D = 7800 km = 70°					iSP	11 23 02
		Ka	eP	06 07 09					isS	11 26 12
				Andaman Islands (h = 20 km).					microns sec	
				Magn. = 5.8 (Up, Ki).				P	E	1.2 7
"	6	Um	iPg	12 21 55				P	Z	6.5 7
			iSg	12 21 56				P	Z'	3.1 1.0
"	6	Up	iP	15 16 25				SKS	E	2.4 7
"	6	Gb	iP	22 26 56	C			(S)	N	4.9 7
"	7	Um	iP	01 47 31				M	E	2.2 16
			iS	01 51 37				M	N	2.1 17
				Southwest of Iceland.				M	Z	5.0 19
"	7	Ki						D = 9500 km = 85½°.		
				microns sec				Gb	iP	11 13 11
		M	E	1.2	13				i	11 14 55
		M	Z	2.2	16				ipP	11 15 40
		Um	iP	02 11 53				Um	iP	11 12 39
				Southwest of Iceland					i	11 13 56
				(h = 40 km).					epP	11 14 54
									iPP	11 16 17
									eSKS	11 22 00
									iS	11 22 20
									eSP	11 23 27

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					1962					
Mar	7	Ka	iP	11 13 09	Mar	8	Up	iP	10 58 04	
cont.			iPP	11 17 04				i	10 58 12	
		Mariana Islands							microns sec	
		(h = 680 km).						P	Z' 0.1 0.5	
		Magn. = 6.6 (Up, Ki).					Ki	iP	10 57 16	
									microns sec	
"	7	Up	iP	14 11 41				P	Z' 0.1 1.0	
		Ki	iP	14 11 14			Sk	iP	10 57 51	
		Mariana Islands (h = 40 km).					Gb	iP	10 58 24	
							Um	iP	10 57 39	
									Kurile Islands (h = 50 km).	
"	7	Up	iP	15 26 36 D			8	Up	i(P)	14 28 16
		Ki	iP	15 25 43						
		Gb	iP	15 26 56			8	Up	iP	21 49 10
		Um	iP	15 26 09						microns sec
		i		15 26 13				M	N	2.0 20
		Off southeast coast of						Ki	iP	21 49 54
		Kamchatka (h = 20 km).						i		21 50 34
										microns sec
"	7	Up	iP	19 19 42 C				M	E	1.2 18
		Ki	iP	19 18 49				M	Z	0.7 14
		Um	iP	19 19 15			Sk	iP	21 49 34	
		Andreanof Islands,					Gb	iP	21 48 58	
		Aleutian Islands					Um	iP	21 49 30 D	
		(h = 25 km).					i		21 50 25	
									Congo (h = 25 km).	
"	7	Ki	iP	19 28 30			9	Up	iSKP	07 18 32
		iPP		19 30 03				i		07 18 41
		Hindu Kush (h = 100 km).						Ki	iPKP	07 15 27
								iSKP		07 18 07
"	7	Up	iP	21 16 06						microns sec
		Ki	iP	21 16 47				SKP	Z' 1.0 2.0	
		Um	iP	21 16 19			Sk	iPKP	07 15 37	
		Iran (h = 25 km).						iSKP	07 18 23	
"	7	Um	eP	22 10 36			Um	iPKP	07 15 31	
		Celebes (h = 25 km).						i	07 15 35	
"	8	Up	iP	01 49 40				iSKP	07 18 20	
		Ki	iP	01 49 31					Fiji Islands (h = 470 km).	
		Sk	iP	01 49 57						
		Um	iP	01 49 30						
"	8	Um	iP	02 07 25 C			9	Um	iP	07 52 06 D
		Mozambique Channel								
		(h = 25 km).								
"	8	Up	iPKP	10 53 37			9	Up	i(P)	14 12 33
		i		10 53 44						
		Ki	iPKP	10 53 18						
		Sk	iPKP	10 53 39						
		Um	iPKP	10 53 27						
		Off northeast coast of								
		North Island, New Zealand								
		(h = 25 km).								



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962			1962		
Mar	9	Up iP 18 16 35 Ki iP 18 17 44 Sk iP 18 17 14 Um eP 18 17 08	Mar	11	Um iP 14 12 03 C
"	10	Up eP 03 13 35 Ki iP 03 13 36 microns sec M E 1.1 17 M N 0.7 17 Sk iP 03 13 52 Um eP 03 13 32 Sumatra (h = 25 km).	"	11	Up iP 15 34 25 D i 15 34 36 ipP 15 35 02 iS 15 43 06 esS 15 43 56 microns sdc P Z' 0.2 0.5 S E 0.7 5 M E 1.9 22 Ki iP 15 33 32 D ipP 15 34 08 microns sec P Z' 0.3 0.9 M E 1.3 19 M N 1.4 19 M Z 2.5 19 Sk iP 15 34 05 D Gb iP 15 34 43 D ipP 15 35 19 Um iP 15 33 59 D ipP 15 34 34 eS 15 42 13 Ka iP 15 34 47 D ipP 15 35 24 Rat Islands, Aleutian Islands. h = 140 km (Up, Ki, Gb, Um, Ka). Magn. = 6.1 (Up, Ki).
"	10	Up iP 05 19 07 i 05 19 11 i 05 19 16 Ki iP 05 18 49 Sk iP 05 19 01 Gb iP 05 19 15 Um iP 05 18 56 C i 05 18 59 Kermadec Islands (h = 70 km).	"	11	Up iP 16 28 41 C microns sec P Z' 0.1 0.7 Ki iP 16 28 13 microns sec P Z' 0.2 1.0 Sk iP 16 28 38 Um iP 16 28 25 C Mariana Islands region (h = 430 km).
"	10	Up iP 08 55 51 Ki iP 08 55 28 microns sec M E 0.9 13 M N 0.3 12 M Z 0.8 13 Um iP 08 55 36 D Formosa (h = 30 km).	"	11	Up iP 19 32 12 D i 19 32 28 i 19 33 15 e(SKS) 19 42 41 iSKS 19 42 54 iSKKS 19 43 01 iS 19 43 22 iPS 19 44 25
"	10	Up iP 11 42 17 Gb i(P) 11 42 40			
"	10	Um iP 19 04 48			
"	10	Um iP 21 26 21 D			
"	11	Sk iP 02 38 10 Um eP 02 38 25 Guatemala (h = 210 km).			
"	11	Um iP 08 16 00 C			
"	11	Up eL 08 20 microns sec M E 1.2 24 M N 1.0 20 M Z 1.2 20 New Hebrides Islands region (h = 130 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					
Mar	11	Up	microns	sec	
cont.					
		P Z	1.9	9	
		P Z'	0.2	1.4	
		SKS N	0.6	12	
		SKKSE	1.8	10	
		S E	3.7	10	
		M E	10	18	
		M N	12	22	
		M Z	12	18	
		D = 10150 km = $91\frac{1}{2}^\circ$ .			
		Ki	iP	19 31 53	
		✓	i	19 32 03	
			ePP	19 35 23	
			eSKS	19 42 23	
			iS	19 42 38	
			microns	sec	
		P E	1.5	5	
		P Z	2.9	9	
		P Z'	0.2	1.2	
		PP Z	2.2	10	
		S E	5.5	11	
		M E	18	23	
		M N	10	22	
		M Z	19	21	
		D = 9700 km = $87\frac{1}{2}^\circ$ .			
		✓ Sk	iP	19 32 16 D	
		✓ Gb	iP	19 32 28	
			i	19 32 37	
		Um	iP	19 32 00 D	
		✓	i(PP)	19 35 43	
			eSKS	19 42 33	
			eS	19 42 44	
		D = 9850 km = $88\frac{1}{2}^\circ$ .			
		Ka	eP	19 32 22	
		Near east coast of Mindanao, P.I. (h = 25 km). Magn. = 6.5 (Up, Ki).			
"	11	Up	iP	20 11 56	
		Ki	e(P)	20 11 28	
		Sk	e(P)	20 11 47	
		Mindanao, P.I. (h = 170 km).			
"	12	Ki	eP	01 20 42	
		Celebes Sea (h = 40 km).			
"	12	Up	iP	02 19 04	
			i	02 19 09	
		Ki	iP	02 19 19	
		Sk	iP	02 19 35	
		Gb	eP	02 19 21	

1962					
Mar	12	Um	iP	02 19 03	
cont.			i	02 19 08	
		Ka	iP	02 19 13	
		Hindu Kush (h = 40 km).			
"	12	Up	eP	09 54 25	
		✓	i	09 54 28	
			microns	sec	
		M	E	1.0 17	
		M	N	1.4 22	
		M	Z	1.1 18	
		✓ Ki	iP	09 54 20	
		✓	ipP	09 54 48	
			eS	10 04 48	
			microns	sec	
		P	Z'	0.3 1.5	
		M	E	1.0 16	
		M	N	0.6 16	
		M	Z	2.5 19	
		✓ Sk	iP	09 54 09	
		✓ Gb	iP	09 54 13	
			ipP	09 54 39	
		✓ Um	iP	09 54 25 D	
			i	09 54 30	
		Costa Rica. h = 110 km (Ki, Gb).			
"	12	Up	iP	11 53 03	
		✓	i	11 53 10	
			iSKS	12 03 31	
			iS	12 03 52	
			microns	sec	
		P	Z	1.6 3	
		P	Z'	0.3 1.1	
		SKS	E	0.5 5	
		S	E	3.7 9	
		S	N	3.2 10	
		M	E	11 23	
		M	N	7.2 22	
		M	Z	18 25	
		D = 9850 km = $88\frac{1}{2}^\circ$ .			
		✓ Ki	iP	11 52 59 D	
			i	11 53 06	
			i	11 54 28	
			eS	12 03 32	
			iPPS	12 04 56	
			microns	sec	
		P	Z	4.4 4	
		P	Z'	6.0 3.0	
		S	E	6.9 10	
		S	N	2.6 9	
		M	E	16 22	
		M	N	6.7 23	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962						
Mar	15	Um	iP	15 09 21	Mar	17	Ka	iPg	13 10 40	
"	15	Ki	iP	21 26 21 D	cont.			iSg	13 10 56	
				Near south coast of Java (h = 80 km).				D = 130 km = 1.2°.		
"	16	Um	e(P)	08 08 21				Southern Baltic, 55.4°N,		
"	16	Up	iP	09 53 59	"	17	Up	iPg	13 55 04	
				microns sec				i	13 55 08	
				P Z' 0.1 1.0				iSg	13 56 01	
				✓ Ki iP 09 53 31				i	13 56 05	
				microns sec				D = 490 km = 4.4°.		
				P Z' 0.1 0.8			Sk	e(Sg)	13 58 10	
				✓ Sk iP 09 54 01			Ka	iPg	13 53 59	
				Um iP 09 53 42				iSg	13 54 15	
				Ryukyu Islands region				i	13 54 19	
				(h = 180 km).				D = 130 km = 1.2°.		
"	16	Up	i(P)	13 27 02				Southern Baltic, 55.4°N,		
"	16	Ka	i(P)	13 58 50				17.3°E. Origin time =		
"	16	Up	iPKP	20 01 49	"	17	Um	i(P)	15 05 46	
				20 01 31	"	17	Up	iP	16 22 00	
				20 01 47	"	17	Up	iP	18 09 17 C	
				20 01 32				i	18 09 28	
				20 01 44				microns sec		
				Santa Cruz Islands				P Z' 0.1 0.5		
				region (h = 25 km).			Ki	iP	18 08 25 C	
"	16	Um	eP	20 07 43				i	18 08 35	
"	16	Up	iP	21 12 52 C				microns sec		
				21 12 54				P Z' 0.2 1.0		
"	16	Um	iP	22 30 26			Sk	iP	18 09 02 C	
"	17	Um	iP	04 38 25 C				i	18 09 12	
"	17	Um	i(P)	06 31 56			Um	iP	18 08 50 C	
"	17	Um	iP	07 53 31				Kurile Islands region		
"	17	Up	iP	11 36 52				(h = 25 km).		
				11 36 42	"	17	Up	iP	19 09 31	
				11 36 47				i	19 09 45	
"	17	Up	iPg	13 11 45				Ki	iP	19 09 16
				13 12 43				Um	iP	19 09 20
				13 12 48				Near east coast of		
				D = 490 km = 4.4°.				Negros Island, P.I.		
								(h = 25 km).		
"	17	Up	iPg	13 11 45	"	17	Up	iP	20 58 15 C	
				13 12 43				i	20 58 21	
				13 12 48				i	20 58 31	
				D = 490 km = 4.4°.				iS	21 07 08	

Up = Uppsala, Ki = Kiruna. Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Mar 17 Up  
cont.

		microns	sec
P	Z	3.7	8
P	Z'	0.3	1.0
S	N	20	10
S	Z	39	20
M	N	88	22
M	Z	73	25
D = 7300 km = $65\frac{1}{2}^\circ$ .			
Ki	iP	20 58	45 C
	i	20 58	48
	iPP	21 01	21
	iS	21 07	59
	i	21 08	15
	iPS	21 08	25
microns sec			
P	E	1.3	7
P	N	0.6	5
P	Z	2.8	7
P	Z'	0.4	1.0
PP	Z'	0.3	1.4
S	N	13	9
M	E	38	18
M	N	20	19
M	Z	50	19
D = 7800 km = $70^\circ$ .			
Sk	iP	20 58	13
	i	20 58	19
	i	20 59	39
Um	iP	20 58	36
	i	20 58	40
	iPP	21 01	16
	eS	21 07	41
D = 7600 km = $68\frac{1}{2}^\circ$ .			
Ka	iP	20 58	05
North Atlantic Ocean (h = 25 km). Magn. = 6.8 (Up, Ki).			

" 18 Up iP KP 01 00 09  
Sk iP KP 01 00 02 D  
Um iP KP 00 59 57 D  
Ka iP KP 01 00 19  
Off coast of North Island,  
New Zealand (h = 25 km).

" 18 Up iP KP 01 46 23  
Kermadec Islands region  
(h = 90 km).

" 18 Up  
microns sec  
M N 2.4 23  
M Z 1.8 22

1962  
Mar 18 Ki  
cont.

M	E	2.0	22
M	N	1.6	20
M	Z	2.1	20
Um	ePKP	03 25	20
	e	03 39	46
New Hebrides Islands (h = 15 km).			

" 18 Up iP 04 04 09

" 18 Up iP 05 39 34  
i 05 39 48

microns sec  
P Z' 0.1 1.4  
Ki iP 05 38 53

microns sec  
P Z' 0.1 1.5

Sk eP 05 39 27

Um iP 05 39 11  
i 05 39 24

Off coast of northern  
Honshu, Japan  
(h = 30 km).

" 18 Up iP 15 34 54 C  
i 15 35 01  
iS 15 38 20  
iSS 15 38 42

microns sec  
P N 3.5 5  
P Z 2.0 5  
P Z' 0.5 0.9  
S N 1.6 5  
M N 47 15  
M Z 50 14

D = 2100 km =  $19^\circ$ .

Ki iP 15 36 15 C  
i 15 36 25  
iS 15 40 50  
eSS 15 41 56  
iLg2 15 45 15

microns sec  
P N 0.6 5  
P Z' 0.7 1.6  
S E 4.4 13  
M E 49 13  
M N 31 13  
M Z 53 13

D = 3000 km =  $27^\circ$ .

Sk iP 15 35 38  
iS 15 39 54  
i 15 43 42  
D = 2550 km =  $23^\circ$ .

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Mar 18 Um iP 15 35 36 C  
cont. ✓ iS 15 39 49  
i 15 41 05  
D = 2550 km = 23°.  
Ka iP 15 34 07  
iS 15 37 14  
D = 1700 km = 15½°.  
Southern Albania  
(h = 25 km).  
Magn. = 6.0 (Up, Ki).  
Very clear channel waves  
recorded, especially at  
Kiruna.

" 18 ✓ Up iP 20 30 24  
microns sec  
M N 7.3 21  
M Z 3.8 17  
Ki iP 20 30 04  
microns sec  
M E 3.9 19  
M N 8.1 19  
M Z 5.3 13  
✓ Sk eP 20 30 30  
✓ Um iP 20 30 10  
✓ Ka iP 20 30 33  
Kwangtung Province,  
China (h = 40 km).  
Magn. = 6.2 (Up, Ki).

" 19 Um iPKP 05 09 31  
South of Tasmania  
(h = 25 km).  
" 19 ✓ Up iP 06 07 55 C  
i 06 08 01  
iPP 06 11 59  
microns sec  
P Z' 0.1 0.5  
PP Z 0.5 3  
M N 1.9 19  
Ki iP 06 07 41 C  
i 06 07 45  
microns sec  
P Z' 0.4 1.0  
M E 1.0 19  
M N 0.7 19  
M Z 1.0 17  
✓ Sk iP 06 08 01 C  
i 06 08 05  
✓ Um iP 06 07 46 C

1962  
Mar 19 Ka iP 06 08 06 C  
cont. ✓ iPP 06 12 17  
Near south coast of  
Minahossa Peninsula,  
Celebes (h = 50 km).  
Magn. = 6.5 (Up, Ki).

" 19 Sk i(P) 08 03 22  
Um iP 08 03 15  
Albania.

" 19 Um iP 08 26 44 C  
" 19 Up iP 15 12 16  
Ki eP 15 12 17

" 19 Up iPKP 15 53 43 D  
i 15 53 50  
microns sec  
PKP Z' 0.2 0.5  
Ki iPKP 15 53 19  
i 15 53 28  
Sk iPKP 15 53 37  
i 15 53 41  
Um iPKP 15 53 33 D  
Ka iPKP 15 53 52  
i 15 54 07  
Kermadec Islands region  
(h = 470 km).

" 19 Up iP 21 10 19 C  
i 21 10 25  
Ki iP 21 10 19  
microns sec  
P Z' 0.1 0.7  
Sk iP 21 10 32  
Near south coast of  
Sumatra (h = 100 km).

" 19 Up iP 23 12 29  
i 23 12 43  
Ki eP 23 13 18  
Ka e(P) 23 11 42

" 20 Sk iP 03 18 16

" 20 Up i(P) 03 48 43

" 20 Up iLg1 11 13 55  
i 11 13 58  
Ki iPg 11 11 31

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962							
Mar	20	Ki	iSg	11 12 15	Mar	21	Up	iP	23 10 25		
cont.			i	11 12 18				ipP	23 12 37		
				D = 380 km = 3.4°.				iPP	23 14 38		
		Sk	iPg	11 11 14					microns sec		
			iSg	11 11 48				P	Z' 0.1 1.0		
				D = 290 km = 2.6°.				PP	Z' 0.2 1.3		
				Off west coast of Norway,				M	N 0.9 18		
				66.4°N, 12.4°E. Origin					D = 10900 km = 98°.		
				time = 11 10 23.			Ki	iP	23 10 18		
"	20	Up	iP	16 42 46				ipPP	23 16 17		
				Queen Charlotte Sound area				isPP	23 17 23		
				(h = 25 km).				iPS	23 23 36		
									microns sec		
"	20	Ki	iP	19 05 02				P	Z' 0.4 1.6		
		Sk	iP	19 05 29				M	E 1.3 20		
				Mariana Islands region				M	N 0.4 14		
				(h = 100 km).				M	Z 0.9 16		
									D = 10800 km = 97°.		
"	20	Up	iP	23 20 19			Sk	iP	23 10 35		
		Ki	iP	23 20 07				iPP	23 14 54		
		Sk	iP	23 20 33			Um	iP	23 10 27		
				Tibet (h = 25 km).				ipP	23 12 40		
								iPP	23 14 35		
"	21	Ki	iP	02 01 59				epPP	23 16 27		
				Southern Alaska				eSKS	23 20 06		
				(h = 120 km).				e	23 22 20		
								e	23 26 07		
"	21	Up	iSx	09 48 09			Ka	iP	23 10 35		
			iSg	09 48 22				ipP	23 12 46		
				D = 520 km = 4.6°.				iPP	23 14 40		
		Sk	ePn	09 47 40					Java Sea. h = 610 km (Up,		
			eSg	09 49 48					Um, Ka).		
				D = 830 km = 7.4°.					Magn. = 6.4 (Up, Ki).		
		Ka	iPn	09 46 24			"	22	Up	iP	00 32 19
			iPg	09 46 28						ipP	00 34 27
			iSg	09 46 52						iPP	00 36 30
				D = 220 km = 1.9°.						ipPP	00 38 18
				North of Sjælland, Denmark,						iSKS	00 41 58
				56°10'N, 12°07'E. Underwater						eS	00 42 50
				explosion at 09 45 50						iSP	00 44 20
				(communication from Geodetic							microns sec
				Institute, Copenhagen).						pP	Z' 0.2 1.5
"	21	Ka	iP	16 58 30				SKS	N 0.3 3		
"	21	Ki	iP	17 45 09				S	N 0.5 6		
"	21	Ki	iP	21 14 12				M	N 0.9 23		
		Um	iP	21 14 44 D					D = 10900 km = 98°.		
				Kurile Islands			Ki	iP	00 32 12		
				(h = 25 km).				ipP	00 34 19		
								i	00 35 19		
								epPP	00 38 07		
								iSKS	00 41 49		
								iS	00 42 38		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Mar 22 Ki iSP 00 44 06  
cont. microns sec

SKS	E	2.7	10
SKS	N	0.3	7
S	E	1.2	7
M	E	0.7	17
M	N	0.6	19
M	Z	0.9	16

D = 10800 km = 97°.

Sk iP 00 32 28  
ipP 00 34 36  
iPKP 00 36 21  
ipPP 00 38 37

Um iP 00 32 21  
ipP 00 34 29  
epPP 00 38 10  
iSKS 00 42 00  
eS 00 42 48  
i 00 44 14  
e 00 47 59

Ka iP 00 32 27  
ipP 00 34 31  
iPKP 00 36 16

Java Sea. h = 580 km (Up, Ki, Sk, Um, Ka).  
Magn. = 6.0 (Up, Ki).

" 22 Up iP 00 50 09  
Ki iP 00 50 03  
Um iP 00 50 12  
Java Sea (h = 600 km).

" 22 Ki iP 06 39 07  
Sk iP 06 39 54  
Um iP 06 40 01 D  
Arctic Ocean (h = 40 km).

" 22 Um iP 06 54 32 C

" 22 Um iP 14 12 43 D

" 22 Up i(Sg) 15 06 46  
Ka i(Pg) 15 04 42  
i 15 04 46  
iSg 15 04 48  
Explosion?

" 22 Up iPP 15 32 07  
eSKS 15 38 02  
eS 15 39 39  
iPS 15 41 28

1962  
Mar 22 Up microns sec  
cont.

PP	N	0.7	8
PP	Z	1.7	8
PP	Z'	0.1	1.5
SKS	N	0.8	8
S	N	1.5	11
M	N	10	23
M	Z	17	22

D = 12100 km = 109°.

Ki iP 15 27 10  
iPP 15 31 30  
iSKS 15 37 47  
iS 15 38 58

microns sec

PP	E	1.2	8
PP	N	0.5	8
PP	Z	2.6	9
SKS	E	2.0	10
SKS	N	0.7	7
S	N	1.7	12
M	E	21	25
M	N	11	23
M	Z	17	20

D = 11550 km = 104°.

Sk iPP 15 32 02  
Um iP 15 27 24 D  
iPP 15 31 45  
eSKS 15 37 54  
iPS 15 41 02  
D = 11850 km = 106½°.

Ka iPP 15 32 28  
Near north coast of New Guinea (h = 25 km).  
Magn. = 6.7 (Up, Ki).

" 22 Um iPKP 19 17 23  
Catamarca Province, Argentina (h = 220 km).

" 22 Ki i(P) 19 59 11

" 22 Up iP 20 41 43

" 22 Up eP 22 46 52

" 23 Up e(P) 02 53 54

" 23 Ki iP 04 34 44  
Um iP 04 34 58



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Mar	23	Ka	iPg	05 49 56
			iSg	05 50 01
			Explosion?	
"	23	Um	iP	06 21 45
"	23	Ki	iP	06 49 12
			i	06 49 33
"	23	Um	i(P)	14 38 13 D
"	23	Um	i(P)	19 38 51 C
"	23	Up	e(P)	20 48 06
"	23	Up	iP	20 56 24
"	24	Um	iP	03 40 34
"	24	Up	i(P)	09 19 36
"	24	Um	iP	10 37 11
"	24	Up	iP	12 30 18
"	24	Up	iP	13 14 08
			iPKP	13 17 58
			iPP	13 18 29
			e	13 25 33
			eSP	13 28 11
			microns sec	
		M	E	2.8 21
		M	N	4.1 20
		M	Z	2.3 18
			D = 12650 km = 114°.	
		Ki	iP	13 13 41
			iPKP	13 17 48
			ePP	13 18 13
			i	13 23 40
			microns sec	
		PP	Z	0.9 8
		M	E	3.6 22
		M	N	3.2 22
		M	Z	2.4 20
			D = 12000 km = 108°.	
		Sk	iPKP	13 17 58
			iPP	13 18 30
		Um	iP	13 13 51
			iPKP	13 17 54
			i	13 17 58
			iPP	13 18 25

1962

Mar	24	Um	eSKKS	13 25 10
cont.			iSP	13 27 40
			ePS	13 27 55
			iPKKP	13 28 55
			D = 12200 km = 110°.	
		Ka	iPKP	13 18 07
			iPP	13 19 07
			Near north coast of New Guinea (h = 110 km).	
"	24	Up	i(P)	16 56 31
"	24	Um	i(P)	23 29 49
"	25	Um	iP	02 43 34
"	25	Up	iP	08 23 44 D
			microns sec	
			P	Z' 0.1 1.5
		Ki	iP	08 22 51 D
			microns sec	
			P	Z' 0.1 0.8
		Um	iP	08 23 18
		Ka	iP	08 24 07
			Fox Islands, Aleutian Islands (h = 50 km).	
"	25	Up	iP	20 59 31 C
		Ki	eP	20 59 10
			i	20 59 19
		Sk	iP	20 59 42
		Um	iP	20 59 20
		Ka	iP	20 59 41
			Sikang Province, China (h = 25 km).	
"	25	Up	iP	21 42 43 D
			microns sec	
			P	Z' 0.1 0.5
		Ki	iP	21 43 56 D
			microns sec	
			P	Z' 0.2 1.0
		Sk	iP	21 43 17 D
			i	21 43 27
		Um	iP	21 43 21 D
		Ka	iP	21 42 02 D
			i	21 42 07
			Mediterranean Sea, east of Sicily (h = 25 km).	
"	25	Up	iP	21 49 44

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Mar 25 Um iP 21 49 53  
cont. " 26 Up iP 09 26 53  
" " i 09 26 56  
microns sec  
P Z' 0.1 0.5  
Ki iP 09 27 53  
microns sec  
M E 1.8 20  
M N 1.4 19  
M Z 1.6 15  
Sk iP 09 27 36 C  
Um iP 09 27 32  
i 09 27 37  
Ka iP 09 26 12  
Ionian Islands (h = 25 km).

" 26 Up i(P) 09 34 56  
Ka e(P) 09 34 27

" 26 Up iP 12 15 47 D  
iS 12 24 38  
microns sec  
M E 3.5 17  
M N 2.1 23  
M Z 5.0 25  
D = 7450 km = 67°.  
Ki iP 12 16 29 D  
eS 12 26 04  
microns sec  
P Z' 0.1 1.0  
S E 0.5 12  
S N 0.6 11  
M E 2.1 17  
M N 1.7 19  
M Z 3.1 19  
D = 8150 km = 73½°.  
Sk iP 12 15 56  
i 12 16 01  
Um iP 12 16 05  
i 12 16 11  
Ka iP 12 15 22  
i 12 15 42  
Mid-Atlantic Ocean  
(h = 25 km).  
Magn. = 5.8 (Up, Ki).

" 26 Ki iP 16 46 01  
Um iP 16 45 37  
Ka iP 16 45 19

1962  
Mar 26 Up iPKP 16 51 40 D  
iPP 16 53 35  
microns sec  
M E 4.0 21  
M N 4.1 20  
M Z 3.0 19  
Ki iPKP 16 51 48 D  
microns sec  
M E 2.6 19  
M N 1.8 18  
M Z 2.8 19  
Sk iPKP 16 51 39  
i 16 51 52  
Um iPKP 16 51 45 D  
i 16 51 57  
Ka iPKP 16 51 32  
Near coast of southern  
Chile (h = 30 km).  
Magn. = 6.2 (Up, Ki).

" 26 Ki iP 21 18 47  
Um iP 21 19 14  
" 26 Up iP 21 19 12  
Ki iP 21 19 54  
Sk iP 21 19 51  
Southern Turkey (h = 25 km).

" 27 Ki iP 05 30 43  
" 27 Up i(P) 05 35 16  
" 27 Ki iP 05 36 10  
Ceram region (h = 100 km).

" 27 Ki iP 06 22 46  
Sk iP 06 23 11  
Um eP 06 22 40  
Sinkiang Province, China  
(h = 240 km).

" 27 Up iP 10 21 28 D  
Ki iP 10 20 40  
Um iP 10 21 03  
Kurile Islands (h = 30 km).

" 27 Sk iP 21 32 03  
i 21 32 19  
Um iP 21 32 15  
Guerrero, Mexico  
(h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Mar 28 Up iP 00 59 31  
iPP 01 01 09  
microns sec  
P Z' 0.1 0.5  
Ki iP 00 59 39  
ipP 01 00 19  
iPP 01 01 21  
Sk iP 00 59 56  
ipP 01 00 41  
iPP 01 01 38  
Um iP 00 59 28  
Ka iP 00 59 36  
i 00 59 44

Hindu Kush, h = 200 km  
(Ki, Sk).

" 28 Up iP 04 17 46 C  
iS 04 28 01  
microns sec  
P Z' 0.1 1.0  
S N 0.5 11  
M E 0.6 16  
M N 1.4 23  
M Z 0.9 19  
D = 9350 km = 84°.  
Ki iP 04 17 47 C  
eS 04 28 07

microns sec  
P Z' 0.2 1.1  
S E 0.4 8  
S N 0.3 9  
M E 0.6 15  
M N 0.4 16  
M Z 0.7 14  
D = 9400 km = 84½°.

Sk iP 04 18 01 C  
i 04 18 11  
Um iP 04 17 43 C  
i 04 17 53

Near south coast of  
Sumatra (h = 70 km).  
Magn. = 5.8 (Up, Ki).

" 28 Up iPKP 06 36 06  
i 06 36 08  
microns sec  
PKP Z' 0.1 0.5  
Sk iPKP 06 35 59  
Um iPKP 06 35 53  
Kermadec Islands  
(h = 380 km).

1962  
Mar 28 Sk eP 07 23 33  
Um iP 07 23 36

" 28 Up iP 13 33 56  
i 13 34 01  
i 13 34 14  
i 13 43 49

microns sec  
M E 0.4 12  
M Z 0.9 15

Ki iP 13 33 46  
microns sec

P Z' 0.1 1.0  
M N 0.2 10

Sk iP 13 34 11  
i 13 34 16

Um iP 13 33 41 C  
i 13 33 46

Kazakh, U.S.S.R. (h = 25 km).

" 28 Um iP 13 46 10

" 28 Up iPKP 14 32 40  
Sk iPKP 14 32 26  
Um iPKP 14 32 21

Kermadec Islands  
(h = 100 km).

" 28 Up iP 18 54 22  
Um iP 18 54 12

" 29 Ki eL 01 25  
microns sec  
M E 0.2 16  
M N 0.5 18

" 29 Up iP 02 02 45  
i 02 02 56  
iPcP 02 03 18

Ki iP 02 02 03  
Um iP 02 02 16

Near south coast of  
Kamchatka (h = 160 km).

" 29 Ki iP 03 16 17  
Sk iP 03 16 40  
Um iP 03 16 45 D  
Lituya Bay, Alaska region  
(h = 25 km).

" 29 Um iP 09 29 33 D

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå, Ka = Karlskrona

1962

Mar 29 Up iP 09 36 50  
Um iP 09 36 30 C

" 29 Up i(P) 19 09 03  
i 19 10 09

" 29 Up iP 19 35 40  
Ki iP 19 34 05  
Sk iP 19 34 57  
Um iP 19 35 00 C  
i 19 35 16  
Ka iP 19 36 20  
i 19 36 29

Svalbard region  
(h = 25 km).

" 29 Up  
microns sec  
M E 1.7 20  
M N 1.2 20  
M Z 0.6 20  
Ki iP 20 22 29  
ePP 20 26 34  
e(SKS) 20 32 54  
microns sec  
M E 1.8 20  
M N 0.8 17  
M Z 1.2 17  
Um iP 20 22 37  
i(PP) 20 26 24

Halmahera region  
(h = 25 km).

" 29 Up iP 21 27 11  
Um iP 21 27 04  
North of Luzon,  
Philippine Islands  
(h = 90 km).

" 30 Ki iP 00 18 39 D  
Um iP 00 18 49 D  
Mariana Islands  
(h = 130 km).

" 30 Um iP 04 59 27 C

" 30 Um i(P) 06 34 08 D

" 30 Um i(P) 11 18 22 D

" 30 Up iP 14 42 39 C  
i 14 42 42

1962

Mar 30 Up microns sec  
cont. PKP Z' 0.1 0.5  
Ki ePKP 14 42 19  
Sk iP 14 42 32  
Um iP 14 42 27

Kermadec Islands  
(h = 290 km).

" 31 Up iP 08 07 44  
i 08 07 50  
microns sec  
M E 2.0 15  
M N 2.6 17  
M Z 2.9 18

Ki

microns sec  
M E 2.8 15  
M N 1.4 16  
M Z 2.9 15

Sk iP 08 07 36  
Um iP 08 07 30 D

" 31 Ki iP 23 41 04

" 31 Ki iP 23 43 56  
Um iP 23 43 29  
Western Iran (h = 25 km).

Markus Båth  
September 25, 1962

493

1962

Seismological Institute  
Uppsala

April

~~PRELIMINARY~~  
SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

A P R I L 1 - 30, 1962  
.....

1962  
Apr 1 Up i(P) 00 18 57  
i 00 19 05

" 1 Up iP 00 52 30 C  
i 00 52 42  
i 00 53 41  
iPP 00 53 53  
microns sec  
P Z' 0.1 1.0  
PP Z' 0.6 1.5  
M E 2.5 16  
M N 3.5 16  
M Z 3.2 20  
D = 4200 km = 38°.

✓ Ki iP 00 52 56  
i 00 53 16  
iPP 00 54 21  
microns sec  
P Z' 0.2 1.0  
M E 3.3 16  
M N 3.0 13  
M Z 4.1 14  
D = 4550 km = 41°.

✓ Sk iP 00 53 02  
iPP 00 54 50

✓ Um iP 00 52 35 C  
i 00 52 38  
iPP 00 54 07  
East Iran (h = 30 km).  
Magn. = 5.8 (Up, Ki).

" 1 Up iP 01 44 19  
i 01 44 30  
iS 01 48 21  
D = 2500 km = 22½°.

1962  
Apr 1 Ki iP 01 45 14  
cont. iPP 01 45 41  
Um iP 01 44 41  
iS 01 49 08  
i 01 49 29  
D = 2700 km = 24½°.

Ka iP 01 43 57  
i 01 44 01  
i 01 44 09  
Turkey (h = 25 km).

" 1 Up iP 03 38 05

" 1 Up iP 05 13 02 C  
i 05 13 12  
Ki iP 05 12 19  
i 05 12 35  
microns sec  
M E 3.4 22  
Um iP 05 12 37  
i 05 12 56  
Near coast of Hokkaido,  
Japan (h = 60 km).

" 1 Um i(P) 05 43 48

" 1 Um iP 08 00 49

" 1 Um iP 09 17 23

" 1 Ki iP 09 32 02  
i 09 32 11  
North Polar region  
(h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					
Apr	1	Up	iP	10 58 40	
"	1	Up	iP	12 11 01	
		Ki	iP	12 10 04	
			i	12 10 12	
		Um	iP	12 10 31	
		Fox Islands, Aleutian Islands (h = 40 km).			
"	1	Ki	iP	12 20 32	
		Alaska (h = 100 km).			
"	1	Up	iP	12 25 13	
				microns sec	
		M	E'	2.7 23	
		M	N'	3.2 20	
		M	Z	1.8 19	
		Ki	iP	12 25 11	
			ePKP	12 29 17	
				microns sec	
		M	E	1.5 18	
		M	Z	2.5 19	
		Sk	i(P)	12 30 01	
		Near north coast of New Guinea (h = 80 km).			
"	1	Up	i(P)	13 31 41	
"	2	Up	iP	00 27 32 D	
			ipP	00 28 23	
				microns sec	
			P	Z' 0.1 0.8	
		Ki	iP	00 27 03	
			ipP	00 27 49	
		Um	iP	00 27 16	
			ipP	00 28 05	
		Mariana Islands. h = 200 km (Up, Ki, Um).			
"	2	Um	i(P)	13 01 03	
"	2	Um	i(P)	19 25 48	
"	3	Ki	e(P)	05 23 22	
			i(Sg)	05 24 17	
"	3	Ki	iP	14 46 00	
"	3	Um	i(P)	15 12 41	
"	3	Ki		-	
				microns sec	
		M	E	1.5 18	

1962					
Apr	3	Sk	ePKP	16 44 02	
cont.		Um	iPKP	16 43 51	
			i	16 44 07	
		Santa Cruz Islands region (h = 40 km).			
"	3	Um	i(P)	19 04 20	
"	3	Um	iP	19 27 17	
"	4	Um	iP	02 18 22	
"	4	Ki	iP	05 47 50	
		Crete (h = 25 km).			
"	4	Up	iP	14 15 26	
				microns sec	
		M	N	1.0 20	
		M	Z	1.6 17	
		Ki	iP	14 15 21 D	
			i	14 15 45	
				microns sec	
		M	E	2.3 19	
		M	N	1.4 17	
		M	Z	2.8 18	
		Sk	iP	14 15 10 D	
			i	14 15 39	
		Um	iP	14 15 25 D	
		Near south coasts of Panama and Costa Rica (h = 25 km).			
"	4	Um	i(P)	18 11 18	
"	4	Up	i(P)	18 31 56	
			i	18 32 39	
"	4	Up	iP	20 00 41	
		Ki	iP	20 01 47 D	
				microns sec	
		M	N	0.8 14	
		M	Z	2.5 17	
		Sk	iP	20 01 19	
		Um	iP	20 01 13	
		Ka	iP	20 00 08	
		Crete (h = 25 km).			
"	4	Up	iP	20 56 36	
			i	20 56 49	
			i	20 56 59	
			iS	21 01 03	
				microns sec	
		S	N	0.3 2	
		M	N	1.5 15	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Apr 4 Up M Z 1.9 15  
cont. D = 2850 km = 25 $\frac{1}{2}$ <sup>o</sup>.  
Ki iP 20 57 44 D  
i 20 58 10  
microns sec  
M E 0.8 14  
M N 1.7 15  
M Z 3.9 16  
Sk iP 20 57 14  
iPP 20 57 55  
Um iP 20 57 08 D  
i 20 57 17  
Ka iP 20 56 05  
i 20 56 32  
iS 21 00 10  
Crete (h = 20 km).  
Possibly a second shock,  
about 25 sec later, as  
evidenced by phases read  
at Up, Ki, Ka.

4 Up iP 21 05 07  
iPP 21 05 47  
iS 21 09 35  
microns sec  
S N 0.6 4  
M N 2.3 19  
M Z 3.0 19  
D = 2850 km = 25 $\frac{1}{2}$ <sup>o</sup>.  
Ki iP 21 06 14  
i 21 06 22  
e 21 18 35  
microns sec  
M E 1.8 18  
M N 2.8 15  
M Z 4.1 14  
Sk iP 21 05 45  
Um iP 21 05 39  
i 21 08 53  
Ka iP 21 04 35  
Crete (h = 25 km).  
Magn. = 5.2 (Up, Ki).

4 Up iP 23 29 56  
5 Up iP 03 50 59  
Ki iP 03 50 05  
i 03 50 20  
Sk iP 03 50 35  
Um iP 03 50 32 D  
Ka iP 03 51 24  
Unimak Island region  
(h = 70 km).

1962

Apr 5 Up iP 04 07 44  
" 5 Um i(P) 04 53 52  
" 5 Um i(P) 05 51 19  
" 5 Up iP 08 25 24  
" 5 Ka iP 12 13 15  
" 5 Um iPKP 12 43 44  
Near coast of southern  
Chile (h = 25 km).  
" 5 Um iPKP 20 05 05  
New Hebrides Islands  
(h = 40 km).  
" 5 Up iP 20 28 58  
" 6 Up iP 09 29 24  
" 6 Up i 14 13 32  
iSg 14 13 45  
Ki ePg 14 11 22  
iS<sup>x</sup> 14 11 58  
iSg 14 12 10  
D = 400 km = 3.6<sup>o</sup>.  
Sk iPg 14 11 05  
iSg 14 11 37  
D = 280 km = 2.5<sup>o</sup>.  
Um e(Sn) 14 11 57  
i 14 12 21  
iSg 14 12 23  
West coast of Norway, 66.0<sup>o</sup>N,  
12.4<sup>o</sup>E. Origin time = 14 10 12.  
" 6 Up i(P) 18 31 12  
" 6 Um iP 18 53 04  
i 18 53 19  
Albania.  
" 6 Um i(P) 20 52 06  
Seismic?  
" 6 Sk eP 22 06 23  
" 7 Up -  
microns sec  
M E 1.1 20  
M N 2.0 20  
M Z 2.6 20

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962	Apr 7	Ki eSKS	06 45 30	1962	Apr 8	Up iP	04 07 15
cont.			microns sec			Andreanof Islands,	
		M E	2.0 19			Aleutian Islands	
		M N	0.7 17			(h = 25 km).	
		M Z	3.5 20	" 8	Up iP	05 22 25	
		Sk iP	06 35 13		Um iP	05 22 20	
		i	06 35 33	" 8	Up e(P)	11 13 49	
		Um iP	06 34 58		i	11 13 58	
		Caroline Islands region		" 8	Up iP	11 49 09	
		(h = 50 km).		" 8	Up i(P)	13 39 47	
"	7	Um iP	08 05 32	" 8	Ki eP	22 19 23	
"	7	Up i(P)	08 49 18		i	22 19 31	
"	7	Um iP	15 51 17 D		Um iP	22 19 50	
"	7	Up i(P)	20 05 58		Unimak Island region		
"	7	Up iP	21 39 51		(h = 25 km).		
		Sk eP	21 40 33	" 9	Up iP	04 27 03	
		Um iP	21 40 34		Ki iP	04 26 35 D	
		i	21 40 42		Sk eP	04 26 52	
		Albania (h = 25 km).			Um iP	04 26 47	
"	7	Up iP	22 22 22		Mariana Islands		
		Ki iP	22 22 31		(h = 200 km).		
		Sk iP	22 22 46	" 9	Um iP	07 41 14	
		Um iP	22 22 20	" 9	Um iP	09 01 41	
		i	22 23 10		Atlantic Ocean, west of		
		Ka iP	22 22 29		Morocco.		
		i	22 22 40	" 9	Up i(P)	12 54 14	
		i	22 23 09		Local? Seismic?		
		Hindu Kush (h = 110 km).		" 10	Up iP	00 26 58	
"	7	Up iP	23 13 50	" 10	Up i(P)	01 45 34	
"	7	Up iP	23 15 25	" 10	Um iP	04 54 55	
		ipP	23 15 42		ipPKP	04 55 30	
		Ki iP	23 15 35		Chile-Argentina border		
		ipP	23 15 52		(h = 130 km).		
			microns sec	" 10	Up iP	10 42 38 D	
		pP Z'	0.1 1.0		i	10 42 43	
		Sk iP	23 15 13		Ki iP	10 41 46 D	
		ipP	23 15 29				
		Um iP	23 15 34				
		ipP	23 15 51				
		Ka iP	23 15 36				
		Windward Islands. h = 60 km					
		(Up, Ki, Sk, Um).					
"	8	Up i(P)	01 22 13				



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 10 cont. Sk iP 10 42 21  
Gb iP 10 42 58  
Um iP 10 42 10  
Near coast of Kamchatka  
(h = 30 km).

" 10 Um iP 13 30 05  
Kermadec Islands  
(h = 50 km).

" 10 Up iP 14 30 29  
Ki iP 14 30 29  
Sk iP 14 30 46  
Um iP 14 30 25

" 10 Up iP 21 42 06 C  
i 21 43 33  
iS 21 46 07  
iRg 21 50 23  
microns sec  
P N 2.3 1  
P Z 2.1 1  
P Z' 0.8 0.5  
S E 23 10  
S N 7.5 5  
M E 40 11  
M N 33 11  
M Z 41 11  
D = 2400 km = 21 1/2°.  
Ki iP 21 43 20 C  
iS 21 48 17  
iSS 21 49 34  
e 21 54 17  
microns sec  
P N 1.4 7  
P Z 1.8 5  
P Z' 1.6 2.0  
S E 3.3 8  
S N 1.6 8  
M E 69 14  
M N 29 12  
M Z 50 12  
D = 3300 km = 29 1/2°.  
Sk iP 21 42 47 C  
i 21 43 07  
iPP 21 43 36  
iS 21 47 30  
D = 2900 km = 26°.  
Gb iP 21 47 51 C  
iS 21 45 47  
D = 2300 km = 20 1/2°.

1962  
Apr 10 cont. Um iP 21 42 43 C  
iS 21 47 09  
D = 2850 km = 25 1/2°.  
Ka iP 21 41 23 C  
i 21 43 38  
iS 21 44 53  
D = 2000 km = 18°.  
Ionian Sea (h = 40 km).  
Magn. = 6.5 (Up, Ki).

" 10 Up iP 22 02 22  
Sk iP 22 03 01  
Ionian Sea.

" 10 Up iP 22 15 44  
i 22 15 54  
iPP 22 16 06  
microns sec  
P Z' 0.1 0.5  
Ki eP 22 16 58  
Sk iP 22 16 23  
Gb iP 22 15 28  
i 22 15 34  
Um iP 22 16 24  
iPP 22 16 55  
Ka iP 22 15 03  
Ionian Sea (h = 25 km).

" 10 Up iP 23 03 33  
Sk iP 23 04 12  
Um iP 23 04 12  
Ionian Sea.

" 10 Up iP 23 40 56 D  
i 23 41 02  
Ki -  
microns sec  
M E 1.0 14  
Sk iP 23 41 34  
Gb iP 23 40 33  
iPP 23 41 08  
Um iP 23 41 33  
Ka eP 23 40 16  
Ionian Sea (h = 25 km).

" 10 Up iP 23 47 58 D  
Sk iP 23 48 37  
Ionian Sea.

" 11 Up iP 00 04 50  
Ki iP 00 04 14  
Sk iP 00 04 47

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 11 Um iP 00 04 29  
cont. Sea of Japan (h = 380 km).  
" 11 Up eP 00 27 22  
Sk iP 00 28 01  
Ionian Sea.  
" 11 Up iP 01 32 38  
Um iP 01 33 17  
Ionian Sea.  
" 11 Up iP 01 34 45  
Sk iP 01 35 25  
Ionian Sea.  
" 11 Up iP 01 40 40  
Ki -  
microns sec  
M E 0.6 13  
M N 0.3 11  
M Z 0.8 13  
Sk iP 01 41 19  
Um iP 01 41 20  
Ka i(P) 01 40 07  
Ionian Sea.  
" 11 Up iP 02 02 46  
Sk iP 02 03 26  
Um iP 02 03 26  
Ionian Sea.  
" 11 Up iP 02 49 02  
" 11 Up iP 03 00 05  
Sk iP 03 00 44  
Um iP 03 00 44  
Ionian Sea.  
" 11 Up iP 03 15 46  
Sk iP 03 16 25  
Um iP 03 16 32  
Ionian Sea.  
" 11 Sk i(P) 04 20 38  
" 11 Up iP 05 01 37  
" 11 Um iP 05 33 45  
" 11 Up iP 09 31 09 C  
Ki iP 09 30 33  
Sk iP 09 31 06  
Um iP 09 30 52  
Ryukyu Islands (h = 25 km).

1962  
Apr 11 Up iP 09 41 14 D  
i 09 41 25  
i 09 41 47  
microns sec  
P Z' 0.1 0.6  
Ki iP 09 41 22 D  
ipP 09 41 45  
Sk iP 09 41 40  
Um iP 09 41 12 D  
ipP 09 41 35  
Ka iP 09 41 17 C  
Hindu Kush. h = 110 km  
(Ki, Um).  
" 11 Up iP 09 46 38  
Sk eP 09 47 15  
Ionian Sea.  
" 11 Up iP 10 52 25  
iS 10 56 25  
iRg 11 00 42  
microns sec  
P Z' 0.3 0.6  
S E 3.2 10  
S N 1.2 5  
M E 11 20  
M N 7.3 19  
M Z 4.8 14  
D = 2400 km = 21<sup>40</sup>/<sub>2</sub>.  
Ki iP 10 53 39  
i 10 54 15  
iS 10 58 38  
e 10 59 10  
microns sec  
P Z' 0.5 2.0  
S E 0.6 8  
M E 8.6 13  
M N 3.0 12  
M Z 4.7 12  
D = 3200 km = 29°.  
Sk iP 10 53 05  
i 10 53 30  
Gb iP 10 52 10  
i 10 52 36  
Um iP 10 53 03  
i 10 53 05  
i 10 53 59  
e 10 57 49  
Ka iP 10 51 46  
i 10 51 53  
Ionian Sea (h = 40 km).  
Magn. = 5.7 (Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
Apr 11	Up	iPg	11 48 35	Apr 12	Ki	iPP	01 06 03
		iSg	11 48 58	cont.		iS	01 12 15
			microns sec				microns sec
		Sg	Z" 0.1 0.5			P	E 2.7 7
			D = 200 km = 1.8°			P	N 2.1 7
	Gb	iSg	11 50 07			P	Z 9.4 7
	Ka	eSg	11 49 35			P	Z' 1.9 1.8
		i	11 49 57			S	E 12 10
			Baltic Sea, 58.3°N,			S	N 6.4 9
			19.2°E. Origin time =			M	E 170 18
			11 47 58. Explosion?			M	N 100 18
						M	Z 220 18
" 11	Gb	i(P)	12 43 20				D = 7400 km = 66½°
" 11	Up	iP	13 15 37		Sk	iP	01 03 59 C
	Sk	iP	13 16 16			i	01 04 05
			Ionian Sea.		Gb	iP	01 04 28 C
						i	01 05 48
" 11	Ki	iP	14 00 48		Um	iP	01 07 21
		i(Sg)	14 01 19			i	01 05 15
	Um	iP	14 00 42			iPP	01 06 30
		i(Sg)	14 01 07			iS	01 12 35
		i	14 01 20		Ka	iP	01 04 23 C
			Explosion.			iPP	01 07 14
" 11	Um	i(P)	14 23 08			iPPP	01 09 06
" 11	Um	i(P)	19 33 41				Near east coast of Honshu, Japan (h = 70 km). Magn. = 7.1 (Up, Ki).
" 12	Up	iP	00 06 40	" 12	Up	iP	03 34 13
	Sk	iP	00 07 20	" 12	Up	iP	05 27 30 C
	Um	iP	00 07 19				microns sec
			Ionian Sea (h = 25 km).		M	E	1.9 17
" 12	Up	iP	00 48 22		M	N	1.6 16
	Sk	eP	00 49 04		M	Z	2.7 17
			Ionian Sea.		Ki	iP	05 26 49 C
" 12	Up	iP	01 04 06 C				microns sec
		ipP	01 04 19		M	E	2.4 17
		iS	01 13 26		M	N	1.3 18
			microns sec		M	Z	2.6 16
	P	E	1.9 4		Sk	iP	05 27 23 C
	P	N	3.1 7		Um	iP	05 27 07 C
	P	Z	7.0 6			i	05 27 17
	P	Z'	1.2 1.6				Near east coast of Honshu, Japan (h = 25 km). Magn. = 5.7 (Up, Ki).
	pP	Z'	2.7 1.5		" 12	Ki	iPKP 06 12 15
	S	E	7.8 10			Um	iPKP 06 12 21
	S	N	6.0 6				New Hebrides Islands (h = 100 km).
	M	E	130 16				
	M	N	150 22				
	M	Z	170 18				
			D = 8050 km = 72½°				
	Ki	iP	01 03 26 C				
		i	01 05 43				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
Apr 12	Um	iP	08 34 20	Apr 13	Up	iPg	14 30 17 D
" 12	Ki	iPg	14 50 43			iSg	14 30 33
		iSg	14 51 15			iL	14 30 42
			D = 280 km = 2.5°.				microns sec
			Probably off northwest		Pg, Sg	Z' 0.1 0.5	
			coast of Norway.		Ka iSn	14 31 17	
" 12	Ki	iPg	14 54 51				Baltic Sea. Origin time =
		iSg	14 55 21				14 29 53. Probably explosion.
			D = 260 km = 2.3°.	" 13	Up	iPg	14 31 19 D
	Sk	ePn	14 55 31			iSg	14 31 35
		eSn	14 56 40			iL	14 31 43
			D = 640 km = 5.8°.				microns sec
			Off northwest coast of		Pg, Sg	Z' 0.1 0.5	
			Norway, 69.5°N, 15.7°E.		Um iSg	14 33 34	
			Origin time = 14 54 04.		Ka iSn	14 32 18	
" 12	Up	iP	15 29 12				Baltic Sea. Origin time =
		i	15 29 18				14 30 55. Probably explosion.
	Sk	iP	15 29 52	" 13	Up	iPg	14 45 51 D
	Um	iP	15 29 50			iSg	14 46 07
			Ionian Sea.			iL	14 46 14
" 12	Ki	ePg	15 55 16				microns sec
		iSg	15 55 43		Pg, Sg	Z' 0.1 0.5	
			D = 230 km = 2.1°.				D = 130 km = 1.2°.
			Probably off northwest		Um iSg	14 48 05	
			coast of Norway.		Ka eSn	14 46 50	
" 12	Up		-			iSg	14 47 05
			microns sec				Baltic Sea, 58.7°N, 18.6°E.
	M	N	2.5 18				Origin time = 14 45 27.
			-				Probably explosion.
	Ki		-	" 13	Um	i(P)	17 56 56
			microns sec	" 13	Up	iP	18 43 31 C
	M	E	0.4 15			i	18 43 34
	M	N	0.7 17			i	18 44 01
	Um	i(P)	16 00 45 D				microns sec
" 13	Up	iP	10 54 33 D			P	Z' 0.1 0.5
" 13	Up	iP	12 32 49			M	E 2.3 14
" 13	Up	iPg	14 16 10 D			M	Z 2.4 15
		iSg	14 16 27		/Ki	iP	18 43 10
		iL	14 16 35				microns sec
			microns sec			P	Z' 0.5 2.0
	Pg, Sg	Z' 0.1 0.5				M	E 1.8 13
	Ka iSn	14 17 08				M	Z 4.1 12
			Baltic Sea. Origin time =		✓ Sk	iP	18 43 43
			14 15 46. This and the		✓ Gb	iP	18 43 58
			three following shocks		✓ Um	iP	18 43 14 C
			have the same location.		✓ Ka	iP	18 43 48 C
			Probably explosion.			i	18 43 52
							Kazakh, U.S.S.R.-China
							border (h = 30 km).
							Magn. = 6.0 (Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 13 Up iP 22 13 19 C  
Um iP 22 13 55

" 13 Um iP 23 05 37  
Off east coast of Honshu,  
Japan (h = 40 km).

" 14 Up iP 00 58 20

" 14 Ki i(Sg) 05 56 49

" 14 ✓ Sk iP 17 01 23  
Um iP 17 01 05  
i 17 01 26  
Off east coast of Honshu,  
Japan (h = 50 km).

" 14 ✓ Um iP 18 54 00  
Off east coast of Honshu,  
Japan (h = 40 km).

" 15 ✓ Up iP 07 43 37  
Sk iP 07 43 35  
Gb iP 07 43 58  
Um iP 07 43 16 C  
i 07 43 33  
Honshu, Japan  
(h = 120 km).

" 15 Up iP 09 48 16  
i 09 48 26  
Greece.

" 15 Up iP 11 47 51  
i 11 48 28  
Um iP 11 47 40  
Luzon, Philippine Islands  
(h = 40 km).

" 15 ✓ Up iP 18 19 15  
microns sec  
P Z' 0.4 2.0  
M E 0.7 16  
M N 1.0 16  
M Z 1.1 18  
Ki iP 18 20 02  
i 18 20 09  
microns sec  
P Z' 0.2 1.5  
M E 0.9 17  
Sk iP 18 19 28  
Gb iP 18 18 55  
Um iP 18 19 41 C

1962  
Apr 15 Ka iP 18 18 54 C  
cont. Ascension Island region  
(h = 25 km).

" 15 Up iP 18 56 07  
iPP 18 58 33  
iS 19 04 57  
eScS 19 06 05  
microns sec  
P Z' 0.2 1.7  
M E 1.4 18  
M N 2.0 20  
M Z 1.9 20  
D = 7350 km = 66°.

✓ Ki iP 18 56 53 D  
microns sec  
P Z' 0.6 2.2  
M E 2.6 19  
M N 0.7 14  
M Z 2.2 18  
Sk iP 18 56 21  
Gb iP 18 55 48 D  
Um iP 18 56 32 D  
i 18 58 06  
iS 19 05 47  
Ka iP 18 55 46  
Ascension Island region  
(h = 25 km).  
Magn. = 5.8 (Up, Ki).

" 15 Ki iPKP 22 50 04  
Um iPKP 22 49 57  
Sandwich Islands  
(h = 25 km).

" 16 Up iP 00 20 07  
iPP 00 20 32  
eS 00 24 04  
microns sec  
P Z' 0.1 0.8  
S E 0.7 10  
M E 0.9 11  
M N 1.1 11  
M Z 1.1 12  
D = 2400 km = 21½°.

✓ Ki iP 00 21 22  
iPP 00 22 18  
microns sec  
M E 1.6 15  
M N 1.6 16  
M Z 2.0 13  
Sk iP 00 20 47

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 16 Gb iP 00 19 53  
cont. iPP 00 20 10  
Um iP 00 20 48  
Ionian Sea (h = 25 km).

" 16 Up i(P) 07 09 21

" 16 Up iP 07 24 13  
i 07 24 22  
iPP 07 24 39  
microns sec  
P Z' 0.1 0.5  
PP Z' 0.1 0.5  
Ki iP 07 25 20  
Sk iP 07 24 51  
Um iP 07 24 49  
i 07 24 56  
Ka iP 07 23 40  
Aegean Sea (h = 25 km).

" 16 Up iP 13 32 01  
i 13 32 27  
iPP 13 35 02  
iS 13 41 45  
microns sec  
P Z' 0.2 0.5  
S E 0.9 6  
S N 2.8 8  
M E 0.8 18  
M N 0.6 13  
D = 8700 km =  $78\frac{1}{2}^{\circ}$ .  
Ki iP 13 31 27  
i 13 31 42  
ipP 13 32 08  
i(S) 13 40 44  
isS 13 41 28  
microns sec  
P Z' 0.4 1.0  
S E 1.6 10  
S N 1.6 8  
M E 1.5 20  
M N 0.7 19  
M Z 1.0 20  
D = 7950 km =  $71\frac{1}{2}^{\circ}$ .  
Sk iP 13 31 57  
ipP 13 32 36  
iPP 13 34 53  
Gb iP 13 32 20  
ipP 13 32 54  
Um iP 13 31 41  
i 13 31 54  
i 13 32 11  
i(S) 13 41 11

1962  
Apr 16 Ka iP 13 32 18  
cont. ipP 13 32 53  
South of Honshu, Japan.  
h = 150 km (Ki, Sk, Gb, Ka).  
Magn. = 6.4 (Up, Ki).

" 16 Um iP 22 01 12

" 17 Up iP 07 00 44  
Um iP 07 00 25  
South of Honshu, Japan  
(h = 25 km).

" 17 Ki iP 07 14 08  
Sk iP 07 14 31  
Um iP 07 14 03

" 17 Up iP 10 07 54 D  
eS 10 11 12  
iLg1 10 12 54  
microns sec  
P Z' 0.1 0.5  
M N 2.4 12  
M Z 1.6 10  
D = 1950 km =  $17\frac{1}{2}^{\circ}$ .  
Ki iP 10 09 16 C  
iPP 10 09 42  
microns sec  
P Z' 0.1 1.0  
PP Z' 0.2 1.4  
M E 1.0 14  
M N 1.2 14  
M Z 2.1 14  
Sk iP 10 08 35  
i 10 08 44  
Gb iP 10 07 31  
Um iP 10 08 36 C  
eS 10 12 38  
Ka iP 10 07 09  
i 10 07 14  
Adriatic Sea (h = 25 km).  
Magn. = 5.5 (Up, Ki).

" 17 Up iP 11 20 20 D  
microns sec  
P Z' 0.1 0.7  
Ki -  
microns sec  
M E 1.8 16  
Sk iP 11 21 00  
Gb iP 11 20 06  
Um iP 11 21 02  
Ka iP 11 19 41 D  
Ionian Sea (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 17 Up iP 11 38 45 D  
iS 11 42 54  
microns sec  
P Z' 0.4 0.8  
S E 0.3 4  
M E 2.7 10  
M N 1.1 11  
M Z 2.0 13  
D = 2450 km = 22°.  
Ki iP 11 40 02  
microns sec  
M E 7.6 15  
M N 1.5 15  
M Z 2.4 14  
Sk iP 11 39 25  
Gb iP 11 38 32 D  
Um iP 11 39 27  
i 11 39 39  
Ka iP 11 38 08  
Ionian Sea (h = 25 km).

" 17 Up iP 12 01 19 C  
East Pakistan (h = 150 km).

" 17 Up iP 14 59 21 D  
microns sec  
P Z' 0.1 0.6  
Sk iP 15 00 01  
Gb iP 14 59 03  
Um iP 15 00 11  
Near west coast of  
Greece (h = 25 km).

" 17 Ki iPKP 18 03 06  
Um iPKP 18 03 04  
South Island, New Zealand  
(h = 25 km).

" 17 Um iP 19 00 39  
Off east coast of Honshu,  
Japan (h = 25 km).

" 17 Up iP 21 05 31 C  
i 21 05 42  
iPP 21 08 11  
microns sec  
P N 0.3 6  
P Z' 0.1 1.0  
M E 0.8 17  
M N 1.9 19  
M Z 2.0 16  
Ki iP 21 04 51 C

1962  
Apr 17 Ki microns sec  
cont. P Z' 0.1 1.0  
M E 0.9 17  
Sk iP 21 05 24  
i 21 05 36  
Gb iP 21 05 51 C  
Um iP 21 05 09 C  
i 21 05 20  
Near east coast of Honshu,  
Japan (h = 110 km).  
Magn. = 5.8 (Up, Ki).

" 17 Up iP 22 45 42 C  
i 22 45 47  
iS 22 54 28  
iScS 22 55 47  
microns sec  
P Z' 0.1 0.8  
M E 1.7 15  
M N 2.7 17  
M Z 3.2 20  
D = 7300 km = 65°.  
Ki iP 22 46 27 C  
i 22 46 32  
iS 22 56 02

microns sec  
P Z' 0.1 1.0  
S N 0.9 10  
M E 3.1 19  
M N 2.6 19  
M Z 6.2 19  
D = 8100 km = 73°.  
Sk iP 22 45 55  
i 22 45 59  
Gb iP 22 45 21 C  
Um iP 22 46 08 C  
i 22 46 12  
iS 22 55 18  
Ka iP 22 45 23  
Mid-Atlantic Ocean  
(h = 25 km).  
Magn. = 5.8 (Up, Ki).

" 18 Up iP 09 19 50  
Um iP 09 20 05

" 18 Up iP 10 49 33  
i 10 49 37  
microns sec  
M E 0.6 12  
Ki  
microns sec  
M E 1.8 15

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 18 Sk eP 10 50 14  
cont. i 10 50 22  
Gb iP 10 49 18  
Um iP 10 50 13  
Ka iP 10 48 54  
Ionian Sea (h = 25 km).

" 18 Up iP 16 47 52  
Ki iP 16 47 17  
Um iP 16 47 32  
i 16 47 41  
South of Honshu, Japan  
(h = 70 km).

" 18 Up iP 19 28 29  
i 19 28 41  
e 19 32 12  
iPP 19 32 36  
iSKS 19 38 57  
iS 19 40 06  
iPS 19 41 34  
microns sec  
SKS E 1.7 6  
S N 0.6 6  
M E 8.5 22  
M N 5.6 22  
M Z 12 22  
D = 11200 km = 101°.

Ki iP 19 28 32  
i 19 32 40  
ePP 19 32 49  
iSKS 19 39 07  
iS 19 40 15

microns sec  
PP E 0.4 8  
PP Z 0.4 8  
SKS E 2.8 12  
SKS N 0.5 12  
S N 0.9 12  
M E 5.5 21  
M N 2.6 19  
M Z 8.6 22  
D = 11350 km = 102°.

Sk iP 19 28 22  
i 19 32 30  
Gb iP 19 28 17  
i 19 28 31  
Um iP 19 28 32  
i 19 32 17  
iPP 19 32 47  
i 19 33 05  
iSKS 19 39 07  
iS 19 40 09  
iPS 19 41 49  
D = 11350 km = 102°.

1962  
Apr 18 Ka iP 19 28 29  
cont. i 19 28 43  
Off coast of Peru  
(h = 40 km).  
Magn. = 6.3 (Up, Ki).

" 18 Sk i(P) 19 44 48  
Um iP 19 44 29

" 19 Up iP 00 31 36 C  
Gb iP 00 31 18  
Um iP 00 32 13  
Ionian Sea.

" 19 Up iP 02 10 47 C  
microns sec  
P Z' 0.1 0.5  
M E 0.5 11  
Ki iP 02 12 08  
microns sec  
M E 1.1 17  
Sk iP 02 11 27  
i 02 11 35  
Gb iP 02 10 37  
Um iP 02 11 28  
i 02 12 21  
Ka iP 02 10 13  
Ionian Sea (h = 25 km).

" 19 Up iP 03 22 16  
iS 03 26 24  
microns sec  
M E 0.9 10  
M N 0.9 17  
M Z 0.5 11  
D = 2450 km = 22°.

Ki -  
microns sec  
M E 2.7 15  
M N 0.5 14  
M Z 1.0 15

Sk iP 03 22 56  
Gb iP 03 21 51  
Um iP 03 22 57  
i 03 23 06  
eS 03 27 34  
Ka iP 03 21 42 C

" 19 Um iP 08 20 32  
Off east coast of Honshu,  
Japan (h = 25 km).



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962			
Apr 19	Sk	i(P)	08 27 39
	Um	iP	08 27 27
" 19	Up	iS	12 05 59
		i	12 06 09
			microns sec
	M	E	0.7 15
	M	N	1.0 20
	M	Z	1.3 14
	Ki	iP	12 01 52
			microns sec
	M	E	1.3 13
	M	N	0.8 12
	M	Z	1.8 13
	Um	eP	12 01 48
		eS	12 06 51
	Ka	iP	12 00 56
			Eastern Turkey (h = 25 km).
" 19	Up	iP	12 11 35
" 19	Ki	iP	14 22 51
		i	14 22 55
" 19	Up	eSKP	22 37 13
			microns sec
	SKP	Z'	0.1 0.5
	Ki	iPKP	22 33 55
	Sk	iSKP	22 37 06
	Gb	iSKP	22 37 28
	Um	iPKP	22 34 04
		iSKP	22 37 03
			New Hebrides Islands (h = 210 km).
" 19	Up	iP	23 24 14 C
		iPP	23 25 58
		i(PP)	23 26 04
		iSS	23 33 57
			microns sec
	P	N	0.6 2
	P	Z	1.0 3
	P	Z'	0.8 1.0
	PP	Z'	0.1 0.6
	M	E	13 23
	M	N	8.1 20
	M	Z	8.5 21
			D = 4900 km = 14°.
	Ki	iP	23 23 11 C
		iPP	23 24 33
		iS	23 28 55

1962			
Apr 19	Ki		microns sec
cont.	P	N	0.4 7
	P	Z	0.8 6
	P	Z'	1.3 1.7
	PP	E	0.2 6
	PP	N	0.6 6
	PP	Z	0.8 6
	PP	Z'	2.0 2.8
	S	E	1.0 10
	S	N	0.5 12
	M	E	12 21
	M	N	4.2 20
	M	Z	8.3 18
			D = 4050 km = 36 1/2°.
	Sk	iP	23 23 56 C
		i	23 23 58
		iPP	23 25 35
	Gb	iP	23 24 39
		i	23 24 41
		iPP	23 26 35
	Um	iP	23 23 41 C
		iPP	23 25 14
		iPPP	23 25 45
	Ka	iP	23 24 44 C
		iPP	23 26 36
			Siberia, U.S.S.R. (h = 0 km). Magn. = 6.2 (Up, Ki).
" 20	Um	iP	01 02 56
" 20	Up	iP	05 59 21 C
		i	05 59 39
		i	05 59 49
		iS	06 08 41
		iPS	06 09 02
		eP"P"	06 26 58
			microns sec
	P	E	1.6 3
	P	N	0.8 4
	P	Z	4.4 4
	P	Z'	1.4 1.0
	S	E	5.5 10
	S	N	4.0 8
	M	E	11 22
	M	N	11 20
	M	Z	13 22
			D = 8000 km = 72°.
	Ki	iP	05 59 20 C
		i	06 00 03
		iS	06 08 40
		iP"P"	06 26 54

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 20  
cont.

Ki			microns	sec
P	E	3.1	6	
P	N	0.5	7	
P	Z	7.1	8	
P	Z'	3.0	1.4	
S	E	9.7	12	
S	N	3.5	9	
S	Z	2.7	8	
M	E	48	25	
M	N	24	25	
M	Z	53	24	
D = 8000 km = 72°				
Sk	iP	05 59	03	C
	i	05 59	32	
	iPP	06 01	30	
	eS	06 08	09	
	e	06 26	41	
	iP"P"	06 27	05	
Gb	iP	05 59	05	C
	i	05 59	25	
	iP"P"	06 27	05	
	i	06 27	43	
Um	iP	05 59	24	C
	i	05 59	41	
	i	05 59	53	
	iS	06 08	48	
	e	06 26	45	
	iP"P"	06 26	55	
Ka	iP	05 59	21	C
	i	05 59	39	
	iP"P"	06 27	01	

Near north coast of Haiti  
(h = 25 km).  
Magn. = 7.0 (Up, Ki).

" 21 Sk iP 00 02 41

" 21 Up iP 01 15 30  
Sk iP 01 15 56  
Gb iP 01 15 51  
Um iP 01 15 29  
Ka iP 01 15 35

" 21 Up iP 02 27 15  
Gb iP 02 27 08 D

" 21 Up iP 08 04 46  
Gb iP 08 04 56 D  
Um iP 08 04 34  
Ka iP 08 04 57

Fiji Islands region  
(h = 560 km).

1962  
Apr 21

Up	iPg	21 30 16
	iSg	21 30 44
D = 240 km = 2.2°.		
Gb	eSg	21 31 39
Um	iSn	21 32 12
	iSg	21 32 45
D = 660 km = 5.9°.		
Baltic Sea, near Gotland, 57.8°N, 19.3°E. Origin time = 21 29 31. Probably explosion.		

" 21 Up iPg 21 52 06  
iSg 21 52 34  
D = 240 km = 2.2°.

Um eSg 21 54 33  
Baltic Sea, same location as  
for preceding event. Origin  
time = 21 51 21. Probably  
explosion.

" 22 Ki iPKP 02 28 46  
Um iPKP 02 28 51  
New Hebrides Islands region  
(h = 290 km).

" 22 Up eSn 04 18 46  
iSg 04 19 52  
D = 1090 km = 9.8°.

Ki iPn 04 15 37  
i(Sx) 04 16 34  
iSg 04 16 48  
i 04 17 14  
D = 470 km = 4.2°.

Sk i(Sg) 04 19 24  
Um iSn 04 17 16  
iSx 04 17 32  
iSg 04 17 48  
D = 670 km = 6.0°.

Northwest Russia, 67.7°N,  
31.5°E. Origin time =  
04 14 30. Explosion?

" 22 Up iPKP 04 48 27  
Ki iPKP 04 48 36  
i 04 50 08  
iSKP 04 51 47

microns sec

SKP Z' 0.1 1.0

Sk ePKP 04 48 22  
Gb iPKP 04 48 21  
Um iPKP 04 48 33  
iSKP 04 51 42

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 22 ~~X~~ ✓ Ka iPKP 04 48 23 C  
cont. Chile-Argentina border  
(h = 120 km).

" 22 ✓ Up iP 04 58 00 C  
ipP 04 58 18  
i 04 58 38  
iS 05 08 13  
microns sec  
P Z' 0.2 1.5  
S E 0.9 5  
S N 0.7 6  
M E 1.6 21  
M N 2.3 22  
M Z 2.4 21  
D = 9500 km = 85<sup>1</sup>/<sub>2</sub>°.

✓ Ki iP 04 57 48  
i 04 58 28  
iS 05 08 02  
microns sec  
P E 0.4 6  
P Z 0.8 6  
P Z' 0.7 1.5  
S E 2.2 13  
S N 0.8 14  
M E 3.6 21  
M N 1.6 22  
M Z 5.4 21  
D = 9350 km = 84°.

✓ Sk iP 04 57 41  
i 04 58 23  
✓ Gb iP 04 57 49  
i 04 58 03  
i 04 58 32  
✓ Um iP 04 57 56  
ipP 04 58 14  
i 04 58 37  
iS 05 08 15  
✓ Ka iP 04 58 02  
i 04 58 26  
i 04 58 44

Near coast of Chiapas,  
Mexico, h = 70 km (Up,  
Um). Magn. = 6.2 (Up, Ki).  
The phase around 40 sec  
after P, found at all  
our stations, could be  
P of a second shock.

" 22 Um iP 07 22 40

~~X~~ 22 ✓ Up iP 19 01 53  
✓ Ki iP 19 01 11  
✓ Gb i(P) 19 01 21

1962  
Apr 22 ~~X~~ ✓ Um iP 19 01 30 C  
cont.

" 22 ✓ Up iP 19 26 43 C  
ipP 19 27 28  
microns sec  
P Z' 0.3 0.8  
✓ Ki iP 19 26 10 C  
microns sec  
P Z' 0.2 0.8  
✓ Sk iP 19 26 41 C  
✓ Gb iP 19 27 03 C  
✓ Um iP 19 26 24 C  
i 19 26 44  
✓ Ka iP 19 27 01 C  
Near west coast of Kyushu,  
Japan. h = 180 km (Up).

" 22 Up iP 22 01 36  
i 22 01 49  
i 22 04 18  
i 22 04 36  
Ki iP 22 03 06 C  
i 22 09 18  
Sk eP 22 02 33  
e 22 08 42  
Gb iP 22 01 39  
Um iP 22 02 16  
Ka iP 22 01 04

~~X~~ 23 ✓ Up iP 04 06 02 C  
✓ Ki iP 04 05 24  
✓ Sk iP 04 05 56  
✓ Gb iP 04 06 22  
✓ Um iP 04 05 40 C  
✓ Ka iP 04 06 28  
Honshu, Japan (h = 120 km).

" 23 Up iP 04 29 12  
Um iP 04 29 07  
Ka iP 04 29 26

" 23 Ki iP 05 20 36  
Sk i(P) 05 20 00

" 23 Up iP 05 24 47  
Um iP 05 24 20

~~X~~ 23 ✓ Up iP 06 09 09 C  
ipPa 06 13 22  
iS 06 18 04  
iPS 06 18 43  
iSKS 06 19 04  
i 06 21 44  
iSS 06 22 52

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Apr 23  
cont.

Up iSSS 06 25 49  
iP'P' 06 37 21  
microns sec  
P E 3.3 5  
P N 5.7 4  
P Z 13 4  
P Z' 2.8 0.9  
S E 15 5  
S N 16 9  
SKS E 17 10  
M E 35 20  
M N 96 22  
M Z 110 23  
D = 7550 km = 689°.  
Ki iP 06 08 25 C  
i 06 08 49  
iPa 06 12 27  
iSKS 06 18 14  
iS 06 16 43  
iP'P' 06 37 40  
i 06 38 12  
microns sec  
P E 6.4 7  
P N 5.2 7  
P Z 22 7  
P Z' 3.5 1.0  
SKS E 25 8  
S E 39 6  
S N 16 9  
S Z 12 8  
M E 70 18  
M N 50 17  
M Z 110 18  
D = 6800 km = 61°.  
Sk iP 06 09 01 C  
iS 06 17 58  
iP'P' 06 37 25  
i 06 37 48  
Gb iP 06 09 30 C  
i 06 11 54  
iS 06 18 45  
Um iP 06 08 45 C  
iPP 06 11 08  
iPa 06 12 44  
iS 06 17 21  
i 06 37 07  
iP'P' 06 37 39  
D = 7150 km = 64½°.  
Ka iP 06 09 33 C  
iPP 06 12 14  
iS 06 18 56  
iP'P' 06 37 35

Hokkaido, Japan (h = 25 km).  
Magn. = 7.4 (Up, Ki).

1962

Apr 23

Up iP 07 34 26  
" 23 Up iP 07 46 56  
Sk i(P) 07 47 36  
" 23 Up iP 10 01 56 C  
Ki iP 10 01 03  
Sk eP 10 01 40  
Gb iP 10 02 16  
Um iP 10 01 28 C  
Off southeast coast of  
Kamchatka (h = 20 km).  
" 23 Up iP 16 15 11 C  
i 16 15 21  
microns sec  
P Z' 0.2 1.0  
Ki iP 16 14 18 C  
i 16 14 30  
microns sec  
P Z' 0.1 0.9  
Sk iP 16 14 54  
Gb iP 16 15 31 C  
Um iP 16 14 43 C  
Ka iP 16 15 33 C  
Kamchatka (h = 30 km).  
" 23 Up iP 16 52 55 D  
Ki iP 16 52 02  
Gb iP 16 53 15  
Um iP 16 52 27 D  
Kamchatka.  
" 23 Up iP 19 44 21  
Ki iP 19 43 29  
Gb iP 19 44 42  
Um iP 19 43 54  
Kamchatka.  
" 23 Up iP 19 58 30  
Um iP 19 58 10  
Ka i(P) 19 58 42  
" 24 Um iP 04 41 38  
" 24 Um i(P) 06 07 42  
" 24 Up iP 07 50 54  
Sk iP 07 51 33  
" 24 Up iP 14 27 32  
iPP 14 29 11  
Ki iP 14 27 42

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 24 cont. Ki microns sec  
P Z' 0.1 0.6  
Sk iP 14 27 58  
Um iP 14 27 30  
iPP 14 29 07  
Ka iP 14 27 36  
i 14 28 21  
Hindu Kush (h = 30 km).

" 24 Up iP 15 17 36

" 24 Sk iP 16 19 10  
Um iP 16 19 26  
Ecuador-Peru border  
(h = 180 km).

" 25 Um iP 03 09 47

" 25 Up iP 03 39 22  
Ki iP 03 38 28  
Sk iP 03 39 05  
Gb iP 03 39 42  
Um iP 03 38 53  
Ka iP 03 39 48  
Kamchatka (h = 30 km).

" 25 Ki iP 04 23 50  
Um iP 04 24 17

" 25 Up iP 04 48 42  
i 04 48 49  
e 04 52 51  
iPcP 04 53 40  
i 04 54 33  
microns sec  
M E 1.0 7  
M N 0.7 7  
M Z 1.0 11  
Ki iP 04 50 07  
iPP 04 50 36  
eS 04 54 20  
eLg2 04 58 08  
microns sec  
M E 0.8 10  
M N 0.9 10  
M Z 1.9 15  
D = 2650 km = 24°.  
Sk iP 04 49 13  
Gb iP 04 48 11  
eLg2 04 52 28  
Um iP 04 49 29  
iPP 04 49 47  
eS 04 53 22

1962  
Apr 25 cont. Ka i(S) 04 50 51  
iLg1 04 51 38  
Southeastern France  
(h = 30 km).

" 25 Up iP 06 27 21 D  
iS 06 31 22  
microns sec  
P Z' 0.1 0.7  
S E 0.3 7  
M E 0.5 10  
M N 1.1 11  
M Z 1.6 13  
D = 2450 km = 22°.  
Ki iP 06 28 36  
microns sec  
M E 1.4 14  
M N 0.9 12  
M Z 2.0 13  
Sk iP 06 28 00  
Gb iP 06 27 06 D  
Um iP 06 27 59  
Ka iP 06 26 45  
Ionian Sea (h = 25 km).

" 25 Up iP 09 54 19  
Sk iP 09 54 59  
Um eP 09 55 04  
(Ionian Sea).

" 25 Up iP 15 58 49 C  
iPP 16 07 30  
iPPP 16 03 11  
iS 16 08 08  
microns sec  
P N 0.3 3  
P Z 0.7 3  
P Z' 0.1 0.7  
S E 1.3 7  
S N 0.7 7  
M E 12 17  
M N 17 18  
M Z 18 20  
D = 8100 km = 73°.  
Ki iP 15 58 09 C  
iS 16 06 52  
iScS 16 07 56  
microns sec  
P E 0.6 6  
P N 0.3 7  
P Z 1.1 7  
S E 2.2 6  
S N 0.8 9  
M E 13 16

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Apr 25  
cont.

Ki                    microns sec  
M    N    7.2   16  
M    Z    22   18  
D = 7400 km =  $66\frac{1}{2}^{\circ}$ .  
✓ Sk iP            15 58 42 C  
   iPP            16 01 36  
✓ Gb iP            15 59 10  
   iPP            16 02 01  
✓ Um iP            15 58 27 C  
   eS            16 07 23  
✓ Ka iP            15 59 12 C  
Honshu, Japan (h = 60 km).  
Magn. = 6.3 (Up, Ki).

" 25

Up iP            20 01 14  
   i            20 01 26  
   iS            20 10 35

microns sec  
M    E    0.8   17  
M    N    1.0   19  
M    Z    1.4   18

✓ Ki iP            20 00 33  
   i            20 00 45

microns sec  
M    E    1.8   20  
M    N    0.6   16  
M    Z    1.4   18

Sk iP            20 01 08  
✓ Gb iP            20 01 35  
   i            20 01 46  
✓ Um iP            20 00 52  
   i            20 01 04  
✓ Ka iP            20 01 49

Honshu, Japan (h = 120 km).

" 26

Up iP            03 18 59  
   i            03 19 07  
   iLg1            03 31 54

microns sec  
M    E    0.4   11

Ki iP            03 18 50  
   i            03 18 57

microns sec  
M    E    0.5   14

Sk iP            03 19 17  
   i            03 19 24

Um iP            03 18 48  
   i            03 18 55

iPP            03 20 22  
Kazakh, U.S.S.R. (h = 25 km).

" 26

Up iP            04 15 49

1962

Apr 26

✓ Up iPKP            07 44 32  
   iSKP            07 47 26

microns sec  
SKP    Z'    0.2   1.0

✓ Ki iPKP            07 44 30  
   iSKP            07 47 02

microns sec  
SKP    Z'    0.3   1.5

✓ Gb iPKP            07 44 41  
   iSKP            07 47 35

Um i(PKP)            07 44 24  
   iPKP            07 44 36

iSKP            07 47 13  
✓ Ka iPKP            07 44 47

iSKP            07 47 41  
Fiji Islands (h = 690 km).

" 26

Up iP            15 21 33 C  
Ki iP            15 20 40 C

microns sec  
P    Z'    0.1   1.0

Sk eP            15 21 17  
Gb iP            15 21 54

Um iP            15 21 05 C  
Kamchatka (h = 25 km).

" 26

Um iP            16 01 07  
Southern Iran (h = 40 km).

" 26

Up i(P)            20 43 53

" 27

Gb iPKP            06 48 59 C  
Um iPKP            06 48 48

iSKP            06 51 38  
Fiji Islands region  
(h = 580 km).

" 27

✓ Up iPP            07 08 41  
   i(PKS)            07 09 51

microns sec  
(PKS) E    0.2   4

M    E    1.1   19  
M    N    0.9   18

M    Z    2.3   18  
Ki iPKP            07 06 40

iPP            07 09 05  
ePKS            07 10 07

microns sec  
PKS    E    0.9   7

M    E    0.9   18  
M    N    0.6   17

M    Z    1.2   17

Up = Uppsala, Ki = Kiruna, Sk = Skabstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 27 ✓ Sk iPKP 07 06 32  
cont. ✓ Um iPKP 07 06 38  
i 07 06 46  
ePP 07 08 55

Southern Chile (h = 30 km).

" 27 Up iPKP 16 48 06  
Sk iPKP 16 48 02  
Um iPKP 16 47 56  
Kermadec Islands region  
(h = 25 km).

" 27 Sk iP 17 30 09  
Off northwest coast of  
Honshu, Japan (h = 25 km).

" 28 Up i(P) 02 08 43

" 28 Ki iP 09 11 14  
Um iP 09 11 34  
Hokkaido, Japan  
(h = 160 km).

" 28 Up iP 11 24 14 D  
iS 11 28 34  
i(S) 11 28 54  
i 11 32 32

microns sec

P E 0.4 5  
P N 0.8 4  
P Z 1.3 5  
P Z' 0.2 0.6  
(S) E 4.6 10  
S N 7.4 10  
M E 18 13  
M N 21 11  
M Z 17 10

D = 2650 km = 24°.

✓ Ki iP 11 25 21  
iPP 11 26 32  
eS 11 30 29  
i 11 33 44  
iScS 11 35 52

microns sec

P Z' 0.2 1.1  
PP Z' 0.2 1.4  
M E 23 13  
M N 4.6 12  
M Z 9.8 12

D = 3450 km = 31°.

✓ Sk iP 11 24 53  
i 11 25 05

1962  
Apr 28 ✓ Gb iP 11 24 08  
cont. ✓ i 11 24 16  
✓ Um iP 11 24 45  
✓ Ka iP 11 23 41  
iS 11 27 42

Dodecanese Islands  
(h = 40 km).

Magn. = 5.9 (Up, Ki).

" 28 Up iP 12 49 04 D  
i(S) 12 53 40

microns sec

P N 0.6 4  
P Z 0.6 4  
P Z' 0.2 0.6  
(S) E 1.3 7  
(S) N 2.7 9  
M E 5.5 12  
M N 8.7 11  
M Z 7.0 10

✓ Ki iP 12 50 11

microns

P Z' 0.2 1.3  
M E 7.5 13  
M N 1.5 13  
M Z 3.1 13

✓ Sk iP 12 49 41

✓ Gb iP 12 48 57

i 12 49 06

✓ Um iP 12 49 36

✓ Ka iP 12 48 34

Dodecanese Islands  
(h = 50 km).

Magn. = 5.6 (Up, Ki).

" 28 Up iP 21 01 08  
Ki -

microns sec

M E 0.6 15  
M N 0.3 19

Sk iP 21 01 52

" 29 Sk i(Sg) 08 17 20

" 29 Up i(P) 16 51 35

" 29 Up iP 18 05 50  
Sk iP 18 06 31

Greece.

" 30 Up iP 02 37 42 C  
iPP 02 40 19

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
Apr 30 cont. / Up iS 02 47 00  
microns sec  
P E 0.3 3  
P N 0.3 4  
P Z 1.0 3  
P Z' 0.7 1.3  
S E 0.9 10  
M E 7.6 20  
M N 7.1 23  
M Z 8.7 24  
D = 7950 km =  $71\frac{1}{2}^\circ$ .  
Ki iP 02 37 02 C  
iPP 02 39 20  
eS 02 45 37  
microns sec  
P E 0.7 6  
P N 0.5 6  
P Z 2.4 7  
P Z' 0.5 1.4  
S E 1.6 8  
S N 0.4 9  
M E 12 19  
M N 7.2 16  
M Z 8.0 19  
D = 7150 km =  $64\frac{1}{2}^\circ$ .  
Sk iP 02 37 36 C  
ipP 02 38 04  
Gb iP 02 38 03 C  
Um iP 02 37 20 C  
ipP 02 37 47  
i 02 38 21  
eS 02 46 17  
Ka iP 02 38 03 C  
Honshu, Japan, h = 110 km  
(Sk, Um). Magn. = 6.2 (Up, Ki).  
" 30 Ki iP 08 01 09  
Near Colombia-Venezuela  
border (h = 130 km).  
" 30 Up iP 09 57 23  
Ki iP 09 56 55  
Sk eP 09 57 23  
Um iP 09 57 04  
Mariana Islands  
(h = 110 km).  
" 30 Up ePKP 16 36 28  
e 16 40 03  
microns sec  
M E 2.3 20  
M N 5.9 23  
M Z 7.2 22

1962  
Apr 30 cont. / Ki ePKS 16 39 28  
e 16 43 48  
microns sec  
PKS N 0.2 6  
M E 3.7 20  
M N 3.2 20  
M Z 5.5 20  
Um iPKP 16 36 04  
ePKS 16 39 36  
Tonga Islands region  
(h = 25 km).  
Magn. = 6.4 (Up, Ki).  
" 30 Um iPKP 18 50 12  
Fiji Islands region  
(h = 140 km).  
" 30 Up -  
microns sec  
M E 0.7 18  
M N 1.6 20  
M Z 1.4 22  
Ki iP 19 20 47  
microns sec  
M E 1.3 19  
M N 0.9 19  
M Z 1.7 20  
" 30 Up -  
microns sec  
M E 0.8 17  
M N 1.0 19  
M Z 0.6 17  
Ki iP 20 52 40 D  
eS 21 03 26  
microns sec  
S E 0.4 10  
M E 1.6 17  
M N 0.6 18  
M Z 1.2 17  
D = 9900 km =  $89^\circ$ .  
Celebes Sea (h = 30 km).  
Magn. = 5.6 (Up, Ki).  
" 30 Ki iP 22 52 11  
Um iP 22 52 28  
Honshu, Japan (h = 120 km).  
" 30 Up iP 23 53 40 C  
iPP 23 53 57  
i 23 56 40



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

Apr 30  
cont.

			microns sec	
	Up	M E	2.7	20
		M N	9.1	18
		M Z	8.6	18
	✓ Ki	iP	23 <del>52</del>	13
		i(PP)	23 <del>52</del>	21
		i	23 <del>53</del>	49
		iT	23 <del>57</del>	23
			microns sec	
		P E	0.6	9
		P N	0.8	9
		P Z	0.9	8
		P Z'	0.2	0.6
		PP Z'	0.1	1.0
		M E	8.6	16
		M N	5.2	16
		M Z	17	17
		D = 720 km = $6\frac{1}{2}^\circ$ .		
	✓ Sk	iP	23 <del>52</del>	41
		iS	23 <del>54</del>	21
	✓ Gb	iP	23 <del>55</del>	59
		i	23 <del>54</del>	07
	✓ Um	iP	23 <del>52</del>	57
		iS	23 <del>54</del>	45
	✓ Ka	iP	23 <del>54</del>	27
	Northeast of Jan Mayen (h = 25 km).			

Markus Båth  
October 9, 1962



1962

May

*Copied HJS*

Uppsala

PRELIMINARY  
SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

MAY 1 - 31, 1962

1962  
May 1 Up i 00 06 56  
Ki iP 00 02 13  
iPP 00 02 22  
i 00 03 45  
eT 00 07 35  
i 00 07 49  
D = 760 km = 6.8°  
Sk iP 00 02 42  
iS 00 04 24  
D = 980 km = 8.8°  
Gb iP 00 04 07  
Um iP 00 02 57  
i 00 03 07  
iS 00 04 52  
D = 1120 km = 10.1°  
Northeast of Jan Mayen,  
72.7°N, 7.1°E. Origin  
time = 00 00 30.

" 1 ✓ Up iP 10 07 09 C  
i 10 09 31  
microns sec  
P Z' 0.1 1.0  
✓ Ki iP 10 08 15 C  
i 10 08 21  
microns sec  
P Z' 0.1 1.0  
✓ Sk iP 10 07 35  
i 10 07 39  
✓ Gb iP 10 06 45  
✓ Um iP 10 07 45 C  
i 10 09 44  
✓ Ka iP 10 06 36  
Southern Algeria. Under-  
ground nuclear explosion.

1962  
May 1 Up iP 11 58 42  
i 11 58 50  
microns sec  
P Z' 0.1 0.7  
Greece.  
" 2 ✓ Up eP 02 54 02  
Ki iP 02 53 09  
i 02 53 20  
✓ Sk iP 02 53 36  
✓ Gb iP 02 54 13  
✓ Um iP 02 53 37 D  
iPcP 02 54 21  
Kodiak Island, Alaska  
region (h = 25 km).

" 2 Up i(P) 06 21 15  
i 06 21 25  
i(Sg) 06 21 30  
Local?  
" 2 ✓ Ki iP 09 14 44  
ipPKP 09 15 23  
Jujuy Province, Argentina  
(h = 160 km).

" 2 Ki i(P) 09 25 43  
i 09 25 53  
" 2 Up iP 11 15 51  
microns sec  
P Z' 0.1 0.5  
Gb i(P) 11 16 29

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
May 6 cont. Up M E 8.6 20  
M N 8.2 19  
M Z 12 21  
D = 14000 km = 126°.  
Ki iPKP 19 19 25  
i 19 19 33  
iPP 19 21 52  
i 19 22 03  
iPKS 19 22 57  
i 19 23 48  
microns sec  
PKP Z 3.4 5  
PKP Z' 0.2 1.0  
PP E 1.3 5  
PP N 1.3 5  
PKS E 3.7 7  
PKS N 3.7 8  
M E 13 20  
M N 4.3 21  
M Z 14 20  
D = 14850 km = 133½°.  
Gb iPKP 19 19 06  
i 19 20 55  
Um iPKP 19 19 19  
iPP 19 21 35  
iPKS 19 22 42  
iSS 19 39 06  
Ka iPKP 19 19 06  
i 19 19 31  
iPP 19 20 36  
Sandwich Islands region  
(h = 25 km).  
Magn. = 6.8 (Up, Ki).  
" 6 Up i(PKP) 19 38 56  
Um i(PKP) 19 39 03  
(Sandwich Islands region).  
" 6 Up iP 21 45 22  
Um iP 21 46 02  
Greece.  
" 6 Up ePKP 22 12 49  
Ki iPKP 22 13 04  
Um iPKP 22 12 56  
Sandwich Islands region  
(h = 40 km).  
" 6 Up iPKP 22 53 46  
Sandwich Islands region  
(h = 30 km).

1962  
May 6 Up iP 23 41 17 D  
Um iP 23 41 57 D  
Greece.  
" 7 Ki iP 08 20 17  
" 7 Ki iP 08 20 41  
Mariana Islands  
(h = 120 km).  
" 7 Up iP 11 45 09  
" 7 Up iPKP 13 26 46  
Um iPKP 13 26 35 D  
Kermadec Islands region  
(h = 25 km).  
" 7 Up iP 15 16 50  
microns sec  
P Z' 0.1 0.7  
Gb iP 15 16 58  
" 7 Um i(P) 17 45 40  
" 7 Up iP 17 50 44 C  
iPP 17 53 15  
iPa 17 55 01  
iS 17 59 40  
iP'P' 18 18 55  
microns sec  
P N 0.8 4  
P Z 1.9 4  
P Z' 0.1 0.5  
PP N 0.8 4  
PP Z 1.3 4  
S E 2.2 6  
M E 27 15  
M N 29 16  
M Z 33 23  
D = 7450 km = 67°.  
Ki iP 17 49 58 C  
iPa 17 53 37  
iS 17 58 07  
iSS 18 02 12  
iP'P' 18 19 11  
microns sec  
P E 1.3 9  
P N 1.5 9  
P Z 5.2 9  
P Z' 0.3 1.2  
S E 4.3 8  
S N 3.3 8

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962  
 May 7 Ki M E 70 20  
 cont. M N 32 14  
 M Z 83 20  
 D = 6600 km = 59.2°.  
 Gb iP 17 51 06 C  
 iPa 17 55 36  
 Um iP 17 50 19 C  
 ePa 17 54 11  
 iS 17 58 49  
 iP'P' 18 19 05  
 D = 7000 km = 63°.  
 Ka iP 17 51 14 C  
 Kurile Islands (h = 25 km).  
 Magn. = 6.7 (Up, Ki).  
 " 7 Up iPKP 19 22 28  
 Ki ePKP 19 22 43  
 Um iPKP 19 22 36  
 i 19 25 51  
 Sandwich Islands  
 (h = 25 km).  
 " 8 Up i(P) 00 00 43  
 " 8 Up iP 00 05 19  
 microns sec  
 P Z' 0.1 0.5  
 " 8 Ki eL 04 04  
 microns sec  
 M E 0.5 12  
 M N 0.4 15  
 M Z 0.6 13  
 Greece.  
 " 8 Up iP 16 36 00  
 Ki iP 16 35 17  
 Gb iP 16 36 22  
 Um iP 16 35 37  
 Ka iP 16 36 22  
 Off east coast of  
 Honshu, Japan  
 (h = 110 km).  
 " 8 Ki iP 16 45 30  
 " 8 Up iP 19 46 34 D  
 Ki iP 19 46 43  
 Um iP 19 46 33  
 Ka iP 19 46 35  
 West Pakistan (h = 50 km).

1962  
 May 8-9 Up iP 23 59 13  
 ipP 23 59 38  
 eS 00 03 30  
 microns sec  
 pP Z' 0.1 0.7  
 M E 1.6 17  
 M N 1.0 16  
 D = 2650 km = 24°.  
 Ki iP 00 00 21 C  
 microns sec  
 M E 0.6 14  
 M N 0.7 12  
 M Z 1.0 11  
 Gb iP 23 59 05  
 Um eP 23 59 46  
 Ka iP 23 58 41  
 iS 00 02 36  
 Sea of Crete (h = 90 km).  
 " 9 Up iP 11 30 00 C  
 microns sec  
 P Z' 0.1 0.5  
 Ki iP 11 29 11  
 microns sec  
 P Z' 0.1 1.0  
 M E 0.7 18  
 M N 0.6 19  
 M Z 1.5 19  
 Gb iP 11 30 20  
 Um iP 11 29 33 C  
 Ka iP 11 30 22 C  
 Kurile Islands (h = 60 km).  
 " 9 Up iP 11 34 43 C  
 Ki iP 11 33 55  
 Um iP 11 34 17  
 Kurile Islands.  
 " 9 Up iP 12 19 58 C  
 iPP 12 21 47  
 i 12 30 43  
 microns sec  
 M E 0.6 16  
 M N 1.8 13  
 Ki eP 12 20 08  
 e 12 30 48  
 e 12 31 36  
 microns sec  
 M E 0.6 18  
 Gb iP 12 20 19  
 ePP 12 22 08  
 Ka iP 12 20 02 C  
 Hindu Kush (h = 100 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
May 9 Up iP 12 27 56  
Ki iP 12 27 08

" 9 Up iP 18 31 48  
microns sec  
M E 1.3 14  
M N 0.6 16  
M Z 0.9 14

Ki -  
microns sec  
M E 0.5 15  
M N 0.6 15  
M Z 0.8 15

Ryukyu Islands  
(h = 25 km).

" 9 Up iP 18 54 52

" 10 Up iP 00 13 28 D  
i(pP) 00 13 41  
iPeP 00 14 18  
iS 00 21 16  
iSeS 00 23 07  
microns sec  
P Z' 0.1 1.0  
M N 0.9 22  
D = 6450 km = 58°.

Ki iP 00 12 30 D  
i(pP) 00 12 44  
iPeP 00 13 49  
iS 00 19 38  
microns sec  
P Z' 0.5 0.9  
S N 0.5 7  
M E 0.5 15  
M N 0.7 21  
M Z 1.7 22  
D = 5600 km = 50½°.

Gb iP 00 13 39 D  
Um iP 00 12 59 D  
i(pP) 00 13 14  
iPeP 00 14 03  
eS 00 20 30  
D = 6050 km = 54½°.

Ka iP 00 13 49 D  
Alaska (h = 70 km).

" 10 Up iPKP 00 47 15  
i 00 47 34  
microns sec  
M E 0.9 19  
M N 0.8 19  
M Z 1.6 20

1962  
May 10 Ki iPKP 00 46 56  
cent. i 00 47 01  
microns sec  
PKP Z 1.1 3  
PKP Z' 0.6 1.0  
M E 2.6 20  
M N 0.7 19  
M Z 3.1 21

Gb iPKP 00 47 18  
Um iPKP 00 47 08 C  
i 00 47 14  
Ka iPKP 00 47 09 C  
i 00 47 44

South Island, New Zealand  
(h = 50 km).

Magn. = 6.0 (Up, Ki).

" 10 Um iP 02 48 30

" 10 Um i(P) 04 46 31

" 10 Up iP 04 51 22  
Ki iP 04 50 48  
Um iP 04 50 55

" 10 Up iP 05 23 14 C  
iPeP 05 23 41  
eS 05 32 07  
iP'P' 05 51 29  
microns sec  
P Z' 0.2 1.0  
M E 2.2 19  
M N 6.4 23  
M Z 5.7 23  
D = 7550 km = 68°.

Ki iP 05 22 21 C  
i 05 22 43  
iS 05 30 29  
microns sec  
P N 0.3 5  
P Z 0.6 5  
S E 0.4 8  
S N 0.4 8  
M E 3.7 18  
M N 1.9 20  
M Z 5.2 20  
D = 6650 km = 60°.

Gb iP 05 23 29 C  
Um iP 05 22 47 C  
iP'P' 05 51 40  
Ka iP 05 23 36 C  
Fox Islands, Aleutian  
Islands (h = 40 km).  
Magn. = 5.9 (Up, Ki).

Up = Uppsala , Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
May	10	Um	i(P) 07 16 42	May	11	Up	P 14 15
"	10	Um	iP 07 17 56	cont.		P	Z' 0.4 1.5
			i 07 18 02			PP	E 4.1 8
"	10	Up	iP 07 56 26			PP	N 3.6 7
		Ka	i(P) 07 56 32			PP	Z 7.9 8
"	10	Up	iP 08 54 42			SKS	E 11 15
		Gb	iP 08 55 01			SKS	N 9.5 15
		Um	iP 08 54 13			M	E 45 23
		Ka	iP 08 55 08			M	N 56 23
			Near east coast of Kamchatka (h = 150 km).			M	Z 76 24
"	10	Um	iP 15 20 44				D = 9800 km = 88°.
"	10	Up	iP 17 48 41			Ki	iP 14 24 26 C
"	10	Um	iP 18 35 47				i 14 25 05
		iPP	18 36 11				i 14 25 41
		Ka	iP 18 34 21				i 14 26 22
			Yugoslavia-Albania border (h = 25 km).				iPP 14 27 38
"	11	Up	iP 00 50 38				iSKS 14 34 54
			microns sec				iScS 14 35 07
		P	Z' 0.1 0.5				microns sec
"	11	Up	iP 01 09 20				P E 6.8 9
		Um	iP 01 10 07				P N 2.4 9
			Italy (h = 25 km).				P Z 15 9
"	11	Um	iP 01 29 24				P Z' 0.7 1.5
"	11	Up	iP 03 56 45				PP E 4.1 10
"	11	Up	iPKP 13 55 00 D				PP Z 7.8 9
		Gb	iPKP 13 55 09				SKS E 34 12
		Um	iPKP 13 54 49				M E 90 20
		Ka	iPKP 13 55 09				M N 64 24
			Kermadec Islands (h = 120 km).				M Z 120 18
"	11	Up	iP 14 24 42 C				D = 9450 km = 85°.
		i	14 25 03			Gb	iP 14 24 39
		iPP	14 28 09				iPP 14 28 01
		iSKS	14 35 13			Um	iP 14 24 36
		iScS	14 35 40				i 14 24 40
			microns sec				i 14 27 01
		P	E 2.4 12				iPP 14 27 51
		P	N 3.5 16				eSKS 14 35 09
							Ka iP 14 24 44
							Near coast of Mexico (h = 25 km).
							Magn. = 7.2 (Up, Ki).
"	11	Up	iP 20 13 03 C				
		Ki	iP 20 14 05				
"	11	Up	iP 20 14 16				
		Um	iP 20 14 22				
			South Atlantic Ocean (h = 25 km).				
"	12	Um	iP 00 53 58				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
 May 12 Up i(P) 15 26 25  
           i 15 26 38  
                   microns sec  
           (P) Z' 0.1 0.5  
           Ki i(P) 15 27 48  
           Gb i(P) 15 25 47  
           Um i(P) 15 26 48  
                   i 15 26 53  
           Ka i(P) 15 27 07  
 This may be a shock within Scandinavia, and some of the phases denoted (P) may instead be Sg. However, no unique solution has been found.

" 12 Up iP 17 44 14  
       Ki iP 17 44 24  
       Um iP 17 44 13  
       Hindu Kush (h = 190 km).

" 12 Up iP 19 11 49 C  
           microns sec  
           P Z' 0.1 1.2  
       Ki iP 19 11 15 C  
           microns sec  
           P Z' 0.1 1.2  
       Gb iP 19 11 49  
       Um iP 19 11 35  
       Ka eP 19 12 02  
       Nevada, U.S.A. Under-ground unclear explosion.

" 12 Um iP 19 59 21

" 12 Ki iP 20 53 43  
       Fiji Islands (h = 600 km).

" 12 Um iP 22 21 51  
       Fiji Islands (h = 600 km).

" 13 Up iP 05 14 05

" 13 Ki iP 09 24 54 D  
       Um iP 09 24 55  
       Colombia (h = 180 km).

" 13 Up i(P) 11 54 27

" 13 Ki iP 18 59 31  
       Um iP 18 59 49  
       Northern Honshu, Japan (h = 30 km).

1962  
 May 14 Um iP 00 49 53

" 14 Ki iP 10 47 17  
       Soembawa (h = 30 km).

" 14 Um i(P) 11 18 33  
       Off coast of Honshu, Japan (h = 160 km).

" 14 Ki iP 14 07 41  
       Um iP 14 08 03  
       Kurile Islands (h = 130 km).

" 14 Up iP 15 30 30  
       Ki iP 15 29 52  
       Sk iP 15 30 25  
       Um iP 15 30 09 C  
       Northern Honshu, Japan (h = 80 km).

" 14 Um iP 21 18 11  
       South of Honshu, Japan (h = 80 km).

" 15 Up iP 00 09 22  
       Um iP 00 10 04  
       Greece.

" 15 Um iP 03 45 39  
       Near coast of Honshu, Japan (h = 80 km).

" 15 Up iP 05 37 56 C  
       ePKP 05 41 55  
       i 05 42 18  
       iPP 05 42 28  
       iPS 05 51 45  
                   microns sec  
       P E 0.6 11  
       P Z 1.9 12  
       PKP E 1.6 14  
       PKP Z 3.5 14  
       PP E 6.6 12  
       PP N 2.0 10  
       PP Z 10 11  
       M E 56 27  
       M N 100 30  
       M Z 77 30  
       D = 11850 km = 106½°.

✓ Ki iP 05 37 45  
       i 05 37 51  
       iPKP 05 41 54  
       ePP 05 42 07  
       i 05 47 47

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
May 15 / Ki eS 05 49 19  
cont. microns sec

P	E	0.8	9
P	Z	2.9	9
P	Z'	0.4	1.0
PKP	E	4.0	11
PKP	Z	9.2	11
PP	N	0.8	9
PP	Z'	1.2	1.5
S	N	4.6	14
M	E	69	21
M	N	26	19
M	Z	64	22

D = 11450 km = 103°.

Sk	iP	05 38 09
	iPP	05 42 40
Gb	iP	05 38 20
	i	05 41 44
	iPP	05 42 50
Um	iP	05 37 49
	e	05 39 51
	i	05 41 22
	iPP	05 42 09
	iSKS	05 48 37
	iS	05 49 40

D = 11600 km = 104½°.

Ka	eP	05 38 16
	i	05 41 41
	iPP	05 42 43

Banda Sea (h = 30 km).  
Magn. = 7.3 (Up, Ki).

" 15 / Ki iP 06 57 06  
Um iP 06 57 09  
Banda Sea (h = 50 km).

" 15 Up iP 08 36 22  
Ki iP 08 37 37  
Sk iP 08 37 05  
Gb eP 08 36 13  
Um iP 08 37 02  
Ka iP 08 35 37  
Aegean Sea.

" 15 Ki iP 10 09 14  
Um iP 10 09 18  
Banda Sea (h = 30 km).

" 15 Ki iP 16 26 21  
Um iP 16 26 48  
Unimak Island region  
(h = 25 km).

1962  
May 15 / Ki iP 17 08 06  
Sk ePP 17 12 50  
Um iP 17 08 09  
Banda Sea (h = 30 km).

" 15 / Up iP 19 42 49 C  
iPcP 19 43 25  
microns sec

P	Z'	0.1	0.5
---	----	-----	-----

Sk iP 19 42 32  
iPcP 19 43 15

Um iP 19 42 20 C  
iPcP 19 43 09

Ka iP 19 43 10  
Near east coast of  
Kamchatka (h = 30 km).

" 15 Ki iP 20 43 27  
Um eP 20 43 53  
Unimak Island region  
(h = 25 km).

" 16 Ki iPcP 05 35 34  
Sk iPcP 05 35 44  
Um iPcP 05 35 39  
New Hebrides Islands  
(h = 50 km).

" 16 Up iP 06 31 15

" 16 Um iP 10 48 16

" 16 Up i(P) 12 19 44  
Gb i(P) 12 19 06

" 16 / Ki iP 14 49 27  
Banda Sea (h = 30 km).

" 16 Um iP 17 33 31

" 16 / Up iPcP 17 52 16  
Ki iPcP 17 52 01  
Sk iPcP 17 52 12  
Um iPcP 17 52 01  
i 17 52 07  
New Hebrides Islands  
(h = 40 km).



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962				1962			
May	16	Up iP	19 31 20 D	May	17	Up iP	14 32 22
		Sk iP	19 32 00			i(S)	14 32 42
		Greece.				i(L)	14 32 45
"	16	Up iP	20 39 05				microns sec
						(S) Z'	0.1 0.8
"	17	Up ePKP	02 40 13			Probably explosion in the Baltic Sea.	
		Sk ePKP	02 39 55	"	17	Up iPg	14 47 18
		Um iPKP	02 39 48 D			iSg	14 47 35
		i	02 42 01			iL	14 47 46
		Near coast of South Island, New Zealand (h = 40 km).					microns sec
"	17	Up iP	07 59 43			Pg,Sg Z'	0.1 0.5
"	17	Up i(P)	10 26 50			D = 140 km = 1.2°.	
			microns sec			Sk iSg	14 49 58
		(P) Z'	0.2 1.0			Um iSg	14 49 35
"	17	Up iP	12 12 23 C			Ka eSg	14 48 23
			microns sec			The Baltic Sea, 58,7°N, 18.3°E. Origin time = 14 46 48. Underwater explosion.	
		P Z'	0.1 1.2	"	17	Up iP	14 53 41
		Ki iP	12 12 47	"	17	Up iPKP	16 19 29
		Gb iP	12 12 31			Ki iPKP	16 19 44 C
		Um iP	12 12 33				microns sec
		Ka iP	12 12 16			PKP Z'	0.1 1.1
		Chagos Archipelago region (h = 25 km).				Um iPKP	16 19 37 C
"	17	Ki iPg	13 10 18			Sandwich Islands (h = 25 km).	
		iSg	13 10 47	"	18	Um iPKP	03 08 08
		i	13 10 49			Ka iPKP	03 08 17 D
		D = 240 km = 2.2°.				Fiji Islands region (h = 550 km).	
		Sk iSg	13 11 55	"	18	Up iPKP	07 32 18
		Um iPg	13 10 11 C				microns sec
		iSg	13 10 35			PKP Z'	0.1 0.8
		D = 200 km = 1.8°.				Sk iPKP	07 32 11
		North Sweden, 65.6°N, 21.1° E. Origin time = 13 09 35.				Gb iPKP	07 32 26
"	17	Up i(L)	14 17 44			Um iPKP	07 32 06
		Probably explosion in the Baltic Sea.				Ka iPKP	07 32 26
"	17	Up i(L)	14 26 03			Kermadec Islands (h = 190 km).	
		Probably explosion in the Baltic Sea.		"	18	Um iP	13 04 17
				"	18	Up iP	14 08 39

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
 May 18 Up iP 16 57 27  
 " 18 Up iP 18 57 30  
 " 18 Up i 18 57 40  
 " 18 Ki iP 18 56 44  
 " 18 Ki i 18 56 53  
 " 18 microns sec  
 " 18 M E 0.8 14  
 " 18 M N 0.6 16  
 " 18 Sk iP 18 57 23  
 " 18 Gb iP 18 58 01  
 " 18 Um iP 18 57 05  
 " 18 Um i 18 57 14  
 " 18 Ka iP 18 57 46  
 " 18 Kurile Islands (h = 60 km).  
 " 18 Up iP 20 35 27  
 " 19 Um iP 07 21 31  
 " 19 Um iP 09 01 07  
 " 19 Up iP 15 11 02 C  
 " 19 Up iPP 15 14 26  
 " 19 Up i 15 15 53  
 " 19 Up iS 15 21 32  
 " 19 Up i 15 22 10  
 " 19 microns sec  
 " 19 P E 2.4 17  
 " 19 P N 3.1 17  
 " 19 P Z 13 18  
 " 19 PP E 2.8 5  
 " 19 PP N 3.0 5  
 " 19 PP Z 5.0 5  
 " 19 S N 12 20  
 " 19 M E 33 18  
 " 19 M N 45 20  
 " 19 M Z 58 19  
 " 19 D = 9800 km = 88°.  
 " 19 Ki iP 15 10 47 C  
 " 19 Ki i 15 11 00  
 " 19 Ki i 15 13 35  
 " 19 Ki iPP 15 14 12  
 " 19 Ki iS 15 21 21  
 " 19 microns sec  
 " 19 P E 2.3 5  
 " 19 P Z 5.7 5  
 " 19 P Z' 6.0 4  
 " 19 S E 32 16  
 " 19 S N 11 8  
 " 19 M E 46 19  
 " 19 M N 32 22  
 " 19 M Z 63 20  
 " 19 D = 9450 km = 85°.

1962  
 May 19 Sk iP 15 10 45 C  
 " 19 Gb iP 15 10 56 C  
 " 19 iPP 15 14 21  
 " 19 Um iP 15 10 57 C  
 " 19 iPP 15 14 23  
 " 19 iS 15 21 31  
 " 19 D = 9600 km = 86½°.  
 " 19 Ka iP 15 11 07  
 " 19 iPP 15 14 37  
 " 19 Near coast of Mexico  
 " 19 (h = 20 km).  
 " 19 Magn. = 7.1 (Up, Ki).  
 " 19 Um iP 16 58 39  
 " 19 Up eP 20 53 26 C  
 " 19 microns sec  
 " 19 P Z' 0.1 0.5  
 " 19 Ki iP 20 54 38  
 " 19 Sk iP 20 54 (11)  
 " 19 Gb iP 20 53 14  
 " 19 Um iP 20 54 03  
 " 19 i 20 54 09  
 " 19 Ka iP 20 52 46  
 " 19 Greece. (h = 25 km).  
 " 19 Up iP 20 57 42  
 " 19 iPP 20 59 15  
 " 19 Ki iP 20 57 45 D  
 " 19 microns sec  
 " 19 P Z' 0.2 0.6  
 " 19 Sk iP 20 58 05  
 " 19 Gb iP 20 58 03  
 " 19 Um iP 20 57 37  
 " 19 iPP 20 59 12  
 " 19 Sinkiang Province, China  
 " 19 (h = 50 km).  
 " 19 Up iP 21 38 44 C  
 " 19 i 21 38 52  
 " 19 Ki iP 21 38 39  
 " 19 Sk iP 21 39 02  
 " 19 Um iP 21 38 37  
 " 19 China.  
 " 20 Up iP 00 46 02  
 " 20 Ki iP 00 47 13  
 " 20 Crete (h = 25 km).  
 " 20 Up iP 11 50 15  
 " 20 (Greece).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
May 20 / Ki iP 15 12 30  
i 15 12 40  
/ Sk iP 15 12 21  
/ Um iP 15 12 30  
i 15 12 41  
Off coast of Puerto Rico (h = 40 km).

" 20 Up iP 17 02 48  
Ki iP 17 02 32 D  
Sk iP 17 03 01  
Um iP 17 02 38  
Near coast of Mindanao, Philippine Islands (h = 130 km).

" 20 Up i(P) 17 35 39  
Ki i(P) 17 37 35  
Um i(P) 17 35 43

" 20 Up iPKP 18 50 22 D  
Sk iPKP 18 50 22  
Um iPKP 18 50 11 D  
Kermadec Islands (h = 25 km).

" 21 Up iP 02 06 58  
Ki iP 02 06 29  
Sk eP 02 07 00  
Mariana Islands (h = 90 km).

" 21 Up iP 12 12 09 C  
iPP 12 14 11  
iS 12 19 43  
i 12 23 49  
microns sec  
P E 3.8 3  
P N 1.5 3  
P Z 9.1 3  
P Z' 2.5 1.0  
PP E 3.0 4  
PP Z 2.8 4  
S E 11 9  
S N 9.7 9  
S Z 8.1 10  
M E 96 14  
M N 170 17  
M Z 130 16  
D = 5900 km = 53°.  
Ki iP 12 11 53 C  
iPP 12 13 50  
iPPP 12 14 50

1962  
May 21 cont. / Ki iS 12 19 12  
i 12 22 54  
i 12 29 58  
microns sec  
P E 7.9 7  
P N 1.5 4  
P Z 6.9 5  
P Z' 2.5 0.8  
PP E 4.3 8  
PP Z 7.8 9  
S E 18 14  
S N 7.7 9  
M E 81 13  
M N 98 14  
M Z 80 14  
D = 5600 km = 50½°.  
/ Gb iP 12 12 33 C  
/ Um iP 12 11 55 C  
iPP 12 13 57  
/ Ka iP 12 12 23 C  
iPP 12 14 27  
Chinghai Province, China (h = 25 km).  
Magn. = 7.2 (Up, Ki).

" 21 Up iP 12 19 15 C  
microns sec  
P Z' 0.2 0.5  
China.

" 21 Up iP 12 19 51 C  
China.

" 21 Up iP 12 23 12 C  
microns sec  
P Z' 0.1 0.5  
China.

" 21 Up iP 12 25 13

" 21 Up iP 12 38 50  
microns sec  
P Z' 0.1 0.5

" 21 Up iP 12 45 37 C  
microns sec  
P Z' 0.4 1.0  
Ki iP 12 45 19 C  
microns sec  
P Z' 0.2 0.6  
Gb iP 12 46 01  
Um iP 12 45 23 C

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962  
 May 21 Ka iP 12 45 52  
 cont. Chinghai Province,  
 China, (h = 25 km).

" 21 Up iP 12 48 26 C  
 microns sec  
 P Z' 0.1 0.5  
 China.

" 21 Up iP 13 09 04  
 Sk iP 13 09 17  
 China.

" 21 Up iP 13 12 35  
 i 13 12 39  
 microns sec  
 P Z' 0.1 0.5  
 Sk iP 13 12 53 C  
 Um iP 13 12 25  
 China.

" 21 Up iP 13 22 54

" 21 Up iP 13 24 58 C  
 microns sec  
 P Z' 0.8 1.0  
 M E 2.1 14  
 M N 2.4 15  
 M Z 2.9 18  
 ✓ Ki iP 13 24 41 C  
 microns sec  
 P Z' 0.2 0.8  
 M E 3.5 13  
 M N 2.8 13  
 M Z 3.0 12  
 ✓ Sk iP 13 25 12 C  
 ✓ Gb iP 13 25 22  
 ✓ Um iP 13 24 44 C  
 iPcP 13 26 00  
 ✓ Ka iP 13 25 12  
 i 13 25 18  
 Chinghai Province,  
 China (h = 25 km).

" 21 Up iP 13 38 10 C  
 microns sec  
 P Z' 0.1 0.5  
 Ki iP 13 37 54  
 Sk iP 13 38 23 C  
 Um iP 13 37 56 C  
 Chinghai Province,  
 China (h = 40 km).

1962  
 May 21 Up iP 13 44 26 C  
 microns sec  
 P Z' 0.1 0.5  
 Ki iP 13 44 09  
 Sk iP 13 44 38  
 China.

" 21 Up iP 13 45 26

" 21 Up iP 13 46 34  
 i 13 46 40  
 China.

" 21 Up iP 14 27 08

" 21 Up iP 14 28 54 C  
 microns sec  
 P Z' 0.1 0.5  
 Sk iP 14 29 06 C  
 Um iP 14 28 39  
 China.

" 21 Up iP 14 46 09 C  
 i 14 46 14  
 Sk iP 14 46 23  
 China.

" 21 Gb i(P) 15 13 26  
 i 15 13 42

" 21 Up iP 15 34 54

" 21 Up iP 15 51 02 C  
 i 15 51 07  
 microns sec  
 P Z' 0.5 1.0  
 Ki iP 15 50 45 C  
 i 15 50 59  
 microns sec  
 P Z' 0.1 0.8  
 Sk iP 15 51 15 C  
 Gb eP 15 51 26  
 Um iP 15 50 48  
 Ka iP 15 51 17  
 i 15 51 23  
 Chinghai Province,  
 China (h = 40 km).

" 21 Up iP 16 26 39  
 i 16 26 44  
 China.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå, Ka = Karlskrona

1962

May 21 Up iP 16 37 54 C  
microns sec  
P Z' 0.1 0.5  
Ki iP 16 37 37  
Sk iP 16 38 07 C  
Um iP 16 37 40 C  
China.

" 21 Up iP 17 08 10  
i 17 08 16  
Sk eP 17 08 22  
China.

" 21 Up iP 17 20 29  
i 17 20 34  
China.

" 21 Up iP 18 24 48 C  
microns sec  
P Z' 0.1 0.5  
Ki iP 18 24 31 C  
Sk iP 18 25 01 C  
Chinghai Province,  
China (h = 40 km).

" 21 Up iP 18 36 27

" 21 Up iP 19 12 32  
(China).

" 21 Up iP 19 38 25 C  
i 19 38 30  
microns sec  
P Z' 0.2 0.5  
Ki iP 19 38 08 C  
Sk iP 19 38 38  
Um iP 19 38 11 C  
Ka iP 19 38 41  
Chinghai Province,  
China (h = 25 km).

" 21 Up iP 19 55 18 C  
i 19 55 22  
microns sec  
P Z' 0.1 0.5  
Ki iP 19 55 01 C  
i 19 55 06  
Sk iP 19 55 31 C  
Um iP 19 55 04  
i 19 55 09  
Ka iP 19 55 35  
i 19 55 39  
Chinghai Province,  
China (h = 40 km).

1962

May 21 Up iP 20 09 35  
i 20 09 39  
Sk iP 20 09 48  
China.

" 21 Up iP 20 20 39 C  
microns sec  
P Z' 0.1 0.5  
Sk iP 20 20 52 C  
Um iP 20 20 25  
Chinghai Province,  
China (h = 25 km).

" 21 Up iP 20 55 25 C  
i 20 55 29  
microns sec  
P Z' 0.1 0.5  
Sk iP 20 55 38  
Ka e(P) 20 55 41  
China.

" 21 Up iP 21 17 37 C  
i 21 17 42  
microns sec  
P Z' 0.1 0.5  
Ki iP 21 17 20 C  
Sk iP 21 17 50 C  
Um iP 21 17 23  
Ka iP 21 17 53  
Chinghai Province,  
China (h = 25 km).

" 21 Up iP 21 30 21 C  
i 21 30 26  
microns sec  
P Z' 0.1 0.5  
Ki iP 21 30 04 C  
Sk iP 21 30 34 C  
Um iP 21 30 08  
Ka iP 21 30 38  
China.

" 21 Up eP 21 31 27  
iPKP 21 34 06  
ipPKP 21 36 06  
iSKP 21 37 14  
iPKS 21 37 56  
ipPKS 21 39 28  
iSKKP 21 45 57  
microns sec  
PKP Z' 0.2 0.5  
pPKP N 0.8 4  
pPKP Z 1.8 3

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå, Ka = Karlskrona

1962  
May 21 cont.

Up	SKP	N	1.5	7
	SKP	Z	7.8	10
	PKS	E	1.1	4
	PKS	N	2.2	4
	M	E	9.0	23
	M	N	8.5	23
	M	Z	11	22
D = 15450 km = 139°.				
Ki	iPKP		21 33	57
	i		21 34	04
	ipPKP		21 35	51
	iPP		21 36	22
	iSKP		21 36	54
	iPKS		21 37	29
	i		21 37	55
	isPKS		21 39	12
	iSKSP		21 45	30
microns sec				
	PKP	Z	1.1	4
	pPKP	Z	2.9	4
	PP	N	1.6	8
	PP	Z	4.4	8
	SKP	Z	8.9	10
	PKS	E	3.3	7
	PKS	N	3,7	8
	M	E	22	22
	M	N	14	23
	M	Z	10	22
D = 14650 km = 132°.				
Sk	i(PKP)		21 34	03
	iPKP		21 34	14
	ipPKP		21 35	55
Gb	iPKP		21 34	15
	ipPKP		21 35	57
Um	i(PKP)		21 33	57
	iPKP		21 34	02
	ipPKP		21 35	47
	iPP		21 36	37
	ipPKS		21 39	18
	i		21 40	07
	iSKKP		21 46	18
D = 15000 km = 135°.				
Ka	iPKP		21 34	21
	ipPKP		21 36	13
Fiji Islands region (h = 380 km).				

1962  
May 21

Up	iP		22 32	23
microns sec				
	P	Z'	0.1	0.5
Sk	iP		22 32	36
Um	iP		22 32	10
China.				
"	21	Up	iP	23 08 20
China.				
"	21	Up	iP	23 18 12
"	22	Up	iP	01 07 23
		i		01 07 27
China.				
"	22	Up	iP	01 41 17
China.				
"	22	Up	iP	02 20 34
"	22	Up	iP	03 22 43
"	22	Up	iP	04 44 06
microns sec				
		P	Z'	0.1 0.5
Ki	iP		04 43	50
Sk	iP		04 44	19 C
Um	iP		04 43	53
Chinghai Province, China (h = 40 km).				
"	22	Up	iP	06 12 10
		Sk	iP	06 12 23
China.				
"	22	Up	iP	06 29 00 C
		Ki	iP	06 28 41
		Sk	eP	06 28 53
		Um	iP	06 28 50 C
Off southeast coast of Formosa (h = 25 km).				
"	22	Up	iP	06 44 16
"	22	Up	iP	07 49 55
microns sec				
		P	Z'	0.1 0.5
Ki	iP		07 49	38
Sk	iP		07 50	07
Um	iP		07 49	41
Tibet (h = 25 km).				

" 21

Up	iP		22 06	25
	i		22 06	30
Sk	iP		22 06	37
China.				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962  
 May 22 Up iP 07 56 03  
 Sk iP 07 56 15  
 China.

" 22 Up iP 08 25 28 C  
 ipPKP 08 26 00  
 iPP 08 27 27  
 iSKP 08 28 44  
 i 08 38 12  
 i 08 38 36  
 microns sec  
 PKP Z 1.0 4  
 PKP Z' 0.1 0.5  
 SKP E 1.4 6  
 SKP N 2.4 6  
 M E 3.8 22  
 M N 4.5 24  
 M Z 6.0 24  
 D = 14100 km = 127°.

Ki iP 08 25 14 C  
 ipPKP 08 25 45  
 iPP 08 26 39  
 iP 08 35 22  
 i 08 35 54  
 i 08 39 19  
 iSS 08 42 55  
 microns sec  
 PKP Z 0.9 4  
 PP Z 1.1 8  
 M E 6.3 24  
 M N 3.6 21  
 M Z 5.4 21  
 D = 13350 km = 120°.

Sk iP 08 25 25 C  
 Gb iP 08 25 36 C  
 ipPKP 08 26 07  
 iSKP 08 28 50  
 Um iP 08 25 20 C  
 ipPKP 08 25 52  
 iPP 08 27 05  
 Ka iP 08 25 37 C  
 ipPKP 08 26 07  
 iPP 08 27 54  
 iSKP 08 28 51  
 i 08 29 50  
 i 08 38 35  
 Santa Cruz Islands.  
 h = 130 km (Up, Ki, Gb,  
 Um, Ka).

" 22 Up iP 10 16 47  
 i 10 16 52  
 China.

1962  
 May 22 Up iP 10 34 34  
 Sk iP 10 34 47  
 China.

" 22 Up iP 11 11 50  
 i 11 11 54  
 microns sec  
 P Z' 0.1 0.6  
 Ki iP 11 11 34  
 Sk iP 11 12 02  
 Um iP 11 11 36  
 Chinghai Province,  
 China (h = 25 km).

" 22 Up iP 11 23 33

" 22 Up iP 17 18 30  
 microns sec  
 P Z' 0.1 0.5

" 22 Um iP 17 35 46  
 (Greece).

" 22 Up iP 18 06 18 C  
 i 18 06 23  
 microns sec  
 P Z' 0.1 0.5  
 Sk iP 18 06 31  
 Um iP 18 06 05  
 Chinghai Province,  
 China (h = 40 km).

" 22 Up iP 18 11 30 C  
 i 18 11 34  
 microns sec  
 P Z' 0.1 0.5  
 Sk iP 18 11 42  
 Um iP 18 11 16 C  
 China.

" 22 Up iP 20 37 44  
 i 20 37 49  
 Sk iP 20 37 57  
 China.

" 22 Up iP 22 23 13  
 microns sec  
 M E 2.6 22  
 M N 2.8 20  
 M Z 3.6 22  
 Ki e 22 31 04  
 e(PPS) 22 33 12

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå, Ka = Karlskrona

1962  
 May 22 cont. Ki microns sec  
 M E 2.7 20  
 M N 2.3 20  
 M Z 3.5 20  
 Um iPKP 22 22 04  
 ePP 22 22 49  
 i 22 24 11  
 ePPS 22 33 27  
 New Britain (h = 100 km).  
 " 22 Up iP 23 10 01  
 i 23 10 06  
 (China).  
 " 22 Up iP 23 38 32  
 i 23 38 37  
 microns sec  
 P Z' 0.2 0.5  
 Ki iP 23 38 16  
 microns sec  
 P Z' 0.1 1.0  
 Sk iP 23 38 45 C  
 Gb iP 23 38 57  
 Um iP 23 38 19  
 Ka iP 23 38 49  
 Chinghai Province,  
 China (h = 25 km).  
 " 23 Up iP 00 34 23  
 (China).  
 " 23 Up iP 01 02 19  
 i 01 02 24  
 i 01 02 59  
 microns sec  
 P Z' 0.2 0.5  
 Ki iP 01 02 03  
 microns sec  
 M N 0.5 20  
 Sk iP 01 02 32 C  
 Um iP 01 02 06  
 i 01 02 13  
 Chinghai Province,  
 China (h = 40 km).  
 " 23 Up iP 01 51 28 C  
 i 01 51 33  
 microns sec  
 P Z' 0.2 0.5  
 Ki iP 01 51 12 C  
 i 01 51 17  
 microns sec  
 M E 0.3 13  
 M N 0.2 12

1962  
 May 23 cont. Sk iP 01 51 40 C  
 Um iP 01 51 14 C  
 Chinghai Province,  
 China (h = 50 km).  
 " 23 Up iPKP 08 37 50  
 microns sec  
 PKP Z' 0.2 0.5  
 Ki ePKP 08 37 33  
 Gb iPKP 08 37 59  
 Um iPKP 08 37 46  
 iSKP 08 40 39  
 Ka iPKP 08 38 03  
 Kermadec Islands region  
 (h = 360 km).  
 " 23 Up iP 13 47 32  
 microns sec  
 P Z' 0.1 0.5  
 " 24 Up iP 08 16 27 C  
 i 08 16 33  
 microns sec  
 P Z' 0.1 0.5  
 Sk iP 08 16 40  
 China.  
 " 24 Up i(P) 12 58 49  
 i(Sg) 12 58 59  
 " 24 Up iPg 13 18 28  
 iSg 13 19 24  
 i 13 19 41  
 D = 480 km = 4.3°.  
 Sk eSg 13 20 35  
 Um iSg 13 21 28  
 Ka ePg 13 17 44  
 iSg 13 18 15  
 i 13 18 21  
 D = 270 km = 2.4°.  
 Kattegatt, off west coast  
 of Sweden, 57.0°N, 11.6°E.  
 Origin time = 13 17 00.  
 Explosion?  
 " 24 Up iP 14 57 13  
 " 24 Up iP 20 07 55  
 " 24 Up iP 20 36 27  
 microns sec  
 P Z' 0.1 0.5



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
May 25 ✓ Ki iP 00 54 14  
✓ Sk iP 00 53 45  
✓ Um iP 00 54 17  
Southeast of Greenland  
(h = 25 km).

" 25 Um iP 01 06 11

" 25 Ki iP 01 12 24 C  
Sk iP 01 11 56  
Um iP 01 12 28  
Southeast of Greenland  
(h = 25 km).

" 25 ✓ Ki iPKS 04 42 07  
e 04 42 30  
eSS 04 58 36  
microns sec  
PKS N 0.3 5  
M E 0.5 17  
M N 0.5 20  
M Z 1.0 17  
✓ Um iPKP 04 38 53  
Tonga Islands (h = 280 km).

" 25 Up iP 06 53 20  
Ki iP 06 53 20

" 25 Up iP 11 44 19 C  
i 11 44 25  
microns sec  
P Z' 0.1 0.5  
Ki iP 11 44 02 C  
Sk iP 11 44 31 C  
Um iP 11 44 05 C  
Ka iP 11 44 33 C  
Chinghai Province,  
China (h = 25 km).

" 25 Up iPKP 14 39 27  
i 14 39 35  
Um iPKP 14 39 15  
i 14 39 19  
Ka iPKP 14 39 36  
i 14 39 40  
Kermadec Islands  
(h = 25 km).

" 25 Up iPKP 17 40 24  
Gb iPKP 17 40 34  
Um iPKP 17 40 13  
iSKP 17 43 02

1962  
May 25 Ka iPKP 17 40 39  
cont. Fiji Islands region  
(h = 580 km).

" 25 Up iP 20 10 07  
Um i(P) 20 10 22

" 26 ✓ Up iPKP 02 31 16  
✓ Ki iPKP 02 31 08  
✓ Um iPKP 02 31 08  
✓ Ka iPKP 02 31 26  
Fiji Islands (h = 600 km).

" 26 Up iP 03 02 16

" 26 Up iP 04 41 10

" 26 Ki i(P) 09 45 19

" 26 Um i(P) 12 42 49

" 26 Up iP 15 16 40

" 26 Up iP 19 56 10 C  
i 19 56 35  
iS 20 05 50  
D = 8650 km = 78°.  
✓ Ki iP 19 56 12 C  
i 19 56 37  
iS 20 05 54  
e 20 06 27  
microns sec  
P Z' 0.3 0.7  
S E 1.1 5  
S N 0.6 5  
S Z 0.4 5  
D = 8700 km = 78½°.

✓ Gb iP 19 56 25  
✓ Um iP 19 56 08 C  
i 19 56 33  
eS 20 05 38  
i 20 05 45  
✓ Ka iP 19 56 14 C  
Nicobar Islands (h = 60 km).

" 26 Up iP 22 46 41

" 27 Up iP 20 59 27

" 28 Up iP 01 30 58  
Um iP 01 30 34  
Hokkaido, Japan  
(h = 20 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962			
May	28	Up iP	03 00 36
		Ki eP	03 00 19
		Sk eP	03 00 41
		Um iP	03 00 20
		Ka iP	03 00 50
		Luzon, Philippine Islands (h = 25 km).	
"	28	Um i(P)	03 29 31
"	28	Up iP	10 21 46
		Ki iP	10 21 10
		Um iP	10 21 26
		South of Honshu, Japan (h = 160 km).	
"	28	Up iPg	14 02 28
		iSg	14 02 51
		iL	14 02 54
		microns sec	
		Sg Z'	0.1 0.8
		D = 200 km = 1.8°.	
		Um iSg	14 04 43
		Probably the Baltic Sea, 58½°N, 20°E. Origin time = 14 01 51. Probably explosion.	
"	28	Up eP	23 02 21
		Sk iP	23 02 58
		Aegean Sea.	
"	29	Um iPKP	00 07 36
		San Juan Province, Argentina (h = 90 km).	
"	29	Up iP	14 06 33
"	29	Up eP	21 11 14
		Ki iP	21 10 21
		i	21 10 41
		Sk iP	21 10 55
		Um iP	21 10 50
		Andreanof Islands, Aleutian Islands (h = 25 km).	
"	29	Up iP	21 41 31 C
		Sk iP	21 41 43
		Um iP	21 41 17
		China.	

1962			
May	29	Up iP	23 49 08
		Sk eP	23 49 49
		Um eP	23 49 55
		Ionian Sea (h = 25 km).	
"	30	Ki iP	05 16 38
		Um iP	05 16 46
"	30	Up i(P)	08 55 14
		microns sec	
		(P) Z'	0.1 0.5
		Sk iP	08 55 49
"	30	Ki iP	10 12 07
		Sk iP	10 11 37
		Um iP	10 12 05
		North Atlantic Ocean (h = 40 km).	
"	31	Up iP	02 05 45
		Ki iP	02 06 07
		microns sec	
		M E	0.8 15
		M N	0.7 17
		Sk iP	02 06 12
		Um iP	02 05 51
		Off coast of west Pakistan (h = 25 km).	
"	31	Up iPKP	03 37 42 C
		Sk iPKP	03 37 35
		Um iPKP	03 37 31
		Kermadec Islands (h = 15 km).	
"	31	Ki iP	04 56 49
		i(Sg)	04 57 44
		i	04 58 08
"	31	Ki iP	05 24 15
		Sk iP	05 24 25
		Um iP	05 24 22
		Mindanao, Philippine Islands (h = 40 km).	
"	31	Up iP	06 40 41 C
		ipP	06 41 56
		i	06 45 27
		iSKS	06 50 41
		iS	06 50 53
		isS	06 52 52

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962

May 31  
 cont.

	Up		microns	sec
	P	Z'	0.3	1.0
	SKS	E	0.5	5
	S	N	2.0	6
	M	E	1.7	18
	M	N	2.2	18
	M	Z	1.6	17
	D = 9650 km = 87°.			
	Ki	iP	06 40	13 C
		i	06 40	57
		isP	06 41	51
		iS	06 49	58
		i	06 51	37
		isS	06 51	49
			microns	sec
	P	Z	1.6	9
	S	E	2.5	10
	S	N	6.8	11
	M	E	2.9	16
	M	N	1.4	15
	M	Z	2.1	15
	D = 9000 km = 81°.			
	Sk	iP	06 40	39 C
	Gb	iP	06 40	58
	Um	iP	06 40	25 C
		ipP	06 41	36
		isP	06 42	01
		iS	06 50	20
		isS	06 52	18

Volcano Islands region.  
 h = 300 km (Up, Ki, Um).  
 Magn. = 6.3 (Up, Ki).

"	31	Up	iPKP	08 57 10
		Ki	iPKP	08 56 49
		Sk	iPKP	08 57 03
		Gb	iPKP	08 57 18
		Um	iPKP	08 56 58 C
		Ka	iPKP	08 57 22

Kermadec Islands  
 (h = 40 km).

"	31	Up	iP	10 29 09
		Ki	i(P)	10 28 36
"	31	Up	i(P)	15 18 31

Markus Båth  
 November 2, 1962



P R E L I M I N A R Y  
S E I S M O L O G I C A L   B U L L E T I N

U P P S A L A ,   K I R U N A ,   S K A L S T U G A N ,   G Ö T E B O R G ,  
U M E Å   a n d   K A R L S K R O N A

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

J U N E   1   -   30,   1962  
.....

1962					1962				
June 1	Up	iP	21 58 58 D		June 2	Ki	iP	17 26 21	
			microns sec		cont.		i	17 26 40	
		P	Z' 0.1 0.6				iS	17 35 37	
" 2	Up	iS	12 45 59				iPKKS	17 49 39	
	Ki	eS	12 44 36					microns sec	
			microns sec			M	E	13 20	
		S	N 0.5 8			M	N	5.7 18	
	Vancouver Island region					M	Z	17 20	
	(h = 25 km).					D = 7800 km = 70°.			
" 2	Up		-		Um	iP		17 26 31	
			microns sec			ePS		17 36 13	
	M	E	0.6 17			e		17 41 02	
	M	N	1.2 15		Ka	eP		17 27 09	
	M	Z	1.4 18			i		17 27 14	
	Ki	iP	12 46 04			Kyushu, Japan (h = 15 km).			
			microns sec			Magn. = 6.3 (Up, Ki).			
	M	E	2.0 20			Very clear Lg2 at Uppsala			
	M	N	2.0 22			are noteworthy, considering			
	M	Z	3.0 18			the path.			
	Vancouver Island region				" 2	Up	iP	17 37 02	
	(h = 25 km).				" 3	Um	iP	03 38 19	
" 2	Up	iP	16 53 35 D		" 3	Ki	iP	10 23 09	
	Ka	iP	16 52 56			Kamchatka (h = 90 km).			
	Greece.				" 3	Up	eP	15 12 18	
" 2	Up	iP	17 26 53				eS	15 20 09	
		iPcP	17 27 07					microns sec	
		eSKS	17 36 52			P	Z	0.8 9	
		iLg2	17 56 12			S	E	1.4 15	
			microns sec			S	N	1.5 13	
	SKS	E	0.7 18			M	E	1.7 18	
	M	E	7.2 17			M	N	1.6 18	
	M	N	4.2 18			M	Z	2.6 18	
	M	Z	9.4 17			D = 6400 km = 57½°.			
	D = 8350 km = 75°.								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

<p>1962 June 3 Ki iP 15 12 33 cont. e 15 12 44 eS 15 20 28 iPPS 15 20 58</p> <p style="margin-left: 4em;">microns sec M E 2.0 19 M N 0.9 18 M Z 2.4 20 D = 6600 km = <math>59\frac{1}{2}^\circ</math>.</p> <p>Um eP 15 12 27 eS 15 20 32 Ka iP 15 11 55 i 15 12 11</p> <p>North Atlantic Ocean (h = 25 km). Magn. = 5.6 (Up, Ki).</p> <p>" 3 Up iP 19 21 21 i 19 21 39</p> <p>" 4 Up e(P) 03 11 09</p> <p>" 4 Up iP 05 35 31 D Sk iP 05 36 05 Um iP 05 36 15 Adriatic Sea (h = 40 km).</p> <p>" 4 Up i(P) 08 45 19</p> <p>" 4 Up iP 22 13 20 Um iP 22 13 31</p> <p>" 5 Sk eP 10 59 14 Sinkiang Province, China (h = 140 km).</p> <p>" 5 Up iPg 13 08 03 C i(Sn) 13 08 21 iSg 13 08 26</p> <p style="margin-left: 4em;">microns sec Sg Z' 0.2 0.5 D = 200 km = <math>1.8^\circ</math>.</p> <p>Um iPg 13 08 58 iSg 13 09 53 D = 470 km = <math>4.2^\circ</math>.</p> <p>The Baltic Sea, <math>59.6^\circ</math>N, <math>21.3^\circ</math>E. Origin time = 13 07 30. Probably explosion.</p> <p>" 5 Up iPg 13 45 00 iSg 13 45 40 D = 330 km = <math>3.0^\circ</math>.</p> <p>Ki iSg 13 48 32 Sk i(SX) 13 47 26 Um iSg 13 46 29</p>	<p>1962 June 5 Ka iSg 13 47 02 cont. The Baltic Sea, Finnish Bay, <math>59.7^\circ</math>N, <math>23.6^\circ</math>E. Origin time = 13 44 01. Probably explosion.</p> <p>" 5 Up iSg 14 10 19 i 14 10 28 Sk e(SX) 14 12 04 Um iSg 14 11 07 The Baltic Sea, Finnish Bay, <math>59.7^\circ</math>N, <math>23.6^\circ</math>E. Origin time = 14 08 39. Probably explosion.</p> <p>" 5 Up ePg 14 28 50 iSg 14 29 34 D = 380 km = <math>3.4^\circ</math>.</p> <p>Ki iSg 14 32 25 Sk iS<sup>X</sup> 14 31 20 Um iSg 14 30 21 Ka iSg 14 30 51 North coast of Esthonia, <math>59.5^\circ</math>N, <math>24.3^\circ</math>E. Origin time = 14 27 42. Probably explosion.</p> <p>" 5 Ki eP 14 49 40</p> <p>" 5 Up iPg 18 31 21 iSn 18 31 46 iSg 18 32 04 D = 380 km = <math>3.4^\circ</math>. Origin time = 18 30 11.</p> <p>" 5 Um iP 21 32 52</p> <p>" 6 Up iP 04 49 34 Sk i(P) 04 51 04</p> <p>" 6 Up i(P) 08 54 03</p> <p>" 6 Ka ePn 12 01 06 iSg 12 01 34 Denmark. Explosion of 500 kg TNT at 19 m water depth at <math>56^\circ 08' 51''</math>N, <math>12^\circ 00' 30''</math>E at 12 00 30 (communication from Geodetic Institute, Copenhagen).</p> <p>" 6 Up iPg 12 09 03 C i(Sn) 12 09 22 iSg 12 09 27</p>
---	--



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962			1962		
June	6	Ka i(Pn) 19 01 02 iSg 19 01 36 Denmark. Explosion of 2000 kg TNT at 17 m water depth at 56°08'18"N, 12°01'09"E at 19 00 30 (communication from Geodetic Institute, Copenhagen).	June	7	Sk e(Lg1) 08 19 18 The Baltic Sea, 59.6°N, 21.3°E. Origin time = 08 16 16. Probably explosion.
cont.			"	7	Ki e(P) 10 06 21 Um iP 10 07 08
"	6	Up iP 19 49 14 Kurile Islands (h = 25 km).	"	7	Up iP 10 40 01
"	6	Up iPg 20 04 51 i(Sn) 20 05 08 iSg 20 05 14 microns sec Sg Z' 0.2 0.5 D = 200 km = 1.8°. Sk e(SX) 20 07 17 Um iPg 20 05 48 iSg 20 06 41 D = 470 km = 4.2°. Ka eSg 20 06 46 The Baltic Sea, 59.6°N, 21.3°E. Origin time = 20 04 18. Probably explosion.	"	7	Up iPg 12 18 22 i(Sn) 12 18 40 iSg 12 18 45 microns sec Sg Z' 0.2 0.5 D = 200 km = 1.8°. Um iPg 12 19 16 iSg 12 20 09 D = 470 km = 4.2°. The Baltic Sea, 59.6°N, 21.3°E. Origin time = 12 17 48. Probably explosion.
"	6	Up iP 20 14 03 D Ki iP 20 13 31 Sk iP 20 13 56 Um iP 20 13 45 D Bonin Islands region (h = 420 km).	"	7	Up iPg 13 10 31 i(Sn) 13 10 49 iSg 13 10 55 microns sec Sg Z' 0.2 0.5 Sk e(Sn) 13 12 49 Um iPg 13 11 26 iSg 13 12 19 D = 470 km = 4.2°. The Baltic Sea, 59.6°N, 21.3°E. Origin time = 13 09 59. Probably explosion.
"	6	Um iP 20 59 44	"	7	Up i(P) 14 01 03
"	7	Um iP 02 32 25	"	7	Up iP 15 29 03 Sk i(P) 15 29 39
"	7	Up iP 05 46 38 Ki iP 05 45 44 Sk iP 05 46 16 Um iP 05 46 11 Rat Islands region (h = 50 km).	"	7	Ki e(P) 18 10 52
"	7	Up iPg 08 16 49 C i(Sn) 08 17 07 iSg 08 17 12 microns sec Sg Z' 0.2 0.5 D = 200 km = 1.8°.	"	8	Up iSKP 01 52 52 Ki iSKP 01 52 27 Um iSKP 01 52 39 Fiji Islands (h = 600 km).
"	7		"	8	Up iP 09 22 59 D microns sec M E 1.0 16 M N 0.9 15 M Z 1.0 16

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962						
June	8	Ki	eP	09 22 25	June	9	Ki	iP	20 10 03	
cont.				microns sec	cont.		Sk	iP	20 09 55	
		M	E	1.1 17			Gb	iP	20 10 03	
		M	N	0.9 17			Um	iP	20 10 10	
		M	Z	1.2 17			Ka	iP	20 10 13	
		Sk	eP	09 22 58			Off coast of Guatemala (h = 100 km).			
		Gb	iP	09 23 19						
		Um	iP	09 22 41						
		Ka	eP	09 23 21		"	10	Um	e(P)	06 32 22
		Ryukyu Islands (h = 40 km).								
"	8	Up	i(P)	11 13 03	"	10	Up	iP	14 05 18	
							Ki	iP	14 04 45	
							Um	iP	14 04 59	
							Bonin Islands region (h = 380 km).			
"	8	Up	iP	16 15 45						
		Ki	iP	16 15 04						
		Sk	iP	16 15 38						
		Um	iP	16 15 23 C		"	10	Up	iP	14 49 55
		Honshu, Japan (h = 60 km).								
"	8	Up	iP	19 30 15		"	11	Um	iPKP	02 24 41
			i	19 30 25			New Hebrides Islands (h = 90 km).			
		Ki	eP	19 29 52						
		Sk	eP	19 30 18		"	11	Ki	iP	05 09 05
		Timor Sea (h = 60 km).								
"	8	Up	i	21 08 52		"	11	Up	iP	07 19 27 D
		Ki	iPKP	21 08 23				eS	07 22 17	
		Sandwich Islands (h = 25 km).						iSS	07 22 38	
								i	07 23 05	
								iL(3.20)	07 24 55	
"	9	Up	i(P)	00 21 31				microns sec		
							P	N	1.3 3	
							P	Z	0.7 3	
"	9	Ki	iP	07 52 58			P	Z'	0.5 1.3	
			i	07 53 09			M	E	62 14	
		Mindanao, Philippine Islands (h = 70 km).					M	N	32 10	
							M	Z	32 10	
							D = 1800 km = 16°.			
"	9	Up	i	10 52 42			Ki	iP	07 20 58	
				microns sec				iS	07 25 13	
		M	N	0.5 16				iPcP	07 28 17	
		M	Z	0.8 16				microns sec		
		Um	iP	10 47 27			P	N	1.5 4	
		Greece.					P	Z	2.7 3	
							P	Z'	3.4 2.4	
"	9	Um	i(PKP)	13 43 35			S	E	4.2 13	
		Bolivia-Argentina border (h = 180 km).					S	N	1.5 7	
							M	E	48 15	
							M	N	14 10	
							M	Z	21 10	
							D = 2650 km = 24°.			
"	9	Up	iP	13 59 34			Sk	iP	07 20 15 C	
		Um	e(P)	14 01 19				iL(3.24)	07 27 04	
			i	14 01 31			Gb	iP	07 19 07 C	
								iLg2	07 23 37	
"	9	Up	iP	20 10 12			Um	iP	07 20 15 C	
			iS	20 20 55				eS	07 23 54	
				microns sec						
		P	Z'	0.1 0.7						



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 11 Um i 07 24 05  
cont. eLg1 07 26 21  
Ka iP 07 18 37 C  
Yugoslavia (h = 20 km).  
Magn. = 6.3 (Ki).

" 11 Um iP 15 31 09

" 12 Up iP 01 30 16  
Ki iP 01 30 19  
Um iP 01 30 29

" 12 Up iP 06 10 16

" 12 Up eP 09 50 22  
microns sec  
M N 0.4 15  
Ki iP 09 50 06  
iS 09 53 10  
microns sec  
M E 0.5 15  
M N 0.3 14  
M Z 0.7 14  
D = 1700 km = 15 $\frac{1}{2}$ <sup>o</sup>.  
Sk iP 09 49 34  
iS 09 51 51  
Gb eP 09 50 06  
Um iP 09 50 15  
Ka iP 09 50 38  
Iceland (h = 30 km).

" 12 Um iP<sub>PKP</sub> 14 04 16  
New Hebrides Islands  
(h = 230 km).

" 13 Ki i(P) 10 10 12

" 13 Gb iP<sub>PKP</sub> 19 28 24  
Ka iP<sub>PKP</sub> 19 28 32  
Tonga Islands region  
(h = 25 km).

" 13 Ki i(P) 22 54 45

" 14 Up iP 08 02 24 D  
i 08 02 29  
microns sec  
P Z' 0.2 1.0  
M E 2.2 16  
M N 2.7 19  
M Z 3.3 19  
Ki iP 08 01 29 D  
i(Pa) 08 05 01  
eS 08 09 06  
i 08 09 56

1962  
June 14 Ki microns sec  
cont. P Z 0.6 10  
P Z' 0.4 1.0  
S E 0.8 10  
S N 3.0 22  
M E 3.5 17  
M N 3.0 17  
M Z 3.4 17  
D = 6100 km = 55<sup>o</sup>.  
Gb iP 08 02 43 D  
Um iP 08 01 56 D  
Ka iP 08 02 52 D  
Near Islands, Aleutian  
Islands (h = 30 km).  
Magn. = 5.9 (Up, Ki).

" 14 Up iP 08 06 19 D  
microns sec  
P Z' 0.1 1.0  
Ki iP 08 05 24 D  
microns sec  
P Z 0.7 5  
P Z' 0.3 1.1  
Gb iP 08 06 38 D  
Ka iP 08 06 48 D  
Near Islands, Aleutian  
Islands (h = 60 km).

" 14 Ki iP 08 42 02  
Um iP 08 42 03  
Puerto Rico region  
(h = 60 km).

" 14 Up iP<sub>g</sub> 09 50 09 D  
iS<sub>g</sub> 09 50 25  
iL 09 50 33  
microns sec  
Pg, Sg Z' 0.1 0.5  
D = 130 km = 1.2<sup>o</sup>.  
Um iP<sub>g</sub> 09 51 18  
iS<sub>g</sub> 09 52 26  
The Baltic Sea, 59<sup>o</sup>N, 19<sup>o</sup>E.  
Origin time = 09 49 45.  
Probably explosion.

" 14 Up iP<sub>g</sub> 10 00 42  
iS<sub>g</sub> 10 00 58  
iL 10 01 05  
D = 130 km = 1.2<sup>o</sup>.  
The Baltic Sea, 59<sup>o</sup>N, 19<sup>o</sup>E.  
Origin time = 10 00 18.  
Probably explosion.

" 14 Um e(P) 12 22 12

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					1962				
June	14	Um	i(P)	13 23 04	June	15	Sk	iPKP	12 15 01
"	14	Ki	iP	17 23 57	cont.		Gb	iPKP	12 15 09
		Um	iP	17 24 23			Um	iPKP	12 14 56
		Near Islands, Aleutian Islands (h = 60 km).					New Hebrides Islands (h = 210 km).		
"	14	Um	iP	19 46 17	"	15	Up	iP	21 40 36
							Ki	iP	21 39 53
							Off southeast coast of Hokkaido, Japan (h = 25 km).		
"	14	Um	i(PP)	20 34 57	"	16	Up	eP	05 32 59
		Ecuador (h = 150 km).						i	05 33 15
"	14	Up	eP	22 26 01					microns sec
			i	22 26 12			M	E	1.0 17
			iS	22 36 03			M	N	1.5 19
			iSS	22 40 40			M	Z	1.0 16
			e(PKKP)	22 44 54			Ki	eP	05 32 30
				microns sec					microns sec
		M	E	3.2 18			M	E	2.1 18
		M	N	5.9 19			M	N	1.4 16
		M	Z	2.4 14			M	Z	2.0 17
		D = 8450 km = 76°.					Sk	eP	05 33 04
		Ki	iP	22 25 37			Gb	eP	05 33 33
			eS	22 34 58			Ryukyu Islands (h = 40 km).		
			ePS	22 35 32					
				microns sec	"	16	Up	iP	21 51 20 C
		M	E	5.9 18	"	17	Up	iP	04 47 52
		M	N	5.8 16					microns sec
		M	Z	4.4 17				P	Z' 0.1 0.7
		D = 8000 km = 72°.						M	E 0.7 19
		Sk	eP	22 26 11				M	N 1.5 15
		Gb	eP	22 26 24				M	Z 0.5 16
			i	22 26 38			Ki	iP	04 47 58 C
		Um	eP	22 25 43					microns sec
			i	22 25 54				P	Z' 0.2 0.5
			eS	22 35 12				M	E 2.5 15
		Ka	iP	22 26 20				M	N 1.0 14
		Ryukyu Islands (h = 20 km).						M	Z 2.4 14
		Magn. = 6.1 (Up, Ki).					Sk	iP	04 48 16
"	15	Up	iP	06 19 25 D			Ka	iP	04 47 57 C
			i	06 19 30				i	04 48 10
				microns sec			Kashmir region (h = 20 km).		
		P	Z'	0.1 0.5	"	17	Up	eP	06 03 16
		Sk	iP	06 19 37	"	17	Up	iP	14 34 42
"	15	Up	iPP	06 49 12			Ki	eP	14 34 26
			iSKS	06 55 29				i	14 34 39
			iPS	06 58 34			Sk	eP	14 34 56
		Near coast of northern Chile (h = 60 km).					Sinkiang Province, China (h = 50 km).		
"	15	Up	iPKP	12 15 04	"	17	Up	iP	15 53 15 C
		Ki	iPKP	12 14 50					
				microns sec					
		PKP	Z'	0.1 0.5					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
June 17	Up	iP	22 39 00	June 19	Gb	i(P)	14 36 50
	Ki	iP	22 38 08				
	Sk	eP	22 38 41	" 19	Up	iPKP	16 57 54
	Andreanof Islands,				Ka	iPKP	16 58 03
	Aleutian Islands				Fiji Islands region		
	(h = 20 km).				(h = 410 km).		
" 18	Up	eP	01 59 20	" 19	Ki	iP	20 28 02
" 18	Up	iP	06 30 54		Sk	eP	20 30 15
	Ki	iP	06 29 58		Um	iP	20 31 05
			microns sec			i	20 31 22
	P	Z'	0.1 1.0			i	20 31 37
	Sk	iP	06 30 26	" 19	Um	i(P)	21 44 05
	Gb	iP	06 31 06	" 20	Up	iPKP	00 24 47
	Ka	iP	06 31 19		Ki	iSKP	00 27 34
	Alaska (h = 190 km).				Tonga Islands (h = 240 km).		
" 18	Up	iP	07 01 36	" 20	Um	i(P)	02 25 49
" 18	Up	i(P)	17 17 28	" 20	Ka	iPg	11 18 31
" 19	Up	iPKP	00 01 07			iSg	11 18 35
		iPP	00 02 01		Probably local explosion.		
		iPKKP	00 11 43	" 20	Ka	iPg	13 08 20
	Ki	iPKP	00 00 56			iSg	13 08 23
		eSKS	00 08 05		Probably local explosion.		
		ePS	00 10 51	" 20	Ka	iPg	13 17 32
			microns sec			iSg	13 17 35
			Z' 0.1 1.2		Probably local explosion.		
	Sk	iPKP	00 01 07	" 20	Ka	i(P)	14 53 07
	Gb	iPKP	00 01 14	" 21	Up	iP	03 35 36
	Um	ePP	00 01 41		Ki	iP	03 35 22
		ePS	00 11 28		Um	iP	03 35 26
	Ka	iPKP	00 01 11		Celebes Sea (h = 600 km).		
	New Britain region			" 21	Up	i	05 06 46
	(h = 50 km).					iSKS	05 07 13
" 19	Up	i	00 30 18			iS	05 07 34
		iSg	00 30 29			eSS	05 13 37
	Ki	iPn	00 26 06		Ki	iP	04 56 44
		iPg	00 26 12			iSKS	05 07 13
		iSg	00 26 48				microns sec
			microns sec		SKS	E	0.9 13
	Sg	Z'	0.1 0.5		M	E	2.2 22
	D = 300 km = 2.7°.				M	N	1.1 23
	Sk	iS <sup>x</sup>	00 28 10		M	Z	1.2 21
		iSg	00 28 26		Sk	iP	04 56 31
	Off northwest coast of				Um	iP	04 56 47
	Norway, 69 <sup>1</sup> / <sub>2</sub> N, 14 1/4°E.					iS	05 07 47
	Origin time = 00 25 19.				South of Panama (h = 25 km).		
" 19	Sk	iP	01 11 58				
	South of Panama						
	(h = 40 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					1962				
June 21	Up	i(P)	14 00 49 C		June 23	Up	iP	09 56 35 D	
		(P)	Z' 0.1 0.5				i	09 56 53	
			microns sec				iS	10 06 26	
"	21	Up	iP	16 06 51				microns sec	
				Near east coast of Kamchatka (h = 40 km).		P	E	1.1 6	
						P	Z	2.4 7	
						P	Z'	0.3 0.6	
						S	E	3.3 9	
"	21	Sk	iP	19 33 47		S	N	1.9 8	
						M	E	32 17	
"	22	Um	iP	00 04 11		M	N	37 18	
						M	Z	49 17	
"	22	Up	iP	01 09 30				D = 8550 km = 77°.	
					Ki	eP		09 56 07	
						i		09 56 16	
"	22	Ki	iP	07 49 55		i		09 57 07	
			iS	07 52 06		iPa		10 00 38	
		Um	i(P)	07 50 49		iS		10 05 29	
			i	07 54 17				microns sec	
			i	07 54 56		P	E	0.7 7	
				Arctic Ocean, between Novaya Zemlya and Spitsbergen, 78°N, 48°E. Origin time = 07 47 11. Solution obtained by combination with Finnish observations.		P	N	0.3 7	
						P	Z'	0.4 1.1	
						S	E	3.8 8	
						S	N	1.1 11	
						M	E	19 18	
						M	N	11 16	
								D = 8000 km = 72°.	
"	22	Up	iP	12 00 51 D		Sk	iP	09 56 36	
			i	12 01 04		Gb	iP	09 56 54	
				microns sec			i	09 57 26	
			P	Z' 0.1 0.5		Um	iP	09 56 18 D	
		Ki	iP	12 00 14 D			iPP	09 59 03	
			iS	12 09 31		Ka	iP	09 56 50	
				microns sec				Ryukyu Islands (h = 40 km). Magn. = 6.6 (Up, Ki).	
			S	N 0.3 10		"	23	Up	iP
			M	E 0.6 15					i
			M	N 0.5 15					iS
				D = 7900 km = 71°.					microns sec
		Gb	iP	12 01 10			P	Z' 0.2 0.5	
		Um	iP	12 00 30				D = 8800 km = 79°.	
			i	12 00 44		Ki	iP	10 10 13 C	
				Off coast of Honshu, Japan (h = 25 km).			i	10 10 24	
								microns sec	
"	23	Um	iP	04 34 44			P	Z' 0.3 0.9	
				Near east coast of Honshu, Japan (h = 60 km).		Sk	iP	10 10 39 C	
							i	10 10 50	
"	23	Up	iP	05 12 05		Gb	iP	10 10 54	
		Ki	iP	05 12 47		Um	iP	10 10 20 C	
		Sk	iP	05 12 42			i	10 10 29	
		Um	eP	05 12 22		Ka	iP	10 10 45	
		Ka	iP	05 11 56			i	10 10 56	
				Persian Gulf (h = 25 km).				Near coast of Luzon, Philippine Islands (h = 40 km). Magn. = 6.4 (Up, Ki).	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 23 Up i(P) 22 51 04  
Um iP 22 50 50 C

" 24 Up iP 01 31 57 D  
eS 01 40 39  
eScS 01 41 41  
microns sec  
P Z' 0.1 0.6  
S E 0.4 8  
M E 2.0 18  
M N 6.5 19  
M Z 3.7 18  
D = 7100 km =  $64^{\circ}$ .  
Ki iP 01 31 44 D  
ePa 01 35 40  
iS 01 40 17  
microns sec  
P Z' 0.3 1.0  
S E 0.6 10  
M E 4.3 14  
M N 9.0 20  
D = 6950 km =  $62\frac{1}{2}^{\circ}$ .  
Sk iP 01 32 09 D  
Um iP 01 31 46 D  
Ka iP 01 32 06 D  
i 01 32 11  
Yunnan Province, China  
(h = 40 km). Magn.=6.0(Up,Ki).

" 24 Up iPKP 12 15 58  
Kermadec Islands region  
(h = 50 km).

" 24 Up iP 15 17 27  
Ki eP 15 18 08  
Sk iP 15 17 58  
Um iP 15 17 44  
Gulf of Aden (h = 50 km).

" 24 Um iP 16 48 13

" 24 Um iPKP 17 22 03  
New Hebrides Islands  
(h = 130 km).

" 24 Up i(P) 22 19 37

" 25 Up iPKP 01 49 50  
iSKP 01 52 35  
Ki iPKP 01 49 43  
iSKP 01 52 11  
Sk ePKP 01 49 44  
iSKP 01 52 28  
Um ePKP 01 49 44  
i 01 49 50

1962  
June 25 Um iSKP 01 52 23  
cont. Fiji Islands region  
(h = 650 km).

" 25 Up -  
microns sec  
M E 0.8 18  
M N 0.7 18  
M Z 1.3 17  
Ki -  
microns sec  
M E 0.7 17  
M N 0.4 16  
Um iPKP 06 45 44  
Near coast of Chile  
(h = 40 km).

" 25 Up iP 11 22 14  
i 11 22 17  
iPa 11 26 56  
iS 11 31 47  
microns sec  
P E 0.5 6  
P Z 1.2 8  
P Z' 0.2 1.0  
S E 1.3 12  
S N 2.2 11  
M E 34 18  
M N 36 18  
M Z 57 18  
D = 8400 km =  $75\frac{1}{2}^{\circ}$ .  
Ki iP 11 21 48 C  
iPa 11 26 18  
eS 11 31 07  
microns sec  
P E 0.7 8  
P Z' 0.2 1.0  
S E 3.0 13  
S N 1.8 11  
M E 18 14  
M N 15 16  
D = 7950 km =  $71\frac{1}{2}^{\circ}$ .  
Sk iP 11 22 18  
Gb iP 11 22 36  
i 11 22 51  
Um iP 11 21 57  
ePa 11 26 33  
Off coast of Formosa  
(h = 30 km). Magn.=6.4 (Up,  
Ki). The average velocity  
of Pa for this earthquake  
(Up, Ki, Um) is 8.38 km/sec!

" 25 Ki iP 13 02 54  
Molucca Passage (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
June 25	Um	i(P)	14 39 27 C	June 27	Up	eL	04 27
"	25	Um	i(P)				microns sec
"	25	Up	iP		M	E	0.6 20
"	25		i		M	N	0.8 20
"	25	Sk	iP		M	Z	0.9 19
"	25	Um	eP		New Britain region		
"	25	Off east coast of Nicaragua (h = 25 km).		"	27	Ki	e(P)
"	25	Ki	iP				07 25 20
"	25			"	27	Up	iPKP
"	25						08 37 30
"	25						08 37 32
"	25						microns sec
"	25					PKP	Z' 0.1 0.8
"	25					Sk	iPKP
"	25					Gb	iPKP
"	25					Um	iPKP
"	25					Kermadec Islands (h = 70 km).	
"	25			"	27	Ki	eP
"	25						08 40 35
"	25						Off coast of Kamchatka
"	25						(h = 20 km).
"	26	Up	iP	"	27	Up	iPg
"	26						13 25 30
"	26						iSg
"	26						13 26 03
"	26						i
"	26						13 26 07
"	26						D = 280 km = 2.5°.
"	26						Ki eSg
"	26						13 29 04
"	26						Um iSg
"	26						13 27 04
"	26						Off southwest coast of
"	26						Finland, 59.7°N, 22.7°E.
"	26						Origin time = 13 24 41.
"	26	Up	eP	"	27	Ki	eL
"	26						14 43
"	26						microns sec
"	26					M	E 0.5 17
"	26					M	N 0.2 16
"	26					M	Z 0.7 17
"	26			"	27	Up	iP
"	26						18 11 49
"	26						microns sec
"	26						P Z' 0.1 1.2
"	26						Ki iP
"	26						18 11 15
"	26						microns sec
"	26						P Z' 0.1 1.2
"	26						Sk eP
"	26						18 11 20
"	26						Um iP
"	26						18 11 35
"	26						i
"	26						18 12 42
"	26						Nevada, U.S.A. Underground
"	26						nuclear explosion.
"	26			"	27	Um	i(P)
"	26						21 43 09
"	26			"	27	Up	iP
"	26						23 38 37
"	26						Ki iP
"	26						23 38 06
"	26						Off coast of Formosa
"	26						(h = 80 km).
"	27	Up	iP				
"	27		i				
"	27		i(S)				
"	27	Sk	iP				
"	27	Gb	iP				
"	27	Um	iP				
"	27	Caucasus.					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					1962					
June 28	Up	iP	04 25 35		June 28	Um	iP	18 01 34		
	Ki	iP	04 24 45		cont.				Near coast of northern	
	Sk	iP	04 25 35						Hokkaido, Japan (h = 60 km).	
	Um	iP	04 25 18		"	28	Up	iSKS	19 14 33	
							Ki	iP	19 03 45	
								iSKS	19 14 17	
"	28	Up	iP	04 41 06 C					microns sec	
			iSKS	04 51 45			P	Z'	0.2 1.4	
			iS	04 52 41			SKS	E	0.6 7	
							M	E	0.6 16	
							M	N	0.3 17	
							M	Z	0.9 16	
									D = 10550 km = 95°.	
							Sk	iP	19 03 58	
							i		19 04 05	
							Um	iP	19 03 50	
							ePS		19 16 25	
									Northern Celebes (h = 60 km).	
						"	28	Um	iPKP	21 06 19
										Tonga Islands region
										(h = 240 km).
"	28	Up	iPg	22 36 02		"	28	Up	iPg	22 36 02
			i	22 36 14				i		22 36 14
			iSg	22 36 18				iSg		22 36 18
										microns sec
							Sg	Z'	0.2 0.5	
										D = 130 km = 1.2°.
							Sk	iSg	22 37 30	
							Gb	i(Sg)	22 37 51	
							Um	iSg	22 37 19	
										East coast of Sweden, 61.0°N,
										17.2°E. Origin time =
										22 35 38.
"	29	Up	i(PKP)	01 11 30		"	29	Up	i(PKP)	01 11 30
										New Hebrides Islands
										(h = 120 km).
"	29	Ki	iPKP	03 49 23 D		"	29	Ki	iPKP	03 49 23 D
										Sandwich Islands.
"	29	Gb	iP	05 13 48		"	29	Gb	iP	05 13 48
"	29	Gb	iPKP	10 48 14 C		"	29	Gb	iPKP	10 48 14 C
										South of Easter Island
										region (h = 25 km).
"	28	Ki	iP	11 31 06 D		"	29	Ki	iPn	15 28 22 D
								eSn	15 29 09	
								iSg	15 29 37	
										D = 490 km = 4.4°.
"	28	Ki	iP	17 50 14			Sk	iSg	15 32 26	
"	28	Up	iP	18 01 58						Origin time = 15 27 12.
		Ki	iP	18 01 14						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

June 29 Up iP 16 37 54  
eS 16 45 46  
microns sec  
M E 0.6 20  
M N 1.0 20  
M Z 0.9 19  
D = 6350 km = 57°.  
Ki iP 16 36 56 C  
iPP 16 38 46  
iS 16 44 04  
microns sec  
P Z' 0.2 1.4  
M E 0.7 18  
M N 0.5 18  
M Z 1.1 18  
D = 5450 km = 49°.  
Sk iP 16 37 25  
i 16 37 31  
Gb eP 16 38 05  
i 16 38 12  
Um iP 16 37 26  
i 16 37 31  
Ka iP 16 38 17  
Alaska (h = 40 km).

" 29 Up iP 16 40 34  
Ki iP 16 39 37  
i 16 39 43  
Um iP 16 40 07  
Alaska.

" 29 Um i(P) 20 57 10  
i 20 57 12

" 29 Up iP 22 42 24  
i 22 42 28  
i 22 42 31  
iS 22 47 54  
i 22 49 34  
microns sec  
P Z' 0.1 0.6  
S E 0.3 4  
M E 0.7 18  
M N 1.1 14  
M Z 0.5 17  
D = 3800 km = 34°.  
Ki iP 22 43 09 C  
ePP 22 44 41  
iS 22 49 06  
iSS 22 52 03  
microns sec  
P Z' 0.2 1.0  
S E 0.6 9  
S N 0.3 9  
M E 1.8 18

1962

June 29 Ki M N 1.2 17  
cont. M Z 1.1 16  
D = 4350 km = 39°.  
Sk iP 22 43 04  
eS 22 49 01  
Gb iP 22 42 42  
Um iP 22 42 43 C  
i 22 43 31  
iS 22 48 23  
eSS 22 50 43  
Ka iP 22 42 17 D  
Iran (h = 25 km).  
Magn. = 5.6 (Up, Ki).

" 29 Um iP 22 57 37

" 30 Up iP 01 21 29  
Ki iP 01 20 52  
Sk eP 01 21 23  
Um iP 01 21 08  
i 01 21 24

Off coast of Honshu,  
Japan (h = 50 km).

" 30 Sk i(P) 08 11 19

" 30 Ki iP 09 54 13  
microns sec  
M E 0.5 15  
M N 0.3 16  
M Z 0.7 16  
Sk iP 09 54 14  
Um iP 09 53 54  
Iran (h = 25 km).

" 30 Ki iP 13 01 01  
i 13 01 05  
microns sec  
P Z' 0.2 0.8

" 30 Up iP 19 42 21  
i 19 42 35  
iS 19 52 28  
microns sec  
P Z' 0.1 1.0  
S N 0.7 11  
M E 2.0 18  
M N 2.5 18  
M Z 3.5 17  
D = 9350 km = 84°.  
Ki iP 19 41 56  
i 19 42 05  
eS 19 51 53  
microns sec  
P E 0.2 7



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

June 30	Ki	P	Z	0.5	7
cont.		P	Z'	0.2	0.9
		S	E	1.2	18
		S	N	0.5	8
		M	E	1.8	20
		M	N	1.8	20
		M	Z	2.6	16
		D = 8850 km = $79\frac{1}{2}^{\circ}$ .			
	Sk	eP		19 42	23
		i		19 42	30
	Gb	eP		19 42	40
	Um	iP		19 42	05
		eS		19 52	06
	Ka	iP		19 42	30
		i		19 42	35

Near coast of Luzon,  
Philippine Islands  
(h = 40 km).  
Magn. = 5.8 (Up, Ki).

Markus Båth  
November 10, 1962

Seismological Institute  
Uppsala

P R E L I M I N A R Y

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A , K I R U N A , S K A L S T U G A N , G Ö T E B O R G ,  
U M E Å and K A R L S K R O N A

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

J U L Y 1 - 31, 1962

1962	July 1	Up	iPKP	01 51 02	1962	July 1	D = 410 km = 3° .7.
		Ki	iPKP	01 50 47		cont.	Northwest Russia. Origin
				microns sec			time = 05 28 20. Probably
			PKP	Z' 0.1 1.0			explosion.
		Sk	iPKP	01 50 58		" 1	Up i(S*) 06 05 19
		Um	iPKP	01 50 53			i(Sg) 06 05 48
		New Hebrides Islands (h = 160 km).					Ki iSn 06 02 40
	" 1	Up	eP	03 48 08			iSg 06 03 01
		Ki	iP	03 47 48			D = 410 km = 3° .7.
		Sk	eP	03 48 17		Sk	eSn 06 04 31
		Sikang Province, China (h = 25 km).					iSg 06 05 27
	" 1	Up	eSg	05 04 52			D = 900 km = 8° .1.
		Ki	iSn	05 01 35			Um iS* 06 03 43
			eSg	05 01 56			iSg 06 03 56
			D = 410 km = 3° .7.				D = 590 km = 5° .3.
		Sk	eS*	05 04 00			Northwest Russia, 67° .4 N,
			eSg	05 04 23			30° .0 E. Origin time = 06
		Northwest Russia, 67° .4 N, 30° .0 E. Origin time = 04 59 55. Probably explosion.				" 1	Up i(Sg) 06 07 53
	" 1	Ki	ePn	05 29 20			Gb iPg 06 05 49
			iSn	05 30 05			iSg 06 06 14
			iSg	05 30 23			D = 210 km = 1° .9.
						Ka	iPg 06 06 37
							iSg 06 07 32
							D = 470 km = 4° .2.
							Skagerrack, 57° .6 N, 8° .4
							E. Origin time = 06 05 11.

Up= Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962					
July	1	Up	iP	11 52 13	
			i(pP)	11 52 30	
			i	11 52 40	
			i	11 57 23	
		Ki	iP	11 52 48	
			i	11 53 38	
			i	11 59 08	
		Sk	iP	11 52 50	
			i	11 53 36	
			iPP	11 53 52	
		Gb	eP	11 52 30	
		Um	iP	11 52 24	
			i(pP)	11 52 39	
		Ka	iP	11 52 11	
			i	11 53 45	
		Off coast of Azerbaijan, U.S.S.R. (h= 50 km).			
"	1	Up	iP	21 31 21 C	
			i	21 31 42	
			ePP	21 32 58	
			iS	21 37 29	
			eSSS	21 40 53	
			e(Li)	21 43 57	
			iLg1	21 45 06	
				microns sec	
		M	E	3.2 17	
		M	N	2.2 16	
		M	Z	6.5 17	
				D = 4450 km = 40°.	
		Ki	iP	21 31 21 C	
			i	21 31 32	
			ePP	21 33 04	
			i	21 35 13	
			e(PcS)	21 37 08	
			iLg1	21 44 59	
				microns sec	
		P	Z'	0.1 0.8	
		PP	E	0.3 9	
		M	E	4.3 15	
		M	N	1.5 10	
		M	Z	4.7 15	
				D = 4450 km = 40°.	
		Sk	iP	21 31 43	
		Gb	eP	21 31 43	
		Um	iP	21 31 15	
			eLg1	21 44 32	
		Ka	iP	21 31 29	
		Sinkiang Province, China ( h = 25 km). Magn.=5.7(Ki).			
"	2	Up	iPKP	08 51 31 C	
			iPP	08 53 21	
			e	08 53 57	

1962					
July	2	Up	e	09 03 42	
				microns sec	
			M	E 1.1 22	
			M	N 2.5 22	
			M	Z 2.9 22	
				(D = 13900 km = 125°)	
		Ki	iPKP	08 51 17	
			i	08 52 12	
			ePP	08 52 30	
			eS	09 00 13	
			ePS	09 02 11	
			e(ScSP)	09 02 20	
				microns sec	
			S	N 0.3 8	
			M	E 2.0 23	
			M	N 1.1 21	
			M	Z 2.1 22	
				(D = 13000 km = 117°).	
		Sk	iPKP	08 51 28 C	
			i	08 51 59	
		Um	iPKP	08 51 22	
			i	08 51 54	
			eS	09 00 34	
			e	09 03 15	
		Santa Cruz Islands ( h = 50 km). Magn. = 6.1 (Up,Ki).			
"	3	Up	iP	03 24 19	
		Ki	iP	03 24 27	
		Um	iP	03 24 17	
		Hindu Kush ( h = 200 km ).			
"	3	Sk	iP	06 39 25	
		Um	iP	06 39 03	
		Iran ( h= 25 km ).			
"	3	Up		_____	
				microns sec	
			M	E 1.0 20	
			M	N 4.3 23	
			M	Z 3.6 22	
		Ki	e(SS)	19 07 07	
				microns sec	
			M	E 1.8 18	
			M	N 2.0 22	
			M	Z 3.4 22	
		Gb	iPKP	18 33 54	
		About 1000 km west of Macquarie Island ( h = 25 km). Magn.=6.2 (Up, Ki).			
"	3	Up	iP	21 27 54	
		Ki	iP	21 28 28	
		Um	iP	21 28 14	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962							
July	3	Mid-Atlantic Ocean ( h = 25 km).			July	5	Ki	iP	17 52 19			
cont.					cont.			ePa	17 56 47			
	"	4	Ki	eP	17 10 37			eS	18 01 41			
								microns sec				
	"	4	Up	i	18 59 22			S	E 1.0 10			
				i(Sn)	18 59 42			S	N 0.5 8			
				iS*	19 00 04			M	E 1.8 16			
				iSg	19 00 28			M	N 1.4 17			
								M	Z 1.7 18			
								D = 7950 km = 71° <sup>1</sup> / <sub>2</sub> .				
				Sg	Z' 0.2 0.6		Sk	eP	17 52 52			
				D = 900 km = 8° <sup>1</sup> / <sub>10</sub> .			Gb	iP	17 53 23			
			Ki	iPn	18 56 59		Um	iP	17 52 34			
				iSn	18 57 44			iS	18 02 11			
				iSg	18 58 03			South of Honshu, Japan (h = 25 km). Magn.=6.0 (Up, Ki).				
								microns sec				
				Sn	Z' 0.4 0.5		"	5	Um	iP	18 47 08	
				Sg	Z' 0.7 0.5			"	6	Ki	iP	01 26 42
				D = 410 km = 3° <sup>7</sup> / <sub>10</sub> .						Gb	iP	01 27 38
			Sk	iPn	18 57 49					Um	iP	01 26 57
				iSn	18 59 26					South of Honshu, Japan (h = 60 km).		
				iSg	19 00 13		"	6	Up	iP	02 21 51	
			Gb	eSg	19 02 22					i	02 22 20	
			Um	iSn	18 58 07					ePa	02 25 10	
				iS*	18 58 17					iS	02 29 39	
				i(Sg)	18 58 37					microns sec		
				i	18 58 42				P	Z 0.4 4		
			Ka	i(S*)	19 01 35				P	Z' 0.1 0.9		
				i	19 02 23				S	E 0.4 6		
				iSg	19 02 31				M	E 2.0 21		
			Finland - U.S.S.R. border region, 66° <sup>3</sup> / <sub>10</sub> N, 29° <sup>0</sup> / <sub>10</sub> E. Origin time = 18 56 00						M	N 1.8 20		
									M	Z 2.6 20		
	"	4	Up	iPKP	23 37 18				D = 6100 km = 55°.			
				i	23 37 23		Ki	iP	02 22 24 D			
			Sk	iPKP	23 37 10 C			ePa	02 25 55			
			Um	iPKP	23 37 05			eS	02 30 31			
			Kermadec Islands (h = 25 km).					microns sec				
	"	5	Up	iP	15 28 00			P	N 0.3 4			
	"	5	Up	iP	17 47 10			P	Z 0.6 4			
	"	5	Up	iP	17 52 56			P	Z' 0.3 1.2			
				i	17 53 08			S	E 0.7 7			
				eS	18 02 47			M	E 2.2 18			
								M	N 1.7 17			
								M	Z 3.1 19			
								D = 6550 km = 59°.				
			S	E	0.5 7		Sk	iP	02 22 21 D			
			M	E	0.7 15		Gb	iP	02 21 59			
			M	N	0.7 15			i(PcP)	02 22 50			
			M	Z	0.9 15							
			D = 8650 km = 78°.									

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962					
July	6	Um	iP	02 22 04 D	July	6	Up	iP	09 41 37 D	
cont.			ePcP	02 23 06			Sk	iP	09 42 16	
			ePa	02 25 28			Um	iP	09 42 16	
			iS	02 30 05					Ionian Sea.	
				D = 6350 km = 57°.						
		Ka	iP	02 21 41	"	6	Up	iP	13 30 29	
			i	02 21 43			Ki			
				Arabian Sea (h = 30 km).					microns sec	
				Magn. = 5.8 (Up, Ki).			M	E	0.4 15	
"	6	Up	iP	09 21 08 C			Sk	eP	13 31 18	
			eS	09 25 06	"	6	Up	i(P)	14 20 41	
				microns sec						
		P	Z'	0.5 0.5	"	6	Up	iP	14 24 27 D	
		S	E	6.1 9			iS		14 28 28	
		S	N	4.3 11					microns sec	
		M	E	11 19			P	Z'	0.1 0.6	
		M	N	13 14					D = 2450 km = 22°.	
		M	Z	15 14			Ki	eP	14 25 42	
				D = 2400 km = 21 $\frac{1}{2}$ °.					microns sec	
		Ki	iP	09 22 22			M	E	0.6 16	
			iS	09 27 19			M	N	0.2 13	
			i(SS)	09 28 35			M	Z	0.5 13	
				microns sec			Sk	iP	14 25 07 D	
		P	N	0.3 9			Gb	iP	14 24 12	
		P	Z	0.5 10			Um	iP	14 25 08	
		P	Z'	0.4 1.3			Ka	iP	14 23 48	
		S	E	1.4 10					Ionian Sea.	
		S	N	0.7 10						
		M	E	33 14		"	6	Up	iP	15 23 00
		M	N	9.3 12			Ki	iP	15 22 29	
		M	Z	16 12			Sk	iP	15 23 00	
				D = 3300 km = 29 $\frac{1}{2}$ °.			Um	iP	15 22 42 D	
		Sk	iP	09 21 47 C					Northern Ryukyu Islands	
		Gb	iP	09 20 53 C					(h = 25 km).	
		Um	iP	09 21 45 C						
			iS	09 26 14	"	6	Up	e(P)	15 48 23	
			eRg	09 32 17			Ki			
				D = 2850 km = 25 $\frac{1}{2}$ °.					microns sec	
		Ka	iP	09 20 30			M	E	0.5 15	
				Ionian Sea (h = 30 km).			M	N	0.2 14	
				Magn. = 5.7 (Up, Ki).			M	Z	1.0 15	
"	6	Up	iP	09 33 52	"	6	Up	iP	15 57 31	
			i	09 33 58			Sk	iP	15 58 11	
				microns sec					Ionian Sea.	
		P	Z'	0.1 0.6	"	6	Up	iP	15 59 21 D	
		Sk	iP	09 34 34					microns sec	
		Gb	iP	09 33 41			P	Z'	0.1 0.6	
		Um	iP	09 34 36			M	E	0.4 10	
		Ka	eP	09 33 18			M	N	0.3 11	
				Ionian Sea.			M	Z	0.5 11	

Up = Uppsala, Ki = Kiruna, Sk = Skafstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962						1962					
July	6	Ki	iP	16 00 35		July	6	Up	i(sS)	23 19 59	
cont.				microns sec		cont.			i	23 21 22	
		M	E	0.7 13						microns sec	
		M	N	0.4 14				P	Z	6.0 2	
		M	Z	0.5 13				P	Z'	1.0 0.5	
		Sk	iP	16 00 00				PP	E	18 4	
		Gb	iP	15 59 06				PP	N	2.1 2	
		Um	iP	16 00 02				PP	Z	9.2 3	
		Ka	iP	15 58 46				S	E	18 12	
				Ionian Sea (h = 25 km).				S	N	36 10	
"	6	Up	iP	16 10 17				M	E	22 12	
		Sk	e(P)	16 10 50				M	N	37 10	
			i	16 11 01				M	Z	22 10	
		Um	iP	16 11 06						D = 4450 km = 40°.	
				( Ionian Sea ).			Ki	iP		23 13 03 C	
"	6	Up	iP	16 16 38 D				ipP		23 13 50	
		Sk	e(P)	16 16 24				isP		23 14 13	
"	6	Sk	eP	16 46 47				iPP		23 14 45	
"	6	Up	iP	17 04 49 D				ipPP		23 15 20	
				microns sec				iPcS		23 18 39	
		M	E	0.2 10				iS		23 19 05	
		M	N	0.5 12				i(sS)		23 20 05	
		Ki		microns sec						microns sec	
		M	E	0.5 13				P	E	12 7	
		M	N	0.2 13				P	N	5.0 7	
		M	Z	0.5 13				P	Z	20 7	
		Sk	iP	17 05 29				P	Z'	6.8 1.5	
		Gb	iP	17 04 34				S	E	26 12	
		Um	iP	17 05 29				S	N	17 10	
				Ionian Sea.				M	E	40 9	
"	6	Up	e(P)	18 32 32				M	N	59 12	
"	6	Ki	iP	18 50 03				M	Z	59 9	
		Sk	iP	18 50 31						D = 4550 km = 41°.	
			i	18 51 03			Sk	iP		23 13 20 C	
		Um	iP	18 50 32			Gb	iP		23 13 14 C	
				Kenai Peninsula, Alaska				ipP		23 14 03	
				(h = 70 km).				Um	iP	23 12 52 C	
"	6	Up	e(P)	18 56 47				ipP		23 13 40	
"	6	Up	iP	23 12 53 C				isP		23 14 03	
			ipP	23 13 40				iS		23 18 46	
			isP	23 14 05				i		23 19 37	
			iPP	23 14 29				isS		23 20 03	
			iS	23 18 48				i		23 21 25	
										D = 4450 km = 40°.	
"	6	Up	e(P)	18 56 47				Ka	iP	23 12 54 C	
"	6	Up	iP	23 12 53 C						Hindu Kush. h = 230 km	
			ipP	23 13 40						(Up, Ki, Gb, Um).	
			isP	23 14 05						Magn. = 7.1 (Up, Ki).	
			iPP	23 14 29			"	7	Up	iP	03 09 35 C
			iS	23 18 48					Ki	iP	03 09 33
									Sk	iP	03 09 54

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962					
July	7	Gb	iP	03 09 55	July	7	Up	iP	12 52 04	
cont.		Um	eP	03 09 27					microns sec	
		Tibet (h = 25 km).					F	Z'	0.1 0.7	
							M	E	0.2 9	
"	7	Up	iP	03 22 38 C			M	N	0.5 12	
							M	Z	0.4 12	
"	7	Up	iP	06 23 44 C			Ki	iP	12 53 18	
			ipP	06 23 57			Sk	iP	12 52 44	
			iS	06 32 39			Gb	iP	12 51 50	
			iPS	06 33 13			Um	iP	12 52 45 C	
			eP'P'	06 52 01			Ka	iP	12 51 24	
							Ionian Sea (h = 25 km).			
						"	7	Sk	e(P)	18 25 43
						"	7	Up	iP	21 31 29
								i	21 31 32	
								Ki	iP	21 30 40
								Sk	iP	21 31 16
								Gb	iP	21 31 52
								Um	iP	21 31 04
								Ka	eP	21 31 51
								Near south coast of Kamchatka (h = 30 km).		
						"	7	Up	eP	23 14 52
								( Ionian Sea ).		
						"	8	Up	iP	03 32 58
								eP'P'	04 01 08	
									microns sec	
								M	E	0.3 17
								M	N	0.6 16
								M	Z	0.3 16
								Ki	iP	03 32 05
								ipP	03 32 21	
								eP'P'	04 01 26	
									microns sec	
								M	E	0.6 15
								M	N	0.6 17
								M	Z	1.0 17
								Sk	iP	03 32 38
								iPcP	03 33 12	
								eP'P'	04 01 09	
								Gb	eP	03 33 12
								i	03 33 44	
								Um	iP	03 32 33
								eP'P'	04 01 16	
								Ka	iP	03 33 19
								ipP	03 33 33	
								i	03 33 57	
								Rat Islands, Aleutian Islands (h = 60 km).		
"	7	Up	iP	07 25 32 C						
			ipP	07 25 45						
		Rat Islands, Aleutian Islands (h = 60 km).								
"	7	Um	iP	12 01 22						
		Banda Sea (h = 30 km).								





Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
July 10	Ki		microns sec		July 11	Up	iP	07 27 50	
cont.		SKP	Z' 0.2 1.5			Ki	iP	07 26 57	
	Sk	ePKP	05 30 10			Sk	iP	07 27 34	
		iSKP	05 32 59			Kamchatka (h = 70 km).			
	Um	iSKP	05 32 55		" 11	Up	iP	12 53 14	
	Ka	iPKP	05 30 31				eS	13 03 46	
	Fiji Islands (h = 580 km).							microns sec	
" 10	Up	iP	10 10 56			P	Z' 0.2 1.5		
		eS	10 14 54			S	N 0.5 7		
			microns sec			M	E 1.1 20		
	M	E	1.7 13			M	N 4.1 20		
	M	N	1.5 13			M	Z 2.3 18		
	M	Z	1.0 13			D = 9550 km = 86 <sup>0</sup> / <sub>2</sub> .			
	D = 2400 km = 21 <sup>0</sup> / <sub>2</sub> .				Ki	iP	12 52 57		
	Ki	iP	10 12 07				eS	13 03 14	
		e	10 19 12					microns sec	
		eLg1	10 21 07			P	Z' 0.6 1.2		
		e(Lg2)	10 21 42			S	E 0.7 7		
			microns sec			S	N 0.6 7		
	M	E	2.3 14			M	E 4.3 19		
	M	N	0.5 11			M	N 1.2 15		
	M	Z	0.9 10			M	Z 4.6 19		
	Sk	eP	10 11 38			D = 9150 km = 82 <sup>0</sup> / <sub>2</sub> .			
		i	10 11 49		Sk	iP	12 53 20		
	Um	iP	10 11 33		Gb	eP	12 53 28		
		iPP	10 12 06		Um	iP	12 53 03		
	Ka	iP	10 10 25		Panay, Philippine Islands (h = 25 km). Magn. = 6.1 (Up, Ki).				
	Aegean Sea (h = 25 km).				" 11	Up	iPKP	17 12 29 D	
" 11	Up	iP	01 11 58			Sk	ePKP	17 12 26	
		i	01 12 01			Um	iPKP	17 12 19	
		ePP	01 13 29			Ka	ePKP	17 12 39	
		iS	01 18 18			Kermadec Islands region (h = 40 km).			
		eSS	01 21 19		" 11	Gb	iP	19 45 59	
			microns sec		" 11	Up	i(P)	20 19 58	
	M	E	1.3 19		" 12	Up	iP	01 25 26	
	M	N	2.2 15		" 12	Up	iP	02 16 34	
	M	Z	1.5 14			Sk	eP	02 17 11	
	D = 4800 km = 43 <sup>0</sup> / <sub>2</sub> .					Greece.			
	Ki	iP	01 12 13		" 12	Up	iP	08 28 55	
		iPP	01 14 02			Ki	iP	08 28 24 C	
		eSS	01 21 50			Luzon, Philippine Islands (h = 100 km).			
			microns sec						
	M	E	2.6 16						
	M	N	3.2 17						
	M	Z	3.5 16						
	( D = 4950 km = 44 <sup>0</sup> / <sub>2</sub> .)								
	Sk	iP	01 12 26						
	Um	iP	01 12 04						
		eSS	01 21 29						
	Ka	iP	01 11 57						
	Afghanistan (h = 25 km).								

Up = Uppdala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
July	12	Up	ePS	23 19 25	July	13	Up	iP	05 10 03 C
				microns sec			i		05 10 10
		M	E	0.6 20					microns sec
		M	N	0.6 20			P	Z'	0.1 0.6
		M	Z	0.3 20			Ki	iP	05 10 07 C
		Ki							microns sec
				microns sec			P	Z'	0.1 0.5
		M	E	1.5 23			Gb	iP	05 10 24 C
		M	N	0.7 19			Um	iP	05 10 00 C
		M	Z	1.7 20			Ka	iP	05 10 09 C
		Pacific Ocean ( h = 25 km ).					Tibet-India border		
							( h = 25 km ).		
"	13	Up	iP	03 44 45	"	13	Up	iP	08 18 39
		i		03 44 57					microns sec
		iSKS		03 55 10			P	Z'	0.1 0.8
		iS		03 55 28					
				microns sec					
		P	Z'	0.1 0.8			Up	iP	12 39 57
		S	E	0.7 9			"	13	
		M	E	1.9 20			Up	i(Pg)	14 01 25
		M	N	2.2 18				iSg	14 01 35
		M	Z	1.9 17			"	13	
		( D = 9900 km = 89° ).					Up	iP	22 19 57
		Ki	iP	03 44 31			Ka	iP	22 19 22
		i		03 44 41			( Ionian Sea ).		
		iSKS		03 54 46			"	13	
		iS		03 54 55			Up	iP	22 29 33
				microns sec			iS		22 37 59
		P	Z	0.8 4					microns sec
		P	Z'	0.4 1.5			P	Z'	0.1 1.2
		SKS	E	1.8 7			M	E	0.8 20
		S	N	0.7 8			M	N	0.4 18
		M	E	3.1 22			D = 6900 km = 62°.		
		M	N	1.7 19			Ki	iP	22 28 37
		M	Z	5.5 18			i		22 28 47
		( D = 9450 km = 85° ).					eS		22 36 15
		Gb	iP	03 45 05					microns sec
		Um	iP	03 44 34			P	Z'	0.1 1.1
		i		03 44 46			M	E	0.7 20
		ePP		03 48 15			M	N	0.5 15
		eSKS		03 54 36			M	Z	0.8 15
		( D = 9550 km = 86° ).					D = 6000 km = 54°.		
		Ka	iP	03 44 57			Gb	iP	22 29 55 C
		i		03 45 08			i		22 30 05
		Panay, Philippine Islands					Ka	iP	22 30 00 C
		( h = 160 km ). Magn. = 6.0					Komandorshie Islands region		
		( Up, Ki ).					( h = 60 km ).		
"	13	Up	iPKP	04 30 27	"	14	Up	iP	01 13 50
		i		04 30 35			i		01 14 02
		Um	iPKP	04 30 17			iPcP		01 14 16
		Kermadec Islands region					Ki	iP	01 12 56
		( h = 90 km ).					Gb	eP	01 14 09

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 July 14 cont.	Um iP Rat Islands, Aleutian Islands (h = 25 km).	01 13 24	1962 July 14 cont.	Up M M Ki iP	N Z 20 47 46	1.9 23 23
" 14	Up iP	05 16 20			microns sec	
" 14	Up iP i P	06 52 17 C 06 52 25 Z' 0.1 0.6		M M M	E N Z	0.5 17 0.5 17 0.7 17
	Ki iP	06 52 49		Sk eP		20 48 30
	Gb iP	06 52 32		Gb iP		20 49 00
	Um iP	06 52 29		i		20 50 15
	Ka iP	06 52 11		Um iP		20 48 12
	Iran (h = 30 km).			Ka iP		20 49 03
" 14	Up iP i P M M M	16 07 47 C 16 08 00 microns sec Z' 0.1 0.7 E 0.6 15 N 0.5 17 Z 0.9 14	" 14	Up iP Ki iP		23 47 15 23 46 46
	Ki iP	16 07 51 C		Mariana Islands (h = 200 km).		
	M	E 0.4 13	" 15	Up iP i		03 18 01 03 18 13
	M	N 0.3 14		Sk eP		03 18 43
	M	Z 0.9 14		Greece.		
	Sk iP	16 08 10 C	" 15	Up iP iPP i eS iPS		06 58 26 D 07 00 58 07 01 27 07 07 27 07 08 14
	Gb iP	16 08 08			microns sec	
	Um iP	16 07 44		P	Z' 0.5 1.0	
	Ka iP	16 07 53		PP	Z' 0.2 1.2	
	i	16 07 58		(D = 7650 km = 69°).		
	Tibet-India border (h = 40 km).		Ki iP iPP i iS isS			06 57 45 D 06 58 11 06 59 16 07 06 13 07 06 53
" 14	Up iS	20 05 12			microns sec	
	M	E 0.9 22		P	Z 0.8 4	
	M	N 0.8 20		P	Z' 0.5 1.0	
	M	Z 1.3 20		S	E 0.4 10	
	Ki eS	20 04 03		S	N 0.3 8	
		microns sec		M	E 0.6 16	
	M	E 1.1 20		M	N 0.4 16	
	M	N 1.1 21		M	Z 1.0 15	
	M	Z 1.4 20		(D = 7000 km = 63°).		
	Northern California (h = 25 km).		Sk iP iPP iPP			06 58 20 D 06 58 45 07 00 48
" 14	Up iP iPcP	20 48 38 20 49 10		Gb iP iPP iPP		06 58 47 D 06 59 13 07 01 34
		microns sec				
	M	E 0.6 22				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
July	15	Um	iP	06 58 03 D	July	15	Ki		microns sec
cont.			ipP	06 58 29	cont.		S	E	0.3 10
			isP	06 58 38			S	N	0.2 10
			iPP	07 00 25			M	E	0.6 14
		Ka	iP	06 58 47 D			M	N	0.4 13
			ipP	06 59 10			M	Z	0.9 14
			iPP	07 01 31			D = 6450 km = 58°.		
			ipPP	07 01 56			Sk	eP	22 02 08
		Honshu, Japan. h = 100 km					Um	eP	22 01 52
		(Ki, Sk, Gb, Um, Ka).					Ka	iP	22 01 25
		Magn. = 6.4 (Up, Ki).					Gulf of Aden (h = 25 km).		
"	15	Up	iP	08 26 57	"	15	Up	iP	22 05 24
"	15	Up	iP	08 40 22			Um	iP	22 05 39
							(Gulf of Aden).		
"	15	Ki	iPn	13 27 23	"	16	Up	iP	00 07 39
			iSn	13 28 11					
			iSg	13 28 27	"	16	Up	iPKP	02 24 41
			D = 410 km = 3°.				i		02 24 50
		Origin time = 13 26 25.							microns sec
"	15	Up	iP	15 23 54 C			M	E	0.6 21
		Ki	iP	15 23 12 C			M	N	0.6 20
			i	15 23 24			M	Z	1.1 23
				microns sec			Ki	iPKP	02 24 37
		P	Z'	0.1 0.7			i		02 24 49
		M	E	0.5 17					microns sec
		M	N	0.3 16			PKP	Z'	0.1 1.0
		M	Z	0.7 16			M	E	0.9 20
		Sk	iP	15 23 47			M	N	0.5 20
		Gb	iP	15 24 16			M	Z	1.7 20
		Um	iP	15 23 31 C			Sk	iPKP	02 24 46
		Ka	iP	15 24 15			i		02 24 58
		Honshu, Japan (h = 60 km).					Gb	iPKP	02 24 50
							Um	iPKP	02 24 36
"	15	Up	iP	17 14 15 C			Ka	ePKP	02 24 40
		Ki	iP	17 13 21			South of Tasmania		
		Andreanof Islands, Aleutian					(h = 15 km).		
		Islands (h = 25 km).			"	16	Ki	iP	06 28 44
"	15	Um	iPKP	19 53 19			Bonin Islands region		
		Loyalty Islands (h = 25 km).					(h = 40 km).		
"	15	Up	iP	22 01 36	"	16	Ki	iP	06 59 38
			eS	22 09 05	"	16	Ki	iP	07 09 47
				microns sec			Gb	iP	07 08 21
		M	N	0.3 15			Um	iP	07 09 11 C
		D = 5900 km = 53°.					Ka	iP	07 07 56
		Ki	eP	22 02 11			i		07 08 23
			eS	22 10 14			Greece.		



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962					
July	17	Ki	iP	17 30 41 C	July	19	Up	iP	22 16 50 D	
cont.			eS	17 38 58			Ki	iP	22 16 09	
				microns sec			Sk	iP	22 16 43	
		P	E	0.3 6			Um	iP	22 16 27	
		P	N	0.3 6			Ka	iP	22 17 09	
		P	Z	1.0 4			Honshu, Japan (h = 90 km).			
		P	Z'	0.1 0.9		"	20	Up	iP	06 22 20
		S	E	0.7 8		"	20	Up	iP	11 45 22
		S	N	0.9 9		"	21	Up	iP	03 13 41
		M	E	3.7 20				i	03 14 35	
		M	N	3.9 20			Ki	iP	03 14 10	
		M	Z	7.0 20					microns sec	
		D = 6900 km = 62°.					M	E	0.3 12	
		Sk	iP	17 31 15 C			M	Z	0.4 12	
			i	17 31 28			Northern Iran (h = 40 km).			
		Gb	iP	17 31 47 C		"	21	Ka	iP	10 51 48 D
			i	17 32 01		"	21	Up	iP	17 36 19
		Um	iP	17 31 00 C				Ki	iP	17 36 27
			i	17 31 13				Sk	iP	17 36 45
			eS	17 39 37				Um	iP	17 36 18
		Ka	iP	17 31 47 C				Ka	iP	17 36 22
			i	17 33 39				Hindu Kush region (h = 40 km).		
		Hokkaido, Japan (h = 30 km).				"	22	Ki	iP	00 25 34
		Magn. = 6.0 (Up, Ki).						eS	00 29 11	
"	18	Up	iP	00 25 52 D					microns sec	
			i	00 26 04			P	N	0.4 6	
		Ki	iP	00 25 36			P	Z	0.4 4	
		Um	iP	00 25 41			S	E	0.4 7	
		Panay, Philippine Islands (h = 160 km).					M	E	0.6 18	
							M	N	0.3 18	
"	18	Ki	eP	10 23 07			M	Z	0.6 19	
		Um	iP	10 23 18 C			D = 2200 km = 20°.			
		Mariana Islands region (h = 15 km).					Um	eP	00 26 19	
"	18	Ka	iP	14 12 53			North of Franz Josef Land (h = 30 km).			
			i	14 14 19		"	22	Up	i(P)	16 51 32
"	18	Up	iP	16 25 45		"	23	Ki	eL	02 00
		Sk	eP	16 26 25					microns sec	
		Greece.					M	E	0.6 18	
"	18	Up	i(P)	16 57 49			M	N	0.3 18	
			i	16 57 58			M	Z	0.8 18	
		Sk	eP	16 58 38			Off coast of Costa Rica (h = 40 km).			
		Greece.								
"	19	Up	i(P)	11 34 13						
"	19	Um	i(P)	17 15 37						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	July 23	Ki	iP	22 23 16	1962	July 24	Ki	S	N	0.5	11
				Virgin Islands region	cont.			M	E	2.7	20
				(h = 25 km).				M	N	1.6	20
"	24	Um	iP	04 12 45				M	Z	3.5	20
"	24	Ki	iP	09 05 47				(D = 9450 km = 85°).			
"	24	Sk	e(P)	10 05 45			Sk	iP		21 20 32	C
"	24	Ki	iP	10 47 33				ipP		21 21 01	
"	24	Up	iP	16 36 01				iPP		21 24 08	
		Ki	iP	16 35 46			Gb	iP		21 20 41	
			eS	16 46 06			Um	iP		21 20 47	
				microns sec				isP		21 21 23	
		P	Z'	0.1 1.1				iPP		21 24 07	
		M	E	0.7 18				ipPP		21 24 34	
		M	N	0.6 18				eS		21 31 09	
		M	Z	1.1 18			Ka	iP		21 20 53	
				D = 9350 km = 84°.			Mexico-Guatemala border				
		Um	iP	16 35 51			region. h = 110 km (Up, Ki,				
				Sulu Sea (h = 20 km).			Sk, Um). Magn. = 5.9 (Up,				
							Ki).				
"	24	Up	iP	16 40 42		"	25	Up	iP	04 49 45	
		Ki	iP	16 41 14				iS		04 59 38	
		Sk	iP	16 41 12				microns sec			
		Um	iP	16 40 55	C			P	Z	0.7	6
"	24	Up	iP	21 20 49				P	Z'	0.1	0.8
		ipP		21 21 18				S	E	1.0	9
		isP		21 21 32				S	N	2.4	10
		iPP		21 24 12				M	E	4.8	20
		ipPP		21 24 39				M	N	6.1	19
		iS		21 30 58				M	Z	12	22
				microns sec				D = 8800 km = 79°.			
		S	E	0.5 9			Ki	iP		04 49 36	
		M	E	1.2 21				i		04 49 48	
		M	N	1.4 22				i		04 50 47	
		M	Z	2.0 21				i		04 54 22	
				(D = 9650 km = 87°).				iPa		04 55 40	
		Ki	iP	21 20 40				iS		04 59 25	
		ipP		21 21 07				microns sec			
		i		21 23 51				P	E	0.4	6
		iPP		21 24 18				P	Z	0.9	5
		i		21 24 29				P	Z'	0.3	1.2
		iS		21 30 51				S	E	2.5	11
		ipS		21 31 33				S	N	1.5	10
				microns sec				M	E	5.9	18
		P	Z	0.5 6				M	N	5.2	18
		P	Z'	0.1 1.5				M	Z	5.5	18
		PP	E	0.3 7				D = 8600 km = 77 <sup>01</sup> / <sub>2</sub> °.			
		S	E	1.8 13			Sk	iP		04 49 24	
								i		04 49 27	
								i		04 49 46	
							Gb	iP		04 49 33	
							Um	iP		04 49 46	
								eS		04 59 33	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
July 25	Ka	iP	04 49 46		July 26	Ki	P	Z'	4.6 2.0
cont.			West of Jamaica (h = 60 km).		cont.		SKS	E	24 11
			Magn. = 6.2 (Up, Ki).				SKS	N	14 11
"	26	Up	iP	04 34 09 C			M	E	160 23
				microns sec			M	N	74 23
		P	Z'	0.3 0.8			M	Z	220 25
		M	E	0.4 20					D = 9800 km = 88°.
		M	N	0.7 17		Sk	iP		08 27 23 D
		M	Z	0.6 18			i		08 30 40
		Ki	iP	04 33 20 C		Gb	iP		08 27 25 D
				microns sec			iPP		08 30 54
		P	Z'	0.1 0.8		Ka	iP		08 27 36 D
		M	E	0.6 18			iPP		08 31 05
		M	N	0.5 17					South of Panama (h = 20 km).
		M	Z	1.0 17					Magn. = 7.4 (Up, Ki).
		Sk	iP	04 33 55 C	"	26	Ki	i(P)	17 38 20
		Gb	iP	04 34 30 C					
		Ka	iP	04 34 32 C	"	26	Um	iP	18 56 32
			i	04 34 44				i	18 56 45
				Kurile Islands (h = 40 km).					
"	26	Ki	eP	04 44 40	"	26	Ki	ePKP	21 51 35
		Sk	eP	04 44 53					Sandwich Islands region
									(h = 25 km).
"	26	Up	iP	08 27 36 D	"	26	Up	iP	22 38 18
			i	08 30 34				iPP	22 38 30
			iPP	08 31 05				i	22 38 46
			i	08 31 12				eS	22 41 06
			iSKS	08 38 01					D = 1650 km = 15°.
			iS	08 38 23			Ki	iP	22 39 50
				microns sec			Sk	eP	22 39 12
		P	E	1.4 4			Um	iP	22 39 05 C
		P	N	2.3 6			Ka	iP	22 37 45
		P	Z	12 7				iS	22 39 59
		P	Z'	2.3 2.0					D = 1350 km = 12°.
		PP	E	2.1 5	"	27	Up	iP	01 29 29
		PP	N	2.5 6			Ki	iP	01 29 00
		PP	Z	6.9 6			Sk	iP	01 29 26
		SKS	E	10 14			Um	iP	01 29 12
		S	N	17 14				i(pP)	01 29 43
		M	E	58 24					North of Mariana Islands
		M	N	84 24					(h = 100 km).
		M	Z	110 24	"	27	Sk	e(P)	04 31 38
				D = 9800km = 88°.					
		Ki	iP	08 27 34 D	"	27	Sk	iP	06 03 00
			i	08 30 53			Um	i(P)	06 02 35
			iPP	08 31 03					
			iSKS	08 38 00					
				microns sec	"	27	Um	iPKP	06 30 37
		P	E	7.7 6					New Hebrides Islands
		P	N	2.7 6					(h = 210 km).
		P	Z	21 7					



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
July 27				July 28			
	Up	iP	12 49 35		Up	iP	12 22 22
	Ki	iP	12 48 42			i	12 22 29
	Sk	iP	12 49 13			i	12 22 42
	Gb	eP	12 49 50			i	12 27 25
	Um	iP	12 49 08		Ki	iP	12 23 36
		ipP	12 49 21				microns sec
	Ka	iP	12 49 59 C		M	E	0.5 15
	Andreanof Islands, Aleutian Islands (h = 60 km).				M	N	0.5 15
					M	Z	0.8 15
"	27	Ki	iP 14 16 59		Sk	iP	12 23 01
"	27	Up	iPKP 19 45 11		Gb	iP	12 22 09
		Sk	iPKP 19 45 08		Um	iP	12 23 06
		Um	iPKP 19 45 04			i	12 23 13
	Santa Cruz Islands region (h = 290 km).				Ka	iP	12 21 45
					(Ionian Sea).		
"	28	Ki	iP 00 07 15 D	"	28	Up	iS 14 21 53
"	28	Up	i(PP) 00 27 05		Ki	iP	14 11 11
		iPKS	00 28 02				microns sec
			microns sec		M	E	0.7 20
		PKS	N 0.3 4		M	Z	1.4 20
		M	E 0.7 23		Sk	iP	14 11 05
		M	N 0.9 23		Um	iP	14 11 21
		M	Z 0.8 23		Near coast of Chiapas, Mexico (h = 70 km).		
	Ki	iPKP	00 24 15	"	28	Ki	iP 14 39 43
		i	00 24 30	"	28	Sk	iP 19 52 53
		i(PP)	00 26 14		Um	iP	19 52 28
		e(PKS)	00 27 27	"	28	Up	iP 19 54 28
			microns sec			iPcP	19 54 47
		PKP	Z 0.1 1.0				microns sec
		M	E 0.8 19		M	E	0.7 18
		M	N 0.6 19		M	N	0.5 17
		M	Z 1.4 20		M	Z	0.8 17
	Sk	iPKP	00 24 25		Ki	eP	19 53 49
		i	00 24 41			eS	20 02 42
	Gb	iPKP	00 24 29				microns sec
		i	00 24 37		S	E	0.3 11
	Um	ePKP	00 24 16		M	E	1.1 15
		i	00 24 23		M	N	0.5 15
		i	00 24 38		M	Z	1.3 16
		i(PP)	00 26 38		D = 7400 km = 66 <sup>0</sup> / <sub>2</sub> .		
		iPKS	00 27 47		Sk	eP	19 54 27
	Samoa Islands region (h = 40 km).				Gb	iP	19 54 49
"	28	Ki	iP 06 29 32		Um	iP	19 54 06
						eS	20 03 15
					Off east coast of Honshu, Japan (h = 40 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962						1962					
July	28					July	30				
		Up	iP		20 57 28			Up	iP		11 02 17
					microns sec			Ki	iP		11 01 36
		P	Z'		0.1 0.9			Sk	iP		11 02 10
		M	N		0.8 20			Um	iP		11 01 54 C
		M	Z		0.6 19			Honshu, Japan (h = 40 km).			
		Ki	iP		20 56 43						
					microns sec		"	30	Up	i(P)	14 58 26
		M	E		0.3 18						
		M	N		0.2 17			"	30	Up	iP
		M	Z		0.6 18					ePKP	17 35 24
		Sk	eP		20 57 18					iPP	17 35 52
		Gb	iP		20 57 48					iS	17 43 28
		Um	iP		20 57 03					iPS	17 45 05
		Ka	eP		20 57 49					i	17 45 26
		Kurile Islands (h = 30 km).								iPKKP	17 46 30
											microns sec
"	28	Ki	iP		22 05 01			PP	E		0.8 6
		Um	iP		22 05 19			PP	N		1.0 6
		Hokkaido, Japan (h = 50 km).						PP	Z		1.9 6
								PP	Z'		0.1 1.1
"	28	Ki	iP		23 58 59			S	N		1.8 9
								M	E		18 24
"	29	Um	iP		00 38 17			M	N		14 18
								M	Z		22 22
"	29	Up	iP		03 49 00 C			(D = 12200 km = 110°).			
		Ki	iP		03 48 33			Ki	iP		17 30 52
		Sk	iP		03 49 01				iPP		17 35 08
		Gb	eP		03 49 21				i		17 35 12
		Um	iP		03 48 43				i		17 36 39
		Ryukyu Islands (h = 180 km).							iSKS		17 41 34
									iS		17 42 45
"	29	Up	iP		09 09 11				ePKKP		17 46 33
		Ki	eP		09 08 51						microns sec
					microns sec			P	Z		0.8 5
		M	E		0.5 16			PP	E		1.6 6
		M	N		0.5 17			PP	N		1.1 6
		Um	iP		09 08 58			PP	Z		3.6 6
		Kwangtung Province, China (h = 70 km).						SKS	E		2.6 9
								S	N		1.5 10
"	29	Ki	ePKP		18 39 27			M	E		23 22
		Um	ePKP		18 39 37			M	N		14 21
		South Island, New Zealand (h = 80 km).						M	Z		43 23
								(D = 11600 km = 104 $\frac{1}{2}$ °).			
"	30	Sk	iP		03 33 48			Sk	eP		17 31 06
		Um	iP		03 33 23				iPKP		17 35 24
									ePKKP		17 46 32
"	30	Gb	i(P)		09 14 11			Gb	e(PKP)		17 35 13
									iPP		17 36 19
"	30							Um	iP		17 31 05
									i		17 34 10
									iPKP		17 35 18
									iPP		17 35 30



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

July 31  
cont.

Ka iP 05 21 03  
Near coast of Shikoku,  
Japan (h = 30 km).

" 31

Up iP 05 25 15  
i 05 25 25  
iS 05 35 15  
microns sec  
P Z' 0.1 0.9  
S E 0.4 8  
M E 1.6 21  
M N 1.6 20  
M Z 2.3 18  
D = 8950 km =  $80\frac{1}{2}^{\circ}$ .

Ki iP 05 24 54  
i 05 25 06  
iS 05 34 36

microns sec  
P Z' 0.1 0.7  
M E 2.3 14  
M N 1.3 14  
M Z 3.1 13  
D = 8550 km =  $77^{\circ}$ .

Sk eP 05 25 17  
Gb eP 05 25 25  
Um iP 05 25 01  
eS 05 34 50  
Ka iP 05 25 26  
Near north coast of Luzon  
(h = 40 km). Magn. = 5.7  
(Up, Ki).

" 31

Ki iP 07 33 15  
Off east coast of Honshu,  
Japan (h = 70 km).

" 31

Ka iP 18 52 22  
(Kashmir).

Markus Båth  
December 6, 1962

U P P S A L A

P R E L I M I N A R Y

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, G Ö T E B O R G,  
U M E Å and K A R L S K R O N A

Uppsala	(Up);	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki);	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk);	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb);	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um);	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka);	56°09.9'N,	15°35.5'E;	h = 11 m

A U G U S T 1 - 31, 1962

1962

Aug 1	Up	eP	02 53 38	
	Gb	eP	02 54 26	
" 1	Up	iPKP	04 08 48 C	
		i	04 08 59	
			microns sec	
		PKP	Z' 0.1 0.7	
	Sk	e(PKP)	04 08 59	
	Gb	ePKP	04 09 11	
	Ka	iPKP	04 09 01	
	Kermadec Islands region			
	(h = 30 km).			
" 1	Up	eP	04 51 39	
		i	04 55 51	
		iPP	04 56 07	
		iPS	05 05 30	
		i	05 06 30	
			microns sec	
	PP	E	0.5 5	
	PP	N	0.5 5	
	PP	Z	1.1 5	
	M	E	9.0 23	
	M	N	9.7 20	
	M	Z	11 21	
	(D = 12350 km = 111°).			
Ki	iP		04 51 06	
	i		04 51 25	
	iPP		04 55 26	
	iSKS		05 01 48	
	iPS		05 04 39	
			microns sec	
	P	Z'	0.1 1.3	
	PP	E	1.3 5	
	PP	N	0.5 8	
	PP	Z	2.7 5	

1962

Aug 1	Ki	SKS	E	0.9	7
cont.		M	E	7.3	20
		M	N	5.2	20
		M	Z	18	24
	(D = 11800 km = 106°.)				
	Sk	iP		04 51	40
		iPP		04 56	03
	Um	iP		04 51	17
		i		04 55	22
		ePP		04 55	40
		iSKS		05 01	57
		iPS		05 05	03
	Ka	eP		04 51	41
		iPP		04 56	06
	Near north coast of New Guinea (h = 30 km). Magn. = 6.9 (Up, Ki).				
" 1	Up	iPKP		05 41	01
				microns sec	
		M	E	1.9	20
		M	N	1.5	19
		M	Z	2.6	20
	Kermadec Islands region (h = 30 km).				
" 1	Up	iSg		08 59	11
		iL		08 59	24
	Um	iSg		08 59	50
	Baltic Sea, 60°32'45"N, 21°09'40"E.				
	Underwater explosion of 900 kg dynamite (data from Seismological Laboratory, Helsinki).				
" 1	Up	iP		12 58	30

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 1 Up iP<sub>PKP</sub> 13 07 24  
Um iP<sub>PKP</sub> 13 07 18  
Kermadec Islands region  
(h = 30 km).

" 1 Up iP<sub>n</sub> 13 56 51  
i(S<sub>n</sub>) 13 57 54  
iS<sup>x</sup> 13 58 06  
iSg 13 58 18

microns sec  
Sg Z' 0.5 0.5  
D = 560 km = 5.0°.

Ki e(P<sub>n</sub>) 13 57 49  
iP<sub>g</sub> 13 58 49  
iSg 14 00 46

microns sec  
Sg Z' 0.2 0.7  
D = 1060 km = 9.5°.

Sk eP<sub>n</sub> 13 56 41  
iP<sup>x</sup> 13 56 50  
iSg 13 57 51

D = 470 km = 4.2°.

Gb i(P<sub>n</sub>) 13 56 22  
iP<sup>x</sup> 13 56 32  
iS<sup>x</sup> 13 57 12  
iSg 13 57 18

D = 360 km = 3.2°.

Um i(P<sub>n</sub>) 13 57 23  
i 13 58 52  
iSg 13 59 20

D = 770 km = 6.9°.

Ka iP<sub>n</sub> 13 56 56  
iS<sub>n</sub> 13 58 04  
i(S<sup>x</sup>) 13 58 27  
iSg 13 58 34

D = 610 km = 5.5°.

Southwest Norway, 60°N,  
8°E. Origin time =  
13 55 33.

" 1 Up iSg 14 00 19  
microns sec  
Sg Z' 0.3 0.5  
Ki iSg 14 02 45

microns sec  
Sg Z' 0.1 0.7

Sk iSg 13 59 50  
Gb iS<sup>x</sup> 13 59 11  
iSg 13 59 17  
Um iSg 14 01 20  
Ka iSg 14 00 34

Southwest Norway, 60°N,  
8°E. Origin time =  
13 57 33.

1962  
Aug 1 Up iSg 14 59 14  
Um iSg 14 59 56  
Baltic Sea, 60°32'45"N,  
21°09'40"E.

Underwater explosion of  
600 kg dynamite (data  
from Seismological  
Laboratory, Helsinki).

" 1 Up iP 15 17 30

" 1 Up iP 15 57 01 C  
microns sec

P Z' 0.3 0.7

Ki iP 15 56 40 C

microns sec

P Z' 0.2 0.8

M E 2.2 15

M N 1.2 19

M Z 2.9 15

Sk iP 15 57 10 C

iP<sub>c</sub>P 15 58 14

Um iP 15 56 45 C

i 15 56 50

iP<sub>c</sub>P 15 58 01

Ka iP 15 57 16 C

Kansu Province, China

(h = 25 km).

" 1 Ki iP 16 45 38  
Iraq (h = 30 km).

" 2 Up iP 04 53 48

Ki eP 04 53 40

Sk iP 04 53 26

Um eP 04 53 56

South of Cuba (h = 50 km).

" 2 Up iP<sub>g</sub> 09 15 45

iSg 09 16 10

iL 09 16 21

D = 210 km = 1.9°.

Sk e(S<sub>g</sub>) 09 17 51

Um iSg 09 16 56

Baltic Sea, 60°32'45"N,  
21°09'40"E. Origin time =

09 15 07. Underwater

explosion of 1200 kg

dynamite (data from

Seismological Laboratory,

Helsinki).

" 2 Ki eP 11 41 07

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 2 Ki iP 14 08 11  
iPP 14 09 17  
Caspian Sea.  
" 2 Up iP 15 40 32  
microns sec  
M E 0.3 14  
M N 0.6 14  
Ki iP 15 40 40 C  
eLg1 15 56 04  
microns sec  
P Z' 0.1 1.0  
M E 0.4 9  
M N 0.3 12  
M Z 0.5 10  
Sk iP 15 40 56  
Um iP 15 40 30 C  
West Pakistan (h = 30 km).

" 3 Sk eP 04 18 31  
Western Colombia (h = 80 km).

" 3 Up iP 07 13 01

" 3 Up iP 09 10 23  
iPP 09 13 57  
i 09 14 35  
i 09 14 52  
iSKS 09 20 51  
i 09 21 41  
iS 09 22 14  
isS 09 23 21  
iSP 09 23 56  
iPKKP 09 26 00  
iP'P' 09 34 11  
microns sec  
P Z 0.5 7  
SKS E 2.7 4  
S N 5.3 9  
PKKP Z' 0.1 1.0  
P'P' Z' 0.2 1.5  
M E 9.4 24  
M N 6.6 23  
M Z 19 25

(D = 12000 km = 108°.)  
Ki eP 09 10 39  
esP 09 11 16  
iPKP 09 14 31  
iPP 09 15 17  
ipPP 09 15 49  
iSKS 09 21 04  
iSKKS 09 22 00  
iS 09 22 38  
iSP 09 24 32

1962

Aug 3 Ki iPKKP 09 25 37  
cont. i 09 25 47  
iSS 09 30 35

microns sec

PKP Z' 0.3 1.7  
PP E 0.9 8  
PP Z 1.9 6  
SKS E 4.7 5  
SKS N 1.3 4  
SKS Z 1.5 5  
S N 4.2 8  
M E 8.0 20  
M N 2.4 20  
M Z 12 20

(D = 12450 km = 112°.)

Sk iP 09 10 21  
i 09 13 23  
iPP 09 14 45  
iPKKP 09 25 51  
i 09 26 06  
eP'P' 09 34 14

Gb i 09 13 25  
iPP 09 14 29  
iPKKP 09 26 17  
eP'P' 09 34 18

Um esP 09 11 10  
iPKP 09 14 37  
iPP 09 15 10  
iS 09 22 37  
iSP 09 24 17  
iPKKP 09 25 40  
i 09 25 50  
iSS 09 30 25  
Ka iPKP 09 14 36  
iPKKP 09 26 11

Northern Chile-Argentina  
border (h = 70 km).  
Magn. = 6.8 (Up, Ki).

" 3 Sk iPKP 10 23 34  
Solomon Islands (h = 40 km).

" 3 Up iP 11 11 28 C  
i 11 11 34  
iPP 11 12 58  
eS 11 17 05  
iLi 11 22 37  
iLg2 11 24 40

microns sec

P Z' 0.1 1.0  
M E 3.8 11  
M N 3.6 12  
M Z 5.3 10  
D = 4300 km = 38½°.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 3 Ki iP 11 11 29  
cont. i 11 11 35  
iPP 11 13 07  
eScS 11 21 31  
iLg1 11 24 16  
iLg2 11 24 33  
microns sec  
P Z' 0.2 1.0  
M E 6.7 13  
M N 13 13  
M Z 10 13  
D = 4300 km =  $38\frac{1}{2}^\circ$ .  
Sk iP 11 11 50  
i 11 11 57  
iLi 11 23 45  
iLg1 11 26 01  
Gb iP 11 11 52  
iLg2 11 26 18  
Um iP 11 11 22  
eSS 11 19 55  
iLg1 11 23 48  
iLg2 11 24 06  
Ka iP 11 11 37  
i 11 11 43  
Kirghiz, U.S.S.R.  
(h = 25 km).  
Magn. = 5.8 (Up, Ki).  
" 3 Up iP 11 48 26 D  
Sk i(P) 11 48 15  
" 3 Up i(P) 13 14 37  
" 3 Ki i(P) 17 15 22  
" 3 Up iP 18 10 10  
Ki iP 18 10 18  
microns sec  
P Z' 0.1 1.2  
Sk iP 18 10 35  
Gb iP 18 10 32  
Um iP 18 10 08  
Ka iP 18 10 15  
Hindu Kush (h = 210 km).  
" 3 Ki eP 18 21 18  
" 3 Up e(P) 20 44 19  
Um iP 20 43 53  
" 3 Up eP 22 57 06  
" 3 Up iP 22 57 43  
Ki eP 22 57 37

1962  
Aug 3 Sk eP 22 57 58  
cont. Um iP 22 57 33  
Andaman Islands.  
" 4 Up iP 02 11 09  
" 4 Ki iP 03 02 22 C  
eS 03 12 52  
microns sec  
M E 0.3 18  
D = 9450 km =  $85^\circ$ .  
Sk iP 03 02 15  
Um eP 03 02 30  
i 03 02 41  
Ka iP 03 02 33  
Near coast of Guatemala  
(h = 30 km).  
" 4 Sk iP 07 15 39  
" 5 Up iP 09 13 13 C  
iPP 09 13 28  
eS 09 16 49  
i 09 18 04  
iLi 09 18 32  
iLg2 09 19 23  
microns sec  
S N 0.4 10  
M E 5.2 11  
M N 14 10  
M Z 16 10  
D = 2100 km =  $19^\circ$ .  
Ki iP 09 11 43 C  
iS 09 13 57  
iSS 09 14 13  
eLi 09 14 51  
iLg1 09 15 06  
i 09 15 47  
microns sec  
S Z' 0.3 1.8  
M E 6.5 10  
M N 6.5 11  
M Z 13 10  
D = 1350 km =  $12^\circ$ .  
Sk iP 09 12 53  
iSS 09 16 20  
Gb iP 09 13 53  
Um iP 09 12 22 C  
iSS 09 15 25  
Ka iP 09 13 56  
eLi 09 19 53  
Novaya Zemlya. Atmospheric  
nuclear explosion.



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 5 Ki e(P) 10 21 20  
e 10 24 52  
i 10 25 34

" 5 Ki iPKP 15 27 22  
Sk iPKP 15 27 32  
New Hebrides Islands  
(h = 60 km).

" 5 Up iP 20 23 12

" 6 Up iP 01 44 02  
ePcP 01 45 41  
iS 01 50 54  
iScS 01 53 57

		microns sec	
P	E	0.4	5
P	Z	0.9	6
P	Z'	0.1	1.2
S	E	1.9	12
S	N	2.8	8
S	Z	0.9	8
M	E	2.4	16
M	N	3.6	18
M	Z	3.2	17

D = 5350 km = 48°.

Ki iP 01 44 23  
iPcP 01 45 44  
ePP 01 46 18  
iS 01 51 34

		microns sec	
P	E	0.9	8
P	N	0.3	7
P	Z	1.6	7
P	Z'	0.4	1.4
PP	E	1.3	5
PP	Z	1.1	7
S	E	2.6	11
S	N	2.2	10
M	E	2.7	20
M	N	1.2	14
M	Z	3.5	15

D = 5650 km = 51°.

Sk iP 01 43 50  
Gb iP 01 43 38  
Um iP 01 44 14  
i 01 44 18  
iS 01 51 23  
Ka iP 01 43 50

North Atlantic Ocean  
(h = 50 km).

Magn. = 6.0 (Up, Ki).

1962

Aug 6 Up iPKP 09 00 07  
Ki ePKP 09 00 22  
iSKP 09 03 37  
Sk iPKP 09 00 11  
Um iPKP 09 00 14  
Sandwich Islands  
(h = 50 km).

" 6 Up iPKP 21 11 30 C  
i 21 11 43  
iPP 21 15 01

		microns sec	
PKP	Z'	0.9	1.0
PP	N	0.2	3
M	E	1.0	20
M	N	1.6	20
M	Z	1.9	20

Ki ePKP 21 11 07  
iPKP 21 11 17  
iPKS 21 14 51

microns sec

		microns sec	
PKP	Z'	0.1	1.0

Sk iPKP 21 11 21  
i 21 13 14  
Gb iPKP 21 11 35 C  
i 21 11 46  
Um iPKP 21 11 16 C  
i 21 11 19  
ePP 21 14 23  
Ka iPKP 21 11 36

Kermadec Islands region  
(h = 50 km).

" 7 Um iP 01 02 21

" 7 Up iP 03 13 13  
i 03 13 30  
Ki iP 03 13 16  
Sk iP 03 13 33  
Um iP 03 13 12

Andaman Islands  
(h = 30 km).

" 7 Up iP 05 21 12 D  
Ki iP 05 22 13  
Um iP 05 21 39

Near south coast of  
Turkey (h = 30 km).

" 7 Up iP 05 24 23 D  
Um iP 05 24 09

" 7 Um i(P) 13 59 16

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Aug	8	Ki	iP	11 05 01 C	Aug	9	Up	iSKS i	06 44 22 06 47 30
			P	microns sec Z' 0.2 1.0				Salta Province, Argentina (h = 130 km).	
			Um	iP 11 05 28					
				Fox Islands, Aleutian Islands (h = 40 km).					
"	8	Ki	e(P) i	11 56 39 11 57 10	"	9	Up	iP	10 55 17
							Ki	iP	10 54 46 C
							Sk	iP	10 55 16 C
							Um	iP	10 54 59
								Ryukyu Islands (h = 200 km).	
"	8	Up	iP	17 21 55 C	"	9	Sk	eP	23 35 52
								Ionian Sea.	
"	8	Up	iP	17 28 52	"	10	Up	i(P)	00 57 03
			Ki	iP 17 28 23	"	10	Up	eP eLi	09 04 59 09 10 11
				microns sec Z' 0.1 0.7				microns sec	
			Sk	iP 17 28 48			M	E	0.5 10
				Mariana Islands (h = 390 km).					
"	8	Ki	iP	18 06 23			M	N	1.0 10
			Sk	iP 18 06 56			M	Z	1.4 10
			Um	iP 18 06 41			Ki -		
				Near east coast of Honshu, Japan (h = 50 km).					
"	8	Up	iP	20 53 21				microns sec	
							M	E	0.5 9
"	9	Ki	iPg eSg	01 04 55 01 05 39			M	N	0.5 10
				D = 380 km = 3.4°.			M	Z	1.1 10
			Sk	iPg 01 04 40			Novaya Zemlya. Atmospheric nuclear explosion.		
				iSg 01 05 12	"	10	Up	iP	12 58 10 D
				D = 270 km = 2.4°.			Ki	i(P)	12 58 10
			Um	iSg 01 05 58			Ka	eP	12 57 57
				West coast of Norway, 66.1°N, 12.9°E. Origin time = 01 03 50.					
"	9	Up	i(P)	03 09 37	"	10	Up	iP	21 09 47
							i		21 09 52
"	9	Up	iP	04 34 09			i(S)		21 14 48
				microns sec			microns sec		
			P	Z' 0.1 0.6			(S)	E	0.4 8
			Ki	iP 04 34 13 C			M	E	2.2 19
				microns sec			M	N	2.5 18
			P	Z' 0.3 1.3			M	Z	3.0 19
			Sk	iP 04 33 57			Ki iP 21 10 07		
			Um	iP 04 34 14			i		21 10 16
				Colombia (h = 180 km).					
"	9	Up	i(P)	05 12 41			ePP		21 11 07
							i		21 12 54
							eS		21 14 53
							microns sec		
							P	Z'	0.2 1.0
							PP	E	0.4 8
							S	E	0.4 9
							S	N	0.3 12
							M	E	2.4 18

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 10 Ki M N 0.6 14  
cont M Z 3.1 21  
D = 3350 km = 30°.  
Sk iP 21 09 29  
iPP 21 10 01  
Gb iP 21 09 17  
i 21 09 27  
Um iP 21 10 02  
eS 21 14 54  
North Atlantic Ocean  
(h = 30 km).  
Magn. = 5.4 (Up, Ki).

" 10 Up i(P) 22 31 17

" 10 Up i(P) 22 57 35

" 10 Um iP 23 50 13  
Afghanistan.

" 11 Up iPKP 02 05 46  
iSKP 02 08 32  
microns sec  
SKP Z' 0.1 1.0  
Ki iP 02 05 28  
i 02 05 40  
iSKP 02 08 05  
i 02 08 20  
ePKS 02 09 03

microns sec  
SKP N 0.3 7  
SKP Z 1.6 6  
SKP Z' 0.6 1.4  
PKS E 0.4 7  
PKS N 0.4 6  
Sk iP 02 05 38  
iSKP 02 08 26  
Gb iP 02 05 56  
iSKP 02 08 42  
Um iP 02 05 40 C  
i 02 05 47  
eSKP 02 08 13  
Ka iP 02 05 57  
iSKP 02 08 44  
Fiji Islands (h = 640 km).

" 11 Up i(P) 02 35 03

" 11 Up iP 08 27 16 D  
i 08 27 25  
iPP 08 30 10  
iS 08 36 46  
iSKS 08 37 10  
isSS 08 42 36

1962

Aug 11 Up microns sec  
cont. P E 0.5 3

P N 0.8 4

P Z 1.7 3

P Z' 1.0 1.5

PP Z 0.4 2

S E 0.7 5

S N 6.2 6

SKS E 0.5 3

SKS N 2.8 7

M E 3.2 17

M N 9.9 17

M Z 5.1 16

(D = 8450 km = 76°.)

Ki iP 08 26 51 D

epP 08 27 21

iS 08 35 58

ipS 08 36 38

isS 08 36 58

microns sec

P E 1.0 7

P N 0.2 7

P Z 2.4 7

P Z' 1.8 1.8

S E 2.8 8

S N 8.3 10

M E 8.3 18

M N 3.5 14

M Z 4.3 15

(D = 7900 km = 71°.)

Sk iP 08 27 19 D

ipP 08 27 52

Gb iP 08 27 36 D

i 08 27 46

Um iP 08 27 00 D

ipP 08 27 34

Ka iP 08 27 30

i 08 27 42

Off northeast coast of

Formosa. h = 130 km (Ki,

Sk, Um). Magn.=6.6 (Up,Ki).

" 11 Up iP 18 25 29

Ki iP 18 25 11

Um iP 18 25 18

Banda Sea (h = 170 km).

" 12 Up i(P) 00 13 56

" 12 Ki iP 04 55 45  
Turkey (h = 30 km).

Up = Uppsala, Ki = Kiruan, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 12 Up iP 11 20 39 C  
i 11 20 46  
microns sec  
P Z' 0.1 0.5  
Ki iP 11 20 22  
Sk iP 11 20 51  
" 12 Up iP 11 35 44  
i 11 35 51  
Ki iP 11 35 27  
Sk iP 11 35 56  
" 13 Up i(P) 03 39 48  
" 13 Up -  
microns sec  
M E 2.7 23  
M N 3.2 22  
M Z 4.5 23  
Ki iP 06 49 10 D  
iSKS 06 59 45  
microns sec  
SKS E 1.6 9  
SKS N 0.5 10  
M E 1.9 18  
M N 1.6 24  
M Z 6.3 24  
Off coast of Ecuador  
(h = 30 km).  
" 13 Ki iPg 14 19 57  
iSg 14 20 29  
" 13 Ki iP 14 57 51  
Molucca Passage  
(h = 30 km).  
" 13 Up iP 15 36 43  
" 13 Ki i(P) 16 32 56  
(Greece).  
" 13 Up -  
microns sec  
M E 1.4 15  
M N 2.2 14  
M Z 2.6 14  
Ki iP 20 19 26  
microns sec  
M E 0.7 16  
M N 0.6 16  
M Z 1.2 15  
Baikal, U.S.S.R. (h = 30 km).

1962  
Aug 13 Up iP 20 36 15  
" 14 Up -  
microns sec  
M E 0.7 19  
M N 1.2 20  
M Z 1.2 19  
Ki iPKP 01 30 50  
microns sec  
M E 1.8 20  
M N 0.8 20  
M Z 1.4 20  
North of Macquarie Islands  
(h = 40 km).  
" 14 Ki iP 07 35 57  
microns sec  
P Z' 0.1 1.2  
Ka iP 07 35 17  
Iran (h = 40 km).  
" 15 Up iP 02 57 12 D  
microns sec  
P Z' 0.1 0.6  
Ki iP 02 56 37 D  
Sk iP 02 57 08  
Um iP 02 56 52 D  
Ka eP 02 57 23  
South of Honshu, Japan  
(h = 160 km).  
" 15 Ki iP 03 20 42  
Komandorskie Islands  
(h = 30 km).  
" 15 Up iP 08 29 53  
i 08 29 55  
microns sec  
P Z' 0.1 1.1  
Ki iP 08 29 01 C  
microns sec  
P Z' 0.1 1.3  
M E 0.8 19  
M N 0.2 14  
M Z 0.5 13  
Sk iP 08 29 38  
Gb iP 08 30 11  
Ka iP 08 30 16 C  
Near east coast of  
Kamchatka (h = 50 km).  
" 15 Up iP 10 17 15  
Ki iP 10 16 32 C  
Sk iP 10 17 09

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 15 Um iP 10 16 51 C  
cont. Manchuria, China (h = 40 km).

" 15 Up iP 11 31 41  
i 11 31 53  
Ki eP 11 30 43  
i 11 31 07

Andreanof Islands,  
Aleutian Islands  
(h = 50 km).

" 15 Up iP 13 17 59  
iS 13 25 31  
D = 5900 km = 53°.  
Ki iP 13 18 29  
iS 13 26 38

microns sec

S E 0.3 9  
M E 0.4 16  
M Z 0.4 15

D = 6450 km = 58°.

Sk iP 13 18 30  
Um iP 13 18 11  
eS 13 26 01  
Ka iP 13 17 49

Socotra Island region  
(h = 30 km).

" 15 Ki e(Sg) 13 21 36  
Sk i(Sg) 13 22 22

" 15 Ki e(P) 15 54 10

" 15 Up eP 21 42 54

" 16 Ki e(P) 07 45 05

" 16 Ki iPg 08 30 26  
iSg 08 30 59  
Sk eSg 08 32 13

" 16 Ki iP 08 57 31

" 16 Ki iP 21 02 47

" 16 Ki iP 23 05 09 C

" 17 Ki iP 03 20 14  
Sk iP 03 19 58  
Um iP 03 20 15

Venezuela (h = 15 km).

" 17 Um iPKP 03 42 15  
San Juan Province, Argentina  
(h = 30 km).

1962  
Aug 17 Sk iPKP 04 15 14  
Um iPKP 04 15 09

Santa Cruz Islands  
(h = 20 km).

" 17 Um iP 04 57 16

" 17 Up iP 05 17 18 D  
i 05 17 23  
iS 05 27 58

microns sec

P Z' 0.1 0.7

S E 0.4 5

S N 0.5 5

M E 3.6 16

M N 10 20

M Z 6.9 18

D = 9800 km = 88°.

Ki iP 05 17 03 D

i 05 21 21

iSKS 05 27 15

iS 05 27 28

microns sec

P Z' 0.4 1.0

SKS E 1.8 14

S N 1.2 11

M E 9.2 16

M N 7.7 16

M Z 11 16

D = 9400 km = 84½°.

Sk iP 05 17 24

Gb iP 05 17 38

i 05 20 53

Um iP 05 17 07

eS 05 27 37

Ka iP 05 17 32

i 05 17 36

Panay region, Philippine  
Islands (h = 30 km).

Magn. = 6.3 (Up, Ki).

" 17 Up i(P) 12 31 58

" 17 Um iPKP 16 38 02  
Fiji Islands (h = 530 km).

" 18 Um i(P) 00 30 24

" 18 Ki iSKP 04 22 20  
Gb iPKP 04 20 06 C  
Um iSKP 04 22 31  
Ka iPKP 04 20 07

Fiji Islands region  
(h = 520 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Aug	18	Up	iP	04 34 16	Aug	18	Sk	iP	17 55 36
		Ki	iP	04 35 17	cont.		Gb	iP	17 56 17
		Sk	iP	04 34 56				i	17 56 23
		Gb	iP	04 34 17			Um	iP	17 55 38
		Um	iP	04 34 43			Ka	iP	17 56 29
		Turkey (h = 30 km).						iPcP	17 57 09
"	18	Ki	iP	09 23 52			Central Alaska (h = 30 km).		
		Panay region, Philippine Islands (h = 40 km).					Magn. = 6.0 (Up, Ki).		
"	18	Up	iP	16 53 43 C	"	19	Ki	iSn	06 01 24
			i	16 53 51				iSg	06 01 45
				microns sec			Sk	eSg	06 04 11
		M	E	0.6 15			Um	eSg	06 02 39
		M	N	0.9 17			Northwest Russia, 67.4°N,		
		M	Z	1.0 16			32.3°E. Origin time =		
		Ki	iP	16 52 47 C			05 59 16. Explosion?		
				microns sec	"	19	Ki	iP	06 26 05
		P	N	0.2 6	"	19	Ki	iPn	07 04 18
		P	Z	0.4 6				iSn	07 05 17
		P	Z'	0.2 1.4				iSg	07 05 37
		M	E	0.7 17				D = 510 km = 4.6°.	
		M	N	0.6 18			Sk	eSg	07 08 00
		M	Z	0.9 19			Um	iSn	07 05 55
		Sk	iP	16 53 15				iSg	07 06 28
		Gb	iP	16 53 56				D = 680 km = 6.1°.	
			i	16 54 04			Northwest Russia, 67.4°N,		
		Um	iP	16 53 16 C			32.3°E. Origin time =		
		Ka	iP	16 54 08			07 03 07. Explosion?		
			i	16 54 15	"	19	Up	eL	11 55
		Central-Alaska (h = 30 km).							microns sec
		Magn. = 6.0 (Ki).					M	E	0.7 15
"	18	Up	iP	17 56 05			M	N	1.0 16
			iS	18 04 00			M	Z	1.2 15
				microns sec			Ki	eL	11 55
		P	N	0.2 2					microns sec
		P	Z'	0.3 1.0			M	E	0.6 14
		M	E	0.8 17			M	N	0.3 13
		M	N	0.9 17			M	Z	1.0 14
		M	Z	1.1 17					
		D = 6450 km = 58°.			"	19	Up	iP	18 34 14 D
		Ki	iP	17 55 08				i	18 34 24
			iS	18 02 10				iS	18 40 15
				microns sec				i	18 40 37
		P	N	0.2 6				iSS	18 43 01
		P	Z	0.4 6				i	18 47 05
		P	Z'	0.3 1.0				iLg <sup>1</sup>	18 47 47
		S	E	0.3 7					microns sec
		S	N	0.3 11			P	Z'	0.2 0.7
		M	E	1.2 16			S	E	0.8 4
		M	N	1.2 19			S	N	0.9 5
		M	Z	2.5 19					
		D = 5550 km = 50°.							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 19 Up S Z 1.1 7  
cont. M E 12 10  
M N 32 4  
M Z 25 10  
D = 4450 km = 40°.  
Ki iP 18 34 01  
i 18 34 12  
i 18 35 23  
iS 18 39 55  
iSS 18 42 34  
iLg1 18 46 55  
microns sec  
P Z' 0.5 0.7  
S E 1.9 10  
S N 0.8 7  
S Z 1.5 10  
M E 29 10  
M N 33 7  
M Z 31 10  
D = 4350 km = 39°.  
Sk iP 18 34 31 D  
i 18 34 42  
Gb iP 18 34 41  
i 18 34 52  
iPP 18 36 30  
iLg1 18 49 45  
Um iP 18 34 01  
i 18 34 12  
i 18 35 26  
iPP 18 35 44  
iS 18 39 53  
iSS 18 42 33  
iLg1 18 46 49  
D = 4350 km = 39°.  
Ka iP 18 34 28  
i 18 34 39  
iLg1 18 48 30

Northwest Sinkiang Province,  
China (h = 30 km).  
Magn. = 6.2 (Up, Ki).

" 19 Up iP 21 52 04 C  
Sk iP 21 52 17

" 19 Ki ePKP 23 31 27  
Um iP 23 31 25  
Near coast of northern  
Chile (h = 50 km).

" 20 Up iSn 06 38 50  
i 06 39 18  
iSg 06 39 22  
microns sec  
Sg Z' 0.1 0.5  
D = 680 km = 6.1°.

1962  
Aug 20 Ki iPg 06 37 07  
cont. iSn 06 37 41  
iSg 06 37 52  
microns sec  
Sg Z' 0.3 0.8  
D = 380 km = 3-4°.  
Sk iPg 06 36 47  
iSg 06 37 17  
D = 260 km = 2.3°.  
Gb iSg 06 40 22  
Um iP<sup>x</sup> 06 37 02  
iPg 06 37 10  
iSn 06 37 42  
iSg 06 37 55  
D = 380 km = 3.4°.  
Central Norway, 65.7°N,  
13.7°E. Origin time =  
06 36 02.

" 20 Up iP 09 06 38 C  
iS 09 10 15  
eLg1 09 12 31  
i 09 12 50  
iLg2 09 13 05

microns sec  
M E 1.6 11  
M N 4.3 10  
M Z 5.0 10  
D = 2100 km = 19°.

Ki iP 09 05 07  
iS 09 07 21  
i 09 07 26  
iSS 09 07 40  
iSSS 09 07 55  
eLg1 09 08 18  
eRg 09 09 36

microns sec  
M E 1.9 9  
M N 2.1 10  
M Z 2.3 9  
D = 1350 km = 12°.

Sk iP 09 06 18 C  
eS 09 09 27  
iSS 09 09 46  
D = 1900 km = 17°.

Gb iP 09 07 18  
e(SSS) 09 12 18  
Um iP 09 05 48  
i 09 05 56  
iS 09 08 23  
D = 1600 km = 14½°.

Ka eP 09 07 20  
Novaya Zemlya. Atmospheric  
nuclear explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962					
Aug 20	Up	-			Aug 21	Up	S	Z	2.6 14	
			microns	sec	cont.		M	E	5.6 11	
	M	N	0.8	16			M	N	13 10	
	M	Z	0.7	9			M	Z	10 10	
	Ki	iP	10	55 11			D = 2050 km = $18\frac{1}{2}^{\circ}$ .			
			microns	sec		Ki	iP		18 14 44	
	M	E	0.5	15			iPP		18 15 32	
	M	N	0.2	14			eS		18 19 16	
	Gulf of California						i		18 19 32	
	(h = 15 km).						iLg2		18 23 43	
"	20	Gb	iPKP	11 41 01			microns sec			
		Ka	iPKP	11 41 04 D			P	Z'	0.4 1.2	
	Tonga Islands region						S	E	1.0 10	
	(h = 610 km).						S	N	0.7 10	
"	20	Sk	iP	13 27 32 C			M	E	15 12	
	Off coast of Chiapas,						M	N	7.4 10	
	Mexico (h = 30 km).						M	Z	12 10	
"	20	Ki	iPKP	23 37 30			D = 2950 km = $26\frac{1}{2}^{\circ}$ .			
		i	23 37 33			Sk	iP		18 14 03	
	Sk	iPKP	23 37 41			Gb	iP		18 13 05	
		i	23 37 45			Um	iP		18 14 07	
	Gb	iPKP	23 37 54				eS		18 18 13	
	Um	iPKP	23 37 36				e		18 23 51	
		i	23 37 40			Ka	iP		18 12 39	
	Ka	iPKS	23 41 32			Italy (h = 40 km).				
	New Hebrides Islands					"	21	Up	iP	18 23 48
	(h = 50 km).							i	18 25 21	
"	21	Up	iPKP	16 29 44				i	18 26 53	
		i	16 29 57				iS		18 27 19	
	Sk	iPKP	16 29 37				iPcP		18 28 32	
	Gb	ePKP	16 29 59				iLg2		18 29 34	
	Ka	iPKP	16 29 55				iL(3.26)		18 30 02	
	Kermadec Islands region						microns sec			
	(h = 60 km).						P	N	1.3 3	
"	21	Up	iP	17 40 02			P	Z'	0.5 0.9	
	Sk	iP	17 39 34				S	E	5.6 6	
	Gb	iP	17 40 17				S	N	5.8 5	
	Ka	iP	17 40 28				S	Z	11 10	
	Central Alaska (h = 40 km).						M	E	32 11	
"	21	Up	iP	18 13 21			M	N	53 10	
		iS	18 16 50				M	Z	63 11	
		iL(3.26)	18 19 36				D = 2050 km = $18\frac{1}{2}^{\circ}$ .			
		i	18 21 23			Ki	iP		18 25 09	
			microns	sec			i		18 25 10	
	P	N	0.6	2			i		18 30 02	
	P	Z'	0.5	1.2			microns sec			
	S	E	1.0	8			P	Z	2.4 9	
	S	N	2.1	15			P	Z'	0.6 1.0	
							M	E	72 12	
							M	N	43 12	
							M	Z	77 12	
						Sk	iP		18 24 28	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 21 Gb iP 18 23 29  
cont. i 18 23 34  
iS 18 26 45  
Um iP 18 24 33  
iS 18 28 36  
i 18 28 45  
Ka iP 18 23 06  
i 18 23 10  
i 18 23 17  
Italy (h = 30 km). Magn.  
= 6.1 (Up, Ki).

" 21 Up eP 18 49 13  
i 18 49 20  
Ki iP 18 50 35  
i 18 50 40  
microns sec  
P Z' 0.2 1.2  
Sk iP 18 49 55  
Um iP 18 49 59  
Ka iP 18 48 30  
Italy (h = 30 km).

" 21 Up iPKP 21 25 35  
microns sec  
PKP Z 0.7 14  
Ki ePKP 21 25 27  
ePP 21 28 21  
Sk iPKP 21 25 28 D  
Gb iPKP 21 26 06  
Um iPKP 21 25 28  
Ka iPKP 21 25 52  
Kermadec Islands region  
(h = 60 km).

" 21 Up iPP 21 31 41  
ePKS 21 32 43  
eSS 21 49 34  
microns sec  
PKS E 0.3 7  
M E 3.2 21  
M N 3.8 23  
M Z 3.9 20  
Ki iPKP 21 29 04  
iPP 21 31 32  
ePKS 21 32 39  
microns sec  
PP Z 0.5 7  
PKS E 0.9 7  
PKS N 0.5 8  
M E 8.9 22  
M N 4.0 19  
M Z 14 20

1962

Aug 21 Um ePKS 21 32 48  
cont. Ka iPKP 21 29 10  
Easter Island region  
(h = 30 km).  
Magn. = 6.3 (Up, Ki).

" 21 Up iPKP 22 24 19  
Sk iPKP 22 24 11  
Kermadec Islands region  
(h = 60 km).

" 22 Up iP 04 44 53  
i(pP) 04 45 12  
iS 04 55 10  
microns sec  
M N 0.9 18  
D = 9200 km = 83°.  
Ki iP 04 44 24  
iS 04 54 10  
microns sec  
S E 0.4 7  
S N 0.3 8  
M E 0.2 16  
M N 0.2 16  
M Z 1.0 17  
D = 8600 km = 77½°.  
Sk iP 04 44 51  
Um iP 04 44 36  
i(pP) 04 44 54  
Volcano Islands region.  
h = 70 km (Up, Um).

" 22 Up iPKP 05 49 01  
Sk iPKP 05 48 54  
Kermadec Islands region  
(h = 60 km).

" 22 Up iP 09 04 32 C  
eS 09 08 08  
iLg1 09 10 17  
microns sec  
M E 1.3 10  
M N 3.5 10  
M Z 3.9 10  
D = 2100 km = 19°.  
Ki iP 09 03 00  
i 09 03 15  
iS 09 05 18  
iSS 09 05 33  
iSSS 09 05 47  
eLi 09 06 09  
eLg1 09 06 24

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 22 Ki microns sec  
cont. M E 1.4 9  
M N 1.5 10  
M Z 2.8 10  
D = 1350 km = 12°.  
Sk iP 09 04 11  
eS 09 07 29  
iLi 09 08 43  
Um i(PP) 09 03 49  
eS 09 06 21  
eLi 09 07 20  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 23 Ka iP 10 39 25  
i(Sg) 10 39 39

" 23 Up iPg 10 41 58  
iSg 10 42 24  
D = 220 km = 2.0°.  
Baltic. Origin time =  
10 41 18. Explosion.

" 23 Up iPg 10 42 07  
iSg 10 42 34  
D = 220 km = 2.0°.  
Baltic. Origin time =  
10 41 27. Explosion.

" 23 Up iSg 10 58 14  
Baltic. Explosion.

" 23 Up iPg 11 08 48  
iSg 11 09 13  
D = 210 km = 1.9°.  
Baltic. Origin time=  
11 08 10. Explosion.

" 23 Sk iP 12 55 45  
Central Alaska.

" 23 Up iP 15 41 38 D  
i 15 41 42  
Ki -  
microns sec  
M E 0.5 12  
M N 0.1 13  
M Z 0.5 12  
Sk iP 15 41 44  
Um iP 15 41 23  
Near south coast of  
Formosa (h = 15 km).

1962  
Aug 23 Up iP 16 28 53  
" 23 Up iP 19 40 49  
i 19 40 58  
iS 19 50 17  
microns sec  
P Z' 0.1 0.7  
S E 0.2 5  
S N 0.3 6  
M E 1.1 20  
M N 2.1 21  
M Z 1.6 20  
D = 8200 km = 74°.  
Ki iP 19 40 05  
iS 19 49 05  
microns sec  
S E 0.6 7  
S N 0.3 7  
M E 1.8 20  
M N 1.0 19  
M Z 2.4 20  
D = 7450 km = 67°.  
Sk iP 19 40 23  
i 19 40 31  
Um iP 19 40 31 C  
i 19 40 40  
eS 19 49 45  
Del Norte County, California  
(h = 30 km).  
Magn. = 5.7 (Up, Ki).

" 23 Up iPKP 21 11 40  
Um iPKP 21 11 48  
Sandwich Islands  
(h = 30 km).

" 24 Up iP 01 48 57 D

" 24 Up iP 01 56 10  
Um iP 01 55 45  
Off east coast of  
Kamchatka (h = 30 km).

" 24 Sk iPKP 07 05 31  
iSKP 07 08 19  
Um iPKP 07 05 23  
SKP 07 08 15  
Ka iPKP 07 05 53  
Fiji Islands region  
(h = 530 km).

" 24 Up iPKS 09 27 10

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 24 Up  
cont.                    microns sec  
          PKS        Z    0.5    5  
          M        E    0.8    20  
          M        N    1.4    22  
          M        Z    1.8    22  
          Ki eSS            09 42 22  
                          microns sec  
          M        E    1.8    20  
          M        N    0.9    19  
          M        Z    1.7    20  
          Um iPKP            09 23 32  
          ePKS            09 26 58  
          Samoa Islands region  
          (h = 30 km).

"    24 Ki iP            16 04 55

"    24 Ki e(P)            18 13 13

"    24 Up iP            21 57 42  
          Sk iP            21 57 30  
          Gb eP            21 57 56

"    25 Up iP            00 40 00  
          Ki iP            00 39 15  
          Kurile Islands (h = 80 km).

"    25 Sk iP            01 03 10  
          Red Sea.

"    25 Ki iP            02 20 55 D  
          Off southeast coast of  
          Alaska (h = 30 km).

"    25 Up eL            05 52  
                          microns sec  
          M        E    0.6    13  
          M        N    0.7    14  
          M        Z    1.2    15  
          Ki eL            05 50  
                          microns sec  
          M        E    0.4    15  
          M        N    0.3    16  
          M        Z    0.5    14

"    25 Up iP            07 23 31  
          Sk iP            07 24 12  
          Greece.

"    25 Up iPKP            08 50 03  
          i            08 50 17  
          i(SKP)            08 52 41  
          iSKP            08 52 54  
          iPKS            08 53 47

1962  
Aug 25 Up epPKS        08 55 56  
cont.                    iSKKS        08 59 01  
                          microns sec  
          PKP        Z'    0.2    0.5  
          SKP        Z    0.6    3  
          SKP        Z'    0.5    1.0  
          (D = 15550 km = 140°.)  
          Ki iPKP            08 49 45  
          i            08 49 58  
          i(SKP)            08 52 20  
          iSKP            08 52 30  
          iPKS            08 53 18  
          epPKS            08 55 32  
          isPKS            08 56 34  
          i            08 58 21  
          eSKSP            09 01 27  
                          microns sec  
          PKP        Z'    0.2    1.0  
          SKP        N    0.3    10  
          SKP        Z'    1.2    1.7  
          PKS        E    0.6    8  
          (D = 14650 km = 132°.)  
          Sk iPKP            08 49 54  
          i            08 50 08  
          iSKP            08 52 47  
          Gb iPKP            08 50 16  
          i            08 50 24  
          iSKP            08 53 05  
          Um ePKP            08 49 50  
          i            08 49 57  
          iSKP            08 52 42  
          epPKS            08 55 40  
          Ka iPKP            08 50 20  
          iSKP            08 53 08  
          Fiji Islands (h = 560 km).

"    25 Up iS            09 09 36  
                          microns sec  
          M        E    1.1    10  
          M        N    3.0    10  
          M        Z    3.7    10  
          Ki iS            09 07 01  
          iSS            09 07 14  
          iSSS            09 07 29  
                          microns sec  
          M        E    1.5    9  
          M        N    1.4    10  
          M        Z    2.8    10  
          Novaya Zemlya. Atmospheric  
          nuclear explosion.

"    25 Up iP            20 04 13 D  
          Ki iP            20 05 21

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 25 Ki microns sec  
cont. M E 0.6 15  
M N 0.3 12  
Sk eP 20 04 36  
Near coast of Algeria  
(h = 30 km).

" 26 Up iP 01 45 24  
Ryukyu Islands  
(h = 30 km).

" 26 Up iP 07 00 36  
iS 07 10 09  
eSS 07 14 51  
microns sec  
M E 3.7 18  
M N 4.7 18  
M Z 2.7 17  
D = 8350 km = 75°.  
Ki eP 06 59 58  
i 07 00 02  
eS 07 09 02  
i 07 12 58  
microns sec  
P Z' 0.1 1.2  
S E 0.3 7  
S N 0.3 10  
M E 9.2 19  
M N 12 19  
M Z 5.3 16  
D = 7650 km = 69°.  
Sk iP 07 00 31  
Near east coast of Honshu,  
Japan (h = 40 km).  
Magn. = 5.9 (Up, Ki).

" 26 Up i(P) 07 36 01

" 26 Up iP 16 36 16 C  
Ki iP 16 37 23  
Sk iP 16 36 37  
Near coast of Algeria  
(h = 15 km).

" 26 Ki iP 22 46 12  
microns sec  
M E 0.5 16  
M N 0.7 17  
Sk eP 22 46 45  
Near east coast of Honshu,  
Japan (h = 50 km).

1962  
Aug 26 Ki eP 23 44 38  
microns sec  
M E 0.8 19  
M N 0.5 17  
M Z 1.2 19  
New Guinea (h = 50 km).

" 27 Up iP 02 29 35 D  
i 02 29 44  
i 02 30 01  
iPP 02 32 01  
microns sec  
P Z' 0.1 0.5  
Ki iP 02 28 55 D  
iPP 02 31 14  
microns sec  
P Z' 0.2 0.9  
Sk iP 02 29 29 D  
iPP 02 30 33  
iPP 02 31 52  
Gb iP 02 30 00  
Ka iP 02 29 58  
Sea of Japan. h = 270 km (Sk).

" 27 Up iP 09 05 15 C  
eS 09 08 45  
microns sec  
M E 1.8 10  
M N 4.9 10  
M Z 5.6 10  
D = 2100 km = 19°.  
Ki iP 09 03 42 C  
i 09 04 16  
iS 09 05 55  
iSS 09 06 17  
iSSS 09 06 30  
iLg1 09 06 52  
microns sec  
P Z' 0.1 1.7  
M E 2.3 9  
M N 2.3 10  
M Z 4.8 10  
D = 1300 km = 11½°.  
Sk iP 09 04 53  
iPP 09 05 08  
eS 09 08 12  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 27 Ki i(P) 14 34 10

" 27 Up eL 16 00

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 27 Up microns sec  
cont. M E 1.2 16  
M N 1.0 16  
M Z 1.6 17  
Ki eL 15 57  
microns sec  
M E 0.5 15  
M N 0.4 14  
M Z 1.0 15  
Ryukyu Islands (h = 30 km).

" 27 Up iP 16 31 27 C  
i 16 31 40  
microns sec  
P Z' 0.1 0.7  
M E 1.8 16  
M N 1.8 18  
M Z 2.3 18  
Ki iP 16 30 46 C  
microns sec  
P Z' 0.2 1.0  
M E 1.8 18  
M N 0.6 17  
M Z 2.5 17  
Sk iP 16 31 20 C  
iPP 16 33 50  
Gb eP 16 31 44  
Off east coast of Honshu,  
Japan (h = 40 km).  
Magn. = 5.8 (Up, Ki).

" 27 Up iP 19 20 10  
i 19 20 25  
microns sec  
P Z' 0.1 0.5  
Ki iP 19 20 19 C  
microns sec  
P Z' 0.1 0.6  
Sk iP 19 20 35  
Gb iP 19 20 34  
Ka iP 19 20 18  
Hindu Kush (h = 210 km).

" 27 Sk iP KP 22 32 05  
Santa Cruz Islands  
(h = 220 km).

" 28 Ki eP 00 40 29  
microns sec  
M E 0.5 15  
M N 0.4 13  
Near east coast of Honshu,  
Japan (h = 30 km).

1962

Aug 28 Ki iP 08 22 47  
i(Sg) 08 23 11  
" 28 Up iP 08 24 54  
microns sec  
M E 1.0 18  
M N 1.4 17  
Ki iP 08 24 16  
microns sec  
M E 2.6 19  
M N 2.6 19  
M Z 1.3 16  
Sk eP 08 24 45  
i 08 24 49  
Near east coast of Honshu,  
Japan (h = 40 km).

" 28 Up iP 11 04 45 D  
ipP 11 05 09  
iPP 11 05 23  
iS 11 08 38  
microns sec  
P N 7.7 2  
P Z 5.6 2  
P Z' 0.9 0.5  
PP E 1.4 1  
S E 1.6 3  
S N 35 5  
S Z 110 6  
M E 21 9  
M N 27 9  
M Z 27 10  
D = 2450 km = 22°.  
Ki iP 11 05 57 C  
isP 11 06 33  
iPP 11 06 51  
i 11 10 02  
i(S) 11 10 40  
iS 11 10 47  
microns sec  
P N 1.1 8  
P Z 1.8 8  
P Z' 0.8 0.8  
PP E 0.9 10  
PP Z' 2.5 1.5  
S E 13 7  
S N 41 9  
S Z 16 7  
M E 27 10  
M N 14 11  
M Z 24 10  
D = 3350 km = 30°.  
Sk iP 11 05 26 C  
iS 11 09 51

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
 Aug 28 Gb iP 11 04 34 C  
 cont. i 11 07 33  
 iS 11 08 10  
 Ka iP 11 04 09 C  
 iS 11 07 37  
 Greece (h = 120 km).  
 Magn. = 6.8 (Up, Ki).  
 " 28 Up i(Sg) 14 31 00  
 Sk e(Sg) 14 32 55  
 Ka i(Sg) 14 31 13  
 Baltic.  
 " 28 Up iP 22 57 35 C  
 iS 23 06 54  
 D = 8150 km =  $73\frac{1}{2}^\circ$ .  
 Ki iP 22 57 53  
 microns sec  
 P Z' 0.1 1.5  
 M E 0.5 17  
 M N 0.2 16  
 M Z 0.6 19  
 Sk eP 22 57 53  
 Northwest of Chagos Islands  
 region (h = 30 km).  
 " 29 Ki iP 09 23 51  
 i 09 23 58  
 microns sec  
 P Z' 0.1 1.3  
 Sk iP 09 23 53  
 Northwest of Chagos Islands  
 region (h = 30 km).  
 " 29 Ki eL 18 14  
 microns sec  
 M E 0.8 19  
 M N 0.9 19  
 M Z 0.6 18  
 Near east coast of Honshu,  
 Japan (h = 30 km).  
 " 29 Up -  
 microns sec  
 M E 0.8 18  
 M N 0.9 18  
 Ki eP 20 31 20  
 microns sec  
 M E 1.6 19  
 M N 1.4 19  
 M Z 1.0 17  
 Sk iP 20 31 51  
 Near east coast of Honshu,  
 Japan (h = 30 km).

1962  
 Aug 29 Up i(P) 21 45 28  
 i 21 45 52  
 " 29 Up i(P) 21 53 56  
 " 29 Up iP 22 48 32  
 i 22 48 38  
 eS 22 57 58  
 microns sec  
 M E 2.5 19  
 M N 5.1 17  
 M Z 1.9 20  
 D = 8300 km =  $74\frac{1}{2}^\circ$ .  
 Ki iP 22 47 55  
 i 22 48 07  
 eS 22 56 57  
 microns sec  
 P Z' 0.1 0.8  
 S N 0.2 7  
 M E 9.9 19  
 M N 7.2 19  
 M Z 6.1 18  
 D = 7600 km =  $68\frac{1}{2}^\circ$ .  
 Sk iP 22 48 27  
 Gb iP 22 49 00  
 Near east coast of Honshu,  
 Japan (h = 30 km).  
 Magn. = 5.9 (Up, Ki).  
 " 30 Up i(P) 03 22 30  
 " 30 Ki iP 06 44 54  
 " 30 Up iP 07 49 58 D  
 i 07 50 11  
 microns sec  
 P Z' 0.1 0.5  
 Ki iP 07 51 19  
 iS 07 55 44  
 Sk iP 07 50 50  
 i(S) 07 55 01  
 Ka iP 07 49 24  
 Romania (h = 100 km).  
 " 30 Up iP 10 08 49 D  
 microns sec  
 P Z' 0.1 0.5  
 " 30 Ki iP 12 15 58  
 Italy (h = 30 km).  
 " 30 Up iP 12 55 10 C  
 microns sec  
 P Z' 0.2 0.6

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 30 Up iP 13 46 41 D  
i 13 46 46  
microns sec  
P Z' 0.1 0.7  
M E 1.1 19  
M N 1.7 21  
M Z 1.9 20  
Ki iP 13 46 05  
eS 13 54 47  
microns sec  
P N 0.2 7  
P Z 0.4 7  
S E 0.3 9  
S N 0.2 8  
M E 1.6 15  
M N 1.2 17  
M Z 2.5 17  
D = 7200 km = 65°.  
Sk iP 13 46 13  
Gb iP 13 46 30  
Ka iP 13 46 53  
Utah-Idaho border. U.S.A.  
(h = 40 km).  
Magn. = 5.7 (Up, Ki).

" 30 Up i(PKP) 17 37 26  
iPKS 17 41 16  
microns sec  
PKS N 0.4 4  
M N 0.9 18  
Ki iPKP 17 37 04  
ePKS 17 40 29  
eSS 17 57 03  
microns sec  
PKS E 0.2 7  
PKS N 0.3 8  
M E 0.8 17  
M N 0.3 16  
M Z 1.5 17  
Sk i(PKP) 17 37 05  
Ka iPKP 17 37 23  
Tonga Islands (h = 30 km).

" 31 Up i(P) 06 43 44  
Sk i(P) 06 43 40

" 31 Up eL 11 38  
microns sec  
M N 0.9 18  
M Z 0.9 18  
Ki eL 11 30  
microns sec  
M E 0.7 20  
M N 0.7 19

1962

Aug 31 Ki M Z 1.2 19  
cont. Fiji Islands region  
(h = 60 km).

" 31 Up iP 16 36 35  
microns sec  
P Z' 0.1 1.2  
Ki iP 16 35 41 C  
i 16 35 53  
microns sec  
P Z' 0.3 1.2  
M E 0.6 16  
M N 0.4 16  
M Z 0.9 14  
Sk iP 16 36 18  
Gb iP 16 36 55  
Ka iP 16 36 59  
Near east coast of  
Kamchatka (h = 60 km).

" 31 Up iP 17 13 42 C  
i 17 13 54  
iPcP 17 14 14  
ePa 17 17 44  
eS 17 22 38  
iP'P' 17 41 53  
microns sec  
P N 1.1 2  
P Z 1.5 1  
P Z' 0.4 0.6  
S E 0.4 5  
S N 0.9 11  
M E 7.7 21  
M N 8.6 21  
M Z 10 20  
D = 7550 km = 68°.

Ki iP 17 12 49 C  
eS 17 21 03  
eP'P' 17 42 10  
i 17 42 18  
microns sec  
P N 0.6 10  
P Z 1.2 11  
P Z' 1.2 1.5  
S E 1.0 10  
S N 0.9 12  
M E 9.0 19  
M N 5.7 18  
M Z 17 19  
D = 6650 km = 60°.  
Sk iP 17 13 23 C  
iP'P' 17 42 00  
Gb iP 17 13 58 C  
i 17 14 42



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 31 Ka iP 17 14 04 C  
cont. i 17 14 38

Rat Islands, Aleutian  
Islands (h = 25 km).  
Magn. = 6.3 (Up, Ki).

" 31 Up iP 18 07 07 C  
i 18 07 11  
i 18 07 22

microns sec  
P Z' 0.2 0.5

Ki iP 18 06 14 C  
microns sec  
P Z' 0.1 0.8

Sk iP 18 06 46  
Gb iP 18 07 21 C  
Ka iP 18 07 28 C

Rat Islands, Aleutian  
Islands (h = 40 km).

" 31 Up iP 21 34 12  
Ki iP 21 33 19

Rat Islands, Aleutian  
Islands (h = 30 km).

Markus Båth  
December 31, 1962



P R E L I M I N A R Y  
S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, G Ö T E B O R G,  
U M E Å and K A R L S K R O N A

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

NOTE. After an interruption from August 25 to September 9, 1962, a new seismograph vault was inaugurated at Umeå. The new vault is located about 170 meters from the old one (coordinates for the new vault are given above).

S E P T E M B E R 1 - 30, 1962  
.....

1962	Sept	1	Ki	eL	01 06	
					microns sec	
			M	E	0.3 17	
			M	N	0.3 15	
			M	Z	0.4 15	
			Gulf of Aden.			
"		1	Up	iP	03 57 05 C	
				i(pP)	03 57 21	
				i	03 57 41	
				iPa	04 01 09	
				iS	04 06 01	
					microns sec	
			P	N	0.5 1	
			P	Z	0.8 1	
			P	Z'	0.5 0.5	
			S	E	0.2 4	
			S	N	1.0 10	
			M	E	5.7 20	
			M	N	6.0 21	
			M	Z	7.3 19	
			D = 7500 km = 67½°.			
			Ki	iP	03 56 12 C	
				eS	04 04 16	
					microns sec	
			P	N	0.3 5	
			P	Z	0.6 6	
			P	Z'	0.4 1.2	

1962	Sept	1	Ki	S	E	1.0 10
			cont.	S	N	0.8 9
				M	E	6.0 16
				M	N	5.8 17
				M	Z	13 18
			D = 6600 km = 59½°.			
			Sk	iP		03 56 45 C
			Gb	iP		03 57 21 C
				i(pP)		03 57 41
			Ka	iP		03 57 27 C
			Rat Islands, Aleutian Islands (h = 25 km).			
			Magn. = 6.3 (Up, Ki). At Ki, S is 6 sec later on N than on E, given above.			
"		1	Up	iP		04 09 21 C
				i(pP)		04 09 37
						microns sec
			P	Z'	0.2 0.5	
			Ki	iP		04 08 30
						microns sec
			P	Z'	0.1 0.9	
			Sk	iP		04 09 02
			Gb	eP		04 09 36
			Ka	iP		04 09 42
			Rat Islands, Aleutian Islands (h = 30 km).			



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962								1962						
Sept	1	Ki	ePg	11 41 47				Sept	1	Ki	iP	15 09 56	C	
			iSg	11 41 50				cont.			iPP	15 11 52		
		Sk	eSg	11 44 47							eS	15 17 06		
		Probably explosion in the Kiruna area.									eSS	15 20 40		
											microns sec			
"	1	Up	iPg	11 55 10							P	Z'	0.1 1.3	
			i	11 55 38							PP	E	0.3 5	
			iSn	11 56 12							PP	N	0.3 6	
			iSg	11 56 59							PP	Z	0.4 5	
			i	11 57 10							S	E	0.3 5	
											S	N	0.2 5	
			microns sec								M	E	5.6 15	
		Sg	Z'	0.2 0.6							M	N	2.5 14	
		D = 930 km = 8.4°.									M	Z	8.6 14	
		Ki	iPg	11 54 06							D = 5550 km = 50°.			
			iS <sup>X</sup>	11 55 03						Sk	iP	15 10 03	C	
			iSg	11 55 14							i	15 10 09		
			microns sec							Gb	iP	15 09 46	C	
		Sg	Z'	0.1 0.7							i	15 09 54		
		D = 580 km = 5.2°.									iPP	15 11 43		
		Sk	iPg	11 53 47	D					Ka	iP	15 09 28		
			iS <sup>X</sup>	11 54 25							iPP	15 11 18		
			iSg	11 54 40						Near coast of West Pakistan (h = 50 km).				
			D = 460 km = 4.1°.							Magn. = 5.9 (Up, Ki).				
		Gb	eSn	11 56 37						"	1	Up	i(P)	16 55 08
			iS <sup>X</sup>	11 57 18						"	1	Up	iP	19 27 05
			iSg	11 57 39									iS	19 32 12
			i	11 57 56									i	19 32 26
			D = 1070 km = 9.6°.										microns sec	
		Ka	e(Pn)	11 55 26								P	E	8.9 10
			i	11 55 35								P	N	5.4 6
			eSn	11 57 18								P	Z	6.5 6
		Norwegian Sea, 67.1°N, 7.0°E. Origin time = 11 52 23.										P	Z'	0.4 0.6
												S	N	2.7 4
												M	E	230 18
"	1	Up	iP	13 22 21								M	N	250 17
												M	Z	330 18
												D = 3500 km = 31½°.		
"	1	Up	iP	15 09 34	C					Ki	iP	19 27 44	C	
			i	15 09 40							iPP	19 29 07		
			iPP	15 11 25							iS	19 33 13		
			iS	15 16 25							microns sec			
			microns sec								P	E	12 7	
		P	Z'	0.2 1.0							P	N	8.9 7	
		PP	E	0.3 3							P	Z	26 9	
		S	E	0.4 4							P	Z'	2.4 1.0	
		S	N	0.2 4							PP	Z	14 6	
		S	Z	0.3 3							S	E	17 11	
		M	E	2.1 16							S	N	27 11	
		M	N	1.9 16							S	Z	26 7	
		M	Z	1.7 18							D = 5200 km = 47°.			









Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Sept	8	Ki	iP	13 14 51	Sept	10	Up	iPKP	16 02 08
		Sk	eP	13 14 28				i	16 02 33
				Leeward Islands region				iSKP	16 04 54
				(h = 30 km).				microns sec	
"	9	Ki	iP	01 47 07 C				PKP	Z' 0.4 0.5
				microns sec				SKP	Z' 0.2 0.7
			P	Z' 0.1 1.1		Ki	i(PKP)	16 01 49	
				Near coast of Panay,			iPKP	16 02 01	
				Philippine Islands			iSKP	16 04 30	
				(h = 60 km).			iPKS	16 05 28	
							microns sec		
"	9	Up	iP	19 22 24			PKP	Z' 0.7 0.6	
		Ki	iP	19 21 27			SKP	N 0.5 5	
		Sk	iP	19 21 55			SKP	Z 2.3 5	
		Gb	iP	19 22 37			SKP	Z' 2.0 1.4	
		Um	iP	19 21 56			PKS	E 1.0 9	
		Ka	iP	19 22 49			PKS	N 1.0 7	
				Alaska (h = 60 km).		Sk	i(PKP)	16 02 01	
							iPKP	16 02 11	
"	10	Sk	eP	02 47 06			iSKP	16 04 47	
						Gb	iPKP	16 02 18	
"	10	Up	iP	09 41 53			iSKP	16 05 03	
			i	09 41 58		Ka	iPKP	16 02 20	
			iS	09 46 21			iSKP	16 05 03	
			i	09 46 39			Fiji Islands (h = 640 km):		
				microns sec			Remarkable multiple PKP at		
			P	N 0.3 4			Ki and Sk:		
			P	Z' 0.3 0.5	"	10	Up	iP	16 38 25
			S	N 0.3 3			Ki	iP	16 37 50 C
			M	E 3.1 18			Sk	iP	16 38 13
			M	N 4.8 17	"	10	Ki	eP	17 20 32
			M	Z 6.7 19			Rat Islands, Aleutian		
			D = 2900 km = 26°.				Islands (h = 60 km):		
		Ki	iP	09 43 00	"	10	Sk	iP	22 57 13 C
			e	09 48 37			Sikang Province, China		
			e	09 51 14			(h = 30 km).		
			eLg1	09 53 14					
				microns sec	"	11	Up	iP	00 23 20
			P	Z' 0.4 1.0			microns sec		
			M	E 5.5 14			P	Z' 0.1 1.0	
			M	N 3.6 13			M	N 2.4 23	
			M	Z 6.1 13		Ki	iP	00 23 52	
		Sk	iP	09 42 32 C			microns sec		
		Gb	iP	09 41 45			M	E 0.8 14	
		Ka	iP	09 41 21			M	N 0.7 13	
				Dodecanese Islands			M	Z 1.7 14	
				(h = 30 km).		Gh	iP	00 23 23	
				Magn. = 5.6 (Up, Ki):		Um	iP	00 23 31	
						Ka	iP	00 22 56	
								Eastern Turkey (h = 30 km).	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962				
Sept	11	Up	iP	07 54 41	Sept	12	Up	microns sec
			i	07 54 47	cont.		P	E 0.5 1
				microns sec			P	Z 1.5 2
			P	Z' 0.1 0.5			P	Z' 0.5 0.5
		Ki	iP	07 54 25			PP	E 1.9 3
		Sk	iP	07 54 54			PP	N 0.6 2
"	11	Ki	eP	11 22 06			PP	Z 3.2 4
				microns sec			S	E 2.3 5
			M	E 0.7 18			S	Z 3.7 7
			M	N 0.4 16			M	E 25 15
			M	Z 1.1 18			M	N 41 17
		Iran.					M	Z 55 19
							D = 4450 km = 40°.	
"	11	Up	iP	18 03 37		Ki	iP	21 04 44
			i	18 03 49			iPP	21 06 18
		Ki	iP	18 03 02			iS	21 10 56
		Um	iP	18 03 14			iSS	21 13 41
		Bonin Islands region (h = 30 km).						microns sec
"	11	Ki	iP	19 28 24			P	E 1.5 4
"	11	Ki	eL	22 36			P	N 0.3 4
				microns sec			P	Z 1.6 4
			M	E 0.3 15			P	Z' 1.8 1.5
			M	N 0.2 14			PP	E 3.6 9
			M	Z 1.0 14			PP	N 1.1 8
		Formosa (h = 30 km).					PP	Z 4.1 9
"	12	Up	iP	05 01 32			PP	Z' 1.7 1.5
		Ki	iP	05 02 18			S	E 5.5 10
		Sk	iP	05 01 45			S	N 1.5 8
		Um	iP	05 01 51			S	Z 3.5 8
			i	05 01 59			M	E 19 9
		Ascension Island region (h = 30 km).					M	N 21 9
"	12	Up	iPg	11 09 47			M	Z 16 10
			iSg	11 09 49			D = 4600 km = 41½°.	
				microns sec		Sk	iP	21 05 00
			Sg	Z' 0.1 0.5			iPP	21 06 38
		Explosion?				Gb	iP	21 04 52
"	12	Up	i(P)	19 01 07			iFP	21 06 29
			i	19 01 44		Um	iP	21 04 33
"	12	Up	iP	21 04 33 D			iPP	21 06 02
			iPP	21 06 00			iS	21 10 34
			iS	21 10 35		Ka	iP	21 04 35
			i	21 12 44		Hindu Kush (h = 50 km). Magn. = 6.7 (Up, Ki).		
"	13	Up	iP	00 10 05				microns sec
							P	Z' 0.1 0.7
		Ki	iP	00 10 49				
		Sk	iP	00 10 18				
		Um	iP	00 10 21				
			i	00 10 30				
		Ka	iP	00 09 39				
		Ascension Island region (h = 30 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Sept	13	Ki	i(Sg) 07 44 23	Sept	15	Up	iP 08 06 38 C
"	13	Ki	iP 08 17 55 Kurile Islands (h = 30 km).				iS 08 10 18 i 08 11 29 iLg1 08 12 40 iLg2 08 12 57
"	13	Sk	eP 12 54 03 Hindu Kush.				microns sec M E 1.6 10 M N 5.7 10 M Z 5.6 10
"	13	Ki	iP 14 46 44 microns sec P Z' 0.1 1.3 Sk iP 14 46 22 North of Trinidad (h = 70 km).				D = 2100 km = 19°. Ki iP 08 05 07 iPP 08 05 18 iS 08 07 23 iSS 08 07 39 eSSS 08 07 53 iLi 08 08 25
"	13	Up	iP 19 35 33				microns sec M E 2.3 9 M N 2.0 10 M Z 4.9 10
"	14	Up	- microns sec M E 1.0 17 M N 0.6 16 Ki eP 00 39 13 microns sec M E 0.9 13 Sk eP 00 39 05 Western Turkey (h = 70 km).				D = 1350 km = 12°. Sk iP 08 06 17 iPP 08 06 35 Um eS 08 08 37 eLi 08 09 26 eLg2 08 10 27 Novaya Zemlya. Atmospheric nuclear explosion.
"	14	Up	iP 14 30 21 i 14 30 29 microns sec P Z' 0.1 0.7 Ki eP 14 30 21	"	15	Gb	iP 10 30 26
"	14	Up	iPKP 17 42 01 D microns sec PKP Z' 0.1 0.9 Gb iPKP 17 42 09 Ka iPKP 17 42 11 South of Fiji Islands (h = 450 km).	"	15	Up	iP 23 01 38 C i(pP) 23 01 54 iS 23 10 28 eP'P' 23 29 50 microns sec P E 0.3 2 P N 1.2 2 P Z 1.7 2 P Z' 2.2 1.7 S E 4.1 9 S N 5.9 10 S Z 2.8 10 M E 7.9 19 M N 20 19 M Z 22 19
"	14	Up	iPKP 18 36 30 i 18 36 39 Ki ePKP 18 36 23 Sk ePKP 18 36 25 Gb iPKP 18 36 35 Um i(PKP) 18 36 15 Fiji Islands (h = 350 km).				D = 7450 km = 67°. Ki iP 23 00 49 i 23 00 54 i(pP) 23 01 03 iS 23 08 56
"	15	Ki	iP 01 06 53 Mariana Islands (h = 50 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 15 Ki  
cont.

P	Z	2.7	6
P	Z'	1.1	1.5
S	E	5.6	8
S	N	3.2	8
S	Z	5.4	10
M	E	13	17
M	N	9.8	18
M	Z	24	18
D = 6650 km = 60°.			
Sk	iP	23 01	24
Gb	iP	23 01	59
	i(pP)	23 02	14
Um	iP	23 01	11 C
	i(pP)	23 01	26
	iPF	23 03	39
	eS	23 09	35
	eP'P'	23 30	08
Ka	iP	23 02	02
Kurile Islands (h = 30 km).			
Magn. = 6.7 (Up, Ki).			

" 16 Up iP 03 18 10  
Ki iP 03 17 54  
Sk iP 03 17 52  
Um iP 03 18 04  
Jalisco, Mexico (h = 100 km).

" 16 Up iP 05 48 14  
Kern County, California  
(h = 10 km).

" 16 Up iP 08 54 20  
i 08 54 37  
i 08 55 45  
Ka i(P) 08 53 47  
i 08 54 22  
Local?

" 16 Up iP 11 03 35 C  
eS 11 07 13  
iLg2 11 09 51

microns sec			
M	E	1.8	11
M	N	6.1	10
M	Z	6.1	11
D = 2100 km = 19°.			

Ki iP 11 02 04 C  
iPP 11 02 15  
iS 11 04 22  
iSS 11 04 37  
iSSS 11 04 52  
iLi 11 05 22

1962  
Sept 16 Ki  
cont.

M	E	2.6	9
M	N	2.7	11
M	Z	6.3	10
D = 1350 km = 12°.			
Sk	iP	11 03	15
	iPP	11 03	33
Um	eLi	11 06	34
Novaya Zemlya. Atmospheric nuclear explosion.			

" 16 Up iP 13 10 24  
Rat Islands, Aleutian  
Islands (h = 30 km).

" 16 Up iP 19 17 33

microns sec			
M	E	0.5	18
M	N	2.6	21
M	Z	1.8	19

Ki iP 19 17 31

microns sec			
P	Z'	0.1	1.2
M	E	1.0	16
M	N	2.3	19
M	Z	2.2	18

Sk eP 19 17 48  
Um iP 19 17 28  
Near coast of Burma  
(h = 30 km).

" 16 Ki iP 22 56 44  
Near east coast of Formosa  
(h = 30 km).

" 17 Ki iP 01 18 40  
Alaska (h = 60 km).

" 17 Up iPg 15 33 50  
iSg 15 34 06  
iL 15 34 14  
D = 130 km = 1.2°.

Sk	iL	15 36	33
----	----	-------	----

Probably explosion in the  
Baltic.

" 17 Up iPg 15 34 53  
iSg 15 35 09  
iL 15 35 16  
D = 130 km = 1.2°.

Probably explosion in the  
Baltic.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Sept	Day	Station	Time	Sept	Day	Station	Time
1962	17	Up	iPg 15 35 31 C	1962	18	Up	iS 00 52 37
			iSg 15 35 46				cont.
			iL 15 35 54			P	E 0.4 4
			D = 130 km = 1.2°			P	Z 0.8 3
		Sk	eL 15 38 05			P	Z' 1.0 2.0
		Probably explosion in the Baltic.				PP	E 0.6 6
						PP	Z 0.6 5
						PP	Z' 0.7 2.0
"	17	Up	iPg 15 40 31			S	E 2.6 8
			iSg 15 40 48			S	N 5.5 7
			iL 15 40 54			M	E 11 21
			D = 130 km = 1.2°			M	N 17 24
		Sk	eL 15 43 05			M	Z 32 23
		Probably explosion in the Baltic.				D = 9850 km = 88 $\frac{1}{2}$ °.	
					Ki	iP	00 41 53
						i	00 42 40
"	17	Ki	iP 15 55 08			eS	00 52 33
		Alaska (h = 50 km).				microns sec	
"	17	Up	iP 16 43 07			P	E 0.9 6
		Ki	iP 16 42 44			P	Z 2.3 6
		Off east coast of Formosa (h = 30 km).				P	Z' 1.4 1.8
						S	E 7.9 10
						S	N 8.4 8
"	17	Up	iPKP 18 13 56			M	E 38 25
			iSKP 18 17 05			M	N 18 22
			microns sec			M	Z 48 23
		PKP	Z' 0.1 0.5			D = 9800 km = 88°.	
		SKP	Z' 0.1 1.0		Sk	iP	00 41 39
		Ki	ePKP 18 13 36		Um	iP	00 41 57
			i 18 13 50			eS	00 51 42
			ipPKP 18 16 19			i	00 52 44
		Sk	iPKP 18 13 49		Ka	iP	00 41 57
			i 18 13 59		South of Panama (h = 30 km).		
			ipPKP 18 16 36		Magn. = 6.8 (Up, Ki).		
		Um	iPKP 18 13 44	"	18	Ki	eP 05 26 25
			ipPKP 18 16 24			South of Panama (h = 40 km).	
		Ka	iPKP 18 14 06	"	18	Up	iP 05 30 37
			ipPKP 18 16 37			i	05 30 46
		Fiji Islands (h = 600 km).				Ki	eP 05 30 49
"	17	Up	iP 19 49 05			Sk	iP 05 31 04
		Ki	iP 19 50 25			Um	iP 05 30 37
		Sk	iP 19 49 51			Ka	eP 05 30 40
		Um	iP 19 49 47			Hindu Kush.	
		Ka	iP 19 48 24	"	18	Up	iP 06 24 08
		Southern Yugoslavia (h = 30 km).				i	06 24 20
"	18	Up	iP 00 41 55			Ki	iP 06 23 43
			i 00 42 01			i	06 24 04
			iPP 00 45 30			Sk	eP 06 24 04
						Um	iP 06 23 49
						eS	06 34 55
						Molucca Passage (h = 30 km).	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962							
Sept	18	Up	iP	08 33 31	Sept	19	Up	iP	01 33 31		
			iS	08 37 14			Ki	eP	01 32 38		
			iLg2	08 39 54				i	01 32 54		
				microns sec			Sk	iP	01 33 11		
		M	E	1.0 11			Um	iP	01 33 06		
		M	N	3.3 10			Andreanof Islands, Aleutian Islands (h = 30 km).				
		M	Z	3.4 10							
		D = 2150 km = $19\frac{1}{2}^{\circ}$ .									
		Ki	iP	08 32 05 C		"	19	Ki	iP	01 55 03	
			iPP	08 32 16				Sk	eP	01 54 51	
			iS	08 34 19				Um	iP	01 55 08	
			iSS	08 34 37			South of Panama (h = 30 km).				
			iSSS	08 34 52							
			eLi	08 35 17			"	19	Up	iP	05 17 28 D
			eLg1	08 35 31					i	05 17 57	
			e	08 36 31					ipP	05 19 10	
				microns sec						microns sec	
		M	E	1.4 10					P	Z' 0.1 0.5	
		M	N	1.3 10			Ki	iP	05 16 42 D		
		M	Z	2.2 10						microns sec	
		D = 1400 km = $12\frac{1}{2}^{\circ}$ .							P	Z' 0.1 1.0	
		Sk	iP	08 33 16 C			Sk	eP	05 17 17		
			iPP	08 33 33			Um	iP	05 17 03 D		
		Novaya Zemlya. Atmospheric nuclear explosion.						ipP	05 18 43		
							Ka	iP	05 17 49		
"	18	Up	iP	12 29 58			Near east coast of Sakhalin Island. h = 495 km (Up, Um).				
		Ka	iP	12 30 08							
		Northern Burma (h = 80 km).					"	19	Up	iP	07 35 48
"	18	Up	iSKP	20 34 23				Ki	iP	07 36 27	
		Ki	ipKP	20 30 46						microns sec	
		Um	iSKP	20 34 12				M	E	0.5 16	
		New Hebrides Islands (h = 80 km).						M	N	0.4 13	
								M	Z	0.5 13	
"	18	Ki	eL	22 47			Sk	iP	07 36 23		
				microns sec			Um	iP	07 36 03		
		M	E	0.5 19			Western Iran (h = 70 km).				
		M	N	0.8 20			"	19	Ki	iP	08 01 29
		M	Z	1.7 20				Um	iP	08 01 38	
		Fiji Islands (h = 530 km).						Mariana Islands region (h = 60 km).			
"	18	Up	iP	23 29 35			"	19	Up	iP	11 05 25 C
		Sk	iP	23 29 28					iS	11 09 01	
		Um	iP	23 29 23					i	11 09 38	
"	19	Up	iP	00 17 00					iLi	11 10 42	
		Ki	iP	00 16 20					iLg1	11 11 22	
		Sk	eP	00 16 54					iLg2	11 11 36	
		Um	iP	00 16 36						microns sec	
		Sea of Japan (h = 440 km).						P	N	0.3 5	
								P	Z	0.3 5	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 19 Up S N 0.6 13  
cont. M E 3.4 11  
M N 9.9 10  
M Z 11 10  
D = 2150 km =  $19\frac{1}{2}^{\circ}$ .  
Ki iP 11 03 54 C  
iS 11 06 08  
iSS 11 06 27  
iSJS 11 06 41  
iLg1 11 07 13  
iRg 11 08 28  
microns sec  
P E 0.2 11  
P N 0.1 13  
P Z 0.5 13  
P Z' 0.1 1.4  
S Z 1.0 14  
S Z' 0.1 1.5  
M E 4.5 9  
M N 5.3 11  
M Z 10.0 11  
D = 1350 km =  $12^{\circ}$ .  
Sk iP 11 05 04 C  
i 11 05 08  
iPP 11 05 20  
iS 11 08 16  
iSS 11 08 32  
i 11 09 10  
iLi 11 09 29  
iLg1 11 10 18  
D = 1950 km =  $17\frac{1}{2}^{\circ}$ .  
Um iP 11 04 33 C  
iS 11 07 21  
iSS 11 07 48  
Novaya Zemlya. Atmospheric  
nuclear explosion.  
" 19 Ki i(Pn) 16 16 18  
iP<sup>X</sup> 16 16 27  
iSn 16 17 06  
iSg 16 17 22  
D = 380 km =  $3.4^{\circ}$ .  
Sk iSg 16 20 06  
Um iSn 16 18 18  
iSg 16 18 55  
D = 700 km =  $6.3^{\circ}$ .  
Border region between  
U.S.S.R. and Finland,  
 $69^{\circ}$ N,  $29^{\circ}$ E. Origin time =  
16 15 28.

1962  
Sept 19 Ki eP 16 24 23  
eT 16 29 39  
i 16 30 15  
Sk iP 16 24 54  
iS 16 26 36  
D = 980 km =  $8.8^{\circ}$ .  
Um iP 16 25 13  
East of Jan Mayen,  $72^{\circ}$ N,  
 $6^{\circ}$ E. Origin time =  
16 22 42. Solution obtained  
by combination with  
Finnish data.  
" 20 Up iP 17 05 23  
Um iP 17 05 08  
" 20 Ki i(P) 18 15 45  
" 21 Up i(P) 01 42 21  
" 21 Ki iP 02 35 37  
Near east coast of  
Kamchatka (h = 150 km).  
" 21 Up iP 08 05 40 C  
iS 08 09 18  
i 08 10 34  
microns sec  
M E 1.4 11  
M N 4.1 11  
M Z 3.7 10  
D = 2150 km =  $19\frac{1}{2}^{\circ}$ .  
Ki iP 08 04 07  
iS 08 06 23  
iSS 08 06 41  
iLg1 08 07 35  
microns sec  
M E 1.5 9  
M N 1.4 10  
M Z 3.2 10  
D = 1350 km =  $12^{\circ}$ .  
Sk iP 08 05 21 C  
Um i 08 08 03  
Novaya Zemlya. Origin  
time = 08 01 13.  
Atmospheric nuclear  
explosion.  
" 21 Ki iPKP 09 02 14  
Gb iPKP 09 02 31  
Ka iPKP 09 02 35  
Tonga Islands region  
(h = 620 km).







Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962						1962				
Sept	26	Ki	ePKP	13 04 06		Sept	27	Sk	iP	08 07 26
cont.		Sk	ePKP	13 04 19		cont.			iS	08 10 51
		Gb	iPKP	13 04 34					i	08 11 31
		Um	iPKP	13 04 14					iLi	08 12 02
		Ka	iPKP	13 04 36			Um	i(PP)		08 07 16
		Kermadec Islands region						iS		08 09 49
		(h = 30 km).						iLi		08 10 44
"	26	Up	iP	13 08 16			Ka	iP		08 08 18
		Sk	eP	13 08 55			Novaya Zemlya. Atmospheric nuclear explosion.			
"	26	Up	iP	13 37 11		"	27	Up	iP	09 29 24 C
		Ki	iP	13 36 42				Ki	iP	09 28 29
		Sk	iP	13 37 08				Sk	iP	09 29 15
		Mariana Islands region						Um	iP	09 29 00
		(h = 200 km).						Hokkaido, Japan (h = 50 km).		
"	26	Up	iP	21 37 36		"	27	Sk	eP	09 47 42
"	26	Sk	e(P)	21 53 22		"	27	Up	iSg	12 33 37
"	27	Ki	iP	00 30 40				Ki	i(Sn)	12 31 23
			i	00 31 20					i(Sg)	12 31 39
			i	00 31 41			Sk	iPn		12 30 25
			e(T)	00 33 45				iSn		12 31 05
			i	00 34 17				iSg		12 31 19
		Um	i(P)	00 33 11				D = 360 km = 3.2°.		
"	27	Up	iP	08 07 45 C			Um	i		12 31 51
			iS	08 11 23				iSg		12 32 07
			i	08 11 59			Off west coast of Norway, 66.8°N, 11.7°E. Origin time = 12 29 33.			
			i	08 12 28		"	27	Up	iP	13 09 14
			eLi	08 13 05				Southern Sumatra (h = 140 km).		
			iLg1	08 13 40		"	27	Up	iP	13 20 05
			iL(3.22)	08 14 30				i		13 20 17
			microns sec					microns sec		
		M	E	3.8 10				P	Z'	0.1 0.7
		M	N	11 10			Ki	iP		13 19 44
		M	Z	13 11				i		13 19 56
		D = 2150 km = 19½°.					Sk	iP		13 20 21
Ki		eP		08 06 11			Um	iP		13 19 51
		iPP		08 06 24				i		13 20 03
		iS		08 08 29			Near northern coast of Luzon (h = 30 km).			
		iSS		08 08 44		"	27	Up	iP	15 00 29 C
		iLi		08 09 08		"	28	Up	iP	05 44 55
		iLg1		08 09 33				Um	iP	05 44 29
		i		08 10 24			Alaska (h = 90 km).			
		microns sec								
		S	Z	0.1 1.1						
		M	E	6.4 12						
		M	N	6.5 12						
		M	Z	11 11						
		D = 1350 km = 12°.								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 28 Up iP 14 06 00  
" 28 Up iPn 17 23 19  
iP<sup>x</sup> 17 23 28  
i 17 23 51  
iSn 17 24 13  
iS<sup>x</sup> 17 24 28  
Ki iPn 17 22 53 D  
i 17 23 19  
iS<sup>x</sup> 17 23 37  
iSg 17 23 43  
microns sec  
Sg Z' 0.4 0.5  
Sk iPg 17 23 07 C  
i 17 23 33  
iSn 17 23 45  
iSg 17 23 58  
Gb e 17 26 08  
iSg 17 26 14  
Um iPg 17 22 15 C  
iSg 17 22 25  
D = 80 km = 0.7°.  
Ka eFn 17 24 08  
eSn 17 25 37  
iSg 17 26 30  
North Sweden, 64.5°N,  
20.5°E. (macroseismic  
epicenter). Origin time=  
17 22 01. The agreement  
between macroseismic and  
microseismic observations  
is not quite satisfactory.

" 28 Up iP 19 08 43  
ipP 19 09 09  
iSKS 19 18 55  
iS 19 19 15  
microns sec  
P Z' 0.1 0.8  
Ki iP 19 08 46  
ipP 19 09 11  
iSKS 19 19 04  
iS 19 19 14  
i 19 19 46  
microns sec  
P Z' 0.4 1.5  
SKS E 0.7 5  
S N 0.9 7  
Sk iP 19 08 30  
Gb iP 19 08 28  
Um iP 19 08 48 C  
eS 19 19 17

1962  
Sept 28 Um e 19 20 15  
cont. Ka iP 19 08 39  
ipP 19 09 05  
Western Colombia. h = 100 km  
(Up, Ki, Ka).  
Magn. = 6.1 (Up, Ki).  
" 29 Up iP 06 25 51 C  
microns sec  
P Z' 0.1 0.5  
Ki eP 06 27 06  
Sk iP 06 26 34  
i 06 26 44  
Um iP 06 26 32  
i 06 26 40  
Ka iP 06 25 18  
Greece-Albania border  
region (h = 30 km).  
" 29 Up iP 07 01 40  
Ki iP 07 02 10  
Sk iP 07 02 12  
Um eP 07 01 51  
Southern Iran (h = 50 km).  
" 29 Up iP 15 31 16  
iPKP 15 35 13  
i 15 35 44  
e 15 44 53  
iPKKP 15 46 35  
e 15 47 48  
i 15 48 41  
(D = 12350 km = 111°).  
Ki iPKP 15 35 19  
iPP 15 36 14  
iSKS 15 41 13  
iSP 15 45 10  
ipS 15 46 02  
iPKKP 15 46 11  
e 15 46 44  
microns sec  
PKP Z' 0.1 0.9  
PP E 0.7 5  
PP Z 0.8 6  
PP Z' 0.2 1.5  
SKS E 0.7 5  
(D = 12650 km = 114°).  
Sk iP 15 31 14  
ePKP 15 35 13  
i 15 36 26  
ePKKP 15 46 25



Up = Uppsala, Ki = Kiruna, Sk = Skalsstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
 Sept 29 Um iPKP 15 35 16  
 cont. ePP 15 36 00  
 eSKS 15 41 06  
 i 15 44 41  
 iSP 15 45 05  
 i 15 48 28  
 Ka iPKP 15 35 12  
 Santiago Del Estero  
 Province, Argentina  
 (h = 580 km).  
 Magn. = 6.4 (Ki).

" 29 Up eP 19 31 04  
 Um iP 19 30 12

" 29 Um iPKP 21 01 12  
 New Hebrides Islands  
 (h = 200 km).

" 30 Up eSg 05 07 23  
 Ki iPn 05 03 09  
 iSn 05 04 08  
 iSg 05 04 29  
 D = 510 km = 4.6°.  
 Sk eSg 05 06 55  
 Um eSn 05 04 46  
 iSg 05 05 23  
 D = 690 km = 6.2°.  
 Northwest Russia, 67.5°N,  
 32.4°E. Origin time =  
 05 01 57.

" 30 Up iP 06 12 34  
 Ki iP 06 12 39  
 Um iP 06 12 29  
 Tadzhik, U.S.S.R.  
 (h = 30 km).

" 30 Up iP 06 57 17 D  
 Ki iP 06 56 51  
 Um iP 06 57 03  
 Mariana Islands (h = 90 km).

" 30 Um iPKP 11 06 44  
 New Britain region  
 (h = 30 km).

" 30 Up iP 14 37 15 C  
 Um iP 14 36 57

1962  
 Sept 30 Up iP 22 09 33 C  
 microns sec  
 P Z' 0.1 1.0  
 Ki iP 22 09 12  
 microns sec  
 P Z' 0.1 1.0  
 M E 1.1 17  
 M N 0.9 17  
 Sk eP 22 09 39  
 Um iP 22 09 19 C  
 iS 22 19 08  
 Ka iP 22 09 47  
 Near north coast of Luzon,  
 Philippine Islands (h = 50 km).

Markus Båth  
January 24, 1963



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962						1962						
Oct	1	Ki	M	N	2.9	14	Oct	3	Ki	i(P)	18 52 30	
cont.			M	Z	5.3	13	"	3	Up	iPKP	19 07 46 D	
					D = 4950 km = $44\frac{1}{2}^{\circ}$ .				Ki	iPKP	19 08 10	
		Gb	iP		12 21	50 C			Sandwich Islands (h = 30 km).			
			i		12 21	54						
			iPP		12 23	31						
		Um	iP		12 21	51 C						
			i		12 21	54						
			iPP		12 23	29						
			eS		12 28	06						
			eSS		12 31	04						
			D = 4650 km = $42^{\circ}$ .									
		Ka	iP		12 21	30 C						
		Southern Iran (h = 15 km).										
		Magn. = 6.5 (Up, Ki).										
"	1	Up	iP		13 00	39	"	4	Ki	iP	04 55 07	
			i		13 00	43	"	4	Up	iP	07 29 32	
		Ki	iP		12 59	49			Ki	iP	07 30 25	
		Um	iP		13 00	13			Um	iP	07 29 52	
		Off south coast of Kamchatka (h = 80 km).							Ka	iP	07 29 08	
"	1	Gb	iPKP		21 01	50			i		07 29 35	
		Fiji Islands region (h = 140 km).						"	4	Gb	iPKP	09 56 21
"	2	Ki	e(Sg)		04 58	48			Fiji Islands region (h = 60 km).			
"	2	Ki	e(Sg)		06 11	04	"	4	Um	i(P)	12 28 56	
"	2	Gb	i(P)		16 40	40	"	4	Ki	iP	13 30 50	
		Ka	iP		16 40	07			Gb	iP	13 29 52	
"	3	Ki	iP		01 24	07			Um	iP	13 30 39	
		Azores region (h = 30 km).							Ka	iP	13 30 06	
"	3	Up	iP		01 26	15	"	4	Up	iPg	14 01 16 C	
					microns sec				iSg		14 02 01	
		M	E	1.0	17				i		14 02 12	
		M	N	0.6	15				i		14 02 23	
		M	Z	1.4	18				D = 380 km = $3.4^{\circ}$ .			
		Ki	iP		01 26	42			Ki	eSg	14 04 55	
					microns sec				Sk	e	14 03 32	
		M	E	1.5	20				iSg		14 03 59	
		M	Z	1.7	18				Um	e(Sn)	14 02 28	
		Sk	iP		01 26	02			iSg		14 02 49	
		Um	iP		01 26	31			Ka	iSg	14 03 20	
		Ka	iP		01 26	05 D			Coast of Esthonia, $59.5^{\circ}$ N, $24.3^{\circ}$ E. Origin time = 14 00 09. Probably explosion.			
"	3	Sk	iP		07 27	16						
			i		07 27	23						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962						
Oct	4	Up	iSg	15 49 05	Oct	5	Um	eP	08 46 36	
			i	15 49 14					Azores region (h = 30 km).	
			i	15 49 23						
		Sk	eSg	15 51 05	"	5	Um	iP	10 35 29 D	
		Um	i	15 49 33					Near east coast of Honshu, Japan (h = 200 km).	
			iSg	15 49 52						
		Ka	iSg	15 50 24						
		Coast of Esthonia, 59.5°N, 24.3°E. Origin time = 14 47 13. Probably explosion.			"	5	Um	iP	10 52 10	
									Mariana Islands (h = 130 km).	
"	4	Gb	iP	17 31 43 C	"	5	Up	iPg	14 12 53	
								iSg	14 12 55	
									Probably local explosion.	
"	4	Um	iP	18 58 13	"	5	Up	iP	17 11 49	
							Ki	iP	17 11 15	
"	4	Up	iP	19 51 01			Sk	iP	17 11 23	
			i	19 51 06			Gb	iP	17 11 49	
			iS	19 54 58			Um	iP	17 11 34 C	
				microns sec			Ka	iP	17 11 57	
		S	E	0.4 3				iPP	17 14 54	
		S	N	1.0 5					Nevada. Underground nuclear explosion.	
		M	E	1.8 10	"	5	Up	iP	20 09 28	
		M	N	2.4 10				iPP	20 10 41	
		M	Z	2.7 11			Ki	iP	20 09 53	
		D = 2450 km = 22°.						iPP	20 11 13	
		Ki	eP	19 52 13			Sk	eP	20 10 01	
			i	19 52 20				i	20 10 02	
				microns sec			Gb	iP	20 09 47	
		M	E	2.1 14			Um	iP	20 09 41	
		M	N	2.0 14				iPP	20 11 03	
		M	Z	2.8 14			Ka	iP	20 09 27	
		Sk	iP	19 51 42				iPP	20 10 38	
			i	19 51 48					Northeastern Iran.	
		Gb	iP	19 50 49	"	5	Up	iP	21 05 01 D	
			i	19 50 54						
		Um	iP	19 51 39	"	5	Up	iP	22 25 22	
			eS	19 56 03			Ka	iP	22 25 28	
			ePcS	19 58 52					Hindu Kush (h = 200 km).	
		Ka	iP	19 50 32	"	6	Up	iP	03 23 55	
			i	19 50 39					microns sec	
		Greece (h = 40 km).						M	E	1.4 15
"	4	Gb	iP	23 00 05				M	Z	1.1 14
		Ka	iP	23 00 22 D			Ki	iP	03 24 24	
		Central Colombia (h = 70 km).					Sk	iP	03 23 48	
"	4	Um	eP	23 17 17			Gb	iP	03 23 27	
							Um	iP	03 24 14	
"	5	Up	iP	04 21 30				i	03 24 20	
		Ki	iP	04 22 06				eS	03 30 03	
		Um	iP	04 21 49			Ka	iP	03 23 41 C	
		Azores region (h = 30 km).								Azores region (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962								1962												
Oct	6	Up	iP	04 01 47				Oct	6	Um	iP	07 12 51								
		Ki	iP	04 02 18				"	6	Up	iP	08 10 21								
		Gb	iP	04 01 21				"	6	Um	iPKP	08 15 26								
		Um	iP	04 02 07								New Hebrides Islands								
		Ka	iP	04 01 36 C								(h = 30 km).								
		Azores region (h = 30 km).																		
"	6	Up	iPKP	04 42 37 C				"	6	Up	iPKP	08 22 47								
			i	04 46 01							i	08 26 13								
			i	04 46 04																
			iPKS	04 46 19																
					microns sec															
			PKS	E	0.9	5					M	E	1.0	17						
			PKS	N	3.5	7					M	N	2.0	20						
			M	E	3.6	21					M	Z	1.2	19						
			M	N	9.0	22				Ki	iPKP		08 22 32							
			M	Z	7.2	22				Sk	ePKP		08 22 46							
					(D = 14800 km = 133°).					Um	iPKP		08 22 37							
		Ki	iPKP	04 42 22 C							i		08 22 51							
					microns sec						Ka	iPKP	08 22 55							
			M	E	7.4	23							New Hebrides Islands							
			M	N	5.4	21							(h = 30 km).							
			M	Z	13	22			"	6	Um	iP	08 43 20							
		Sk	iPKP	04 42 33					"	6	Up	iPKP	11 19 36							
			iPKS	04 46 07								iSKP	11 22 38							
		Gb	ePKP	04 42 52																
			ePKS	04 46 25									microns sec							
		Um	iPKP	04 42 29									PKP	Z'	0.1	0.8				
			ePP	04 44 39							Ki	iPKP		11 19 22						
			i	04 45 44								iPKKP		11 29 24						
		Ka	iPKP	04 42 44																
			iPKS	04 46 17										microns sec						
		New Hebrides Islands												PKP	Z'	0.1	1.0			
		(h = 30 km).												Sk	iPKP		11 19 33			
		Magn. = 6.6 (Up, Ki).												Gb	iPKP		11 19 43			
"	6	Up	iP	05 35 30										iSKP		11 22 52				
"	6	Up	iP	05 50 20										Um	iPKP		11 19 28 C			
					microns sec										ipPKP		11 20 18			
			P	Z'	0.1	0.5									iP'P'		11 38 15			
			M	E	1.7	18									Ka	iPKP		11 19 42		
			M	N	1.8	18										iSKP		11 22 51		
			M	Z	3.7	19									New Hebrides Islands					
		Ki	iP	05 49 51 C											(h = 210 km).					
					microns sec									"	6	Up	i(Sg)	12 03 44		
			M	E	3.0	18										Probably local explosion.				
			M	N	1.7	17								"	6	Um	iPKP	12 18 50		
		Sk	iP	05 50 21												New Hebrides Islands				
		Gb	iP	05 50 39 C												(h = 15 km).				
		Um	iP	05 50 03																
		Ka	iP	05 50 34											"	6	Up	iP	17 46 25	
		Ryukyu Islands (h = 120 km).																Ki	iP	17 45 37
																		Gb	iP	17 46 46
																		Kurile Islands (h = 30 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962									1962										
Oct	6	Up	iPKP	18 20 19					Oct	8	Up	iP	14 30 48						
			i	18 20 39							Ki	iP	14 32 11						
		Ki	iPKP	18 20 05							Sk	iP	14 31 37						
		Um	iPKP	18 20 11							Gb	eP	14 30 42						
		New Hebrides Islands									Um	i(P)	14 31 25 D						
		(h = 30 km).										i	14 31 30						
"	6	Up	iPKP	23 50 38							Ka	iP	14 30 07						
				microns sec							Bulgaria.								
		M	E	0.8 21					"	8	Up	iP	15 15 22						
		M	N	1.1 19							Ki	iP	15 16 45 D						
		M	Z	1.0 20							Sk	iP	15 16 09						
		Ki	iPKP	23 50 24 D							Gb	iP	15 15 20						
				microns sec							Um	iP	15 16 02 D						
		M	E	2.4 21								i	15 16 07						
		M	Z	3.5 21							Ka	iP	15 14 45						
		Sk	iPKP	23 50 35							Bulgaria (h = 30 km).								
		Um	iPKP	23 50 30 D						"	8	Up	iPg	15 46 51					
			i	23 50 41								iSg	15 46 52						
		New Hebrides Islands										Probably local explosion.							
		(h = 40 km).									"	8	Up	iP	22 08 07 D				
"	7	Up	iP	00 10 00								i	22 08 15						
"	7	Ki	iP	06 52 38 C								eS	22 17 48						
		Azores region (h = 30 km).										i	22 18 04						
"	7	Up	iPg	14 00 27									microns sec						
			i	14 00 30								P	E	0.7 5					
			iSg	14 00 43								P	Z'	0.1 0.6					
"	7	Up	iPKP	16 19 10								S	N	1.3 5					
		Sandwich Islands										M	E	19 18					
		(h = 30 km).										M	N	42 18					
"	7	Up	eLR	16 43								M	Z	43 18					
				microns sec								D = 8450 km = 76°.							
		M	N	1.2 10							Ki	iP	22 07 46 D						
		M	Z	1.4 11								iPa	22 12 12						
		Um	e	16 39 44								iS	22 17 04						
		Novaya Zemlya. Atmospheric nuclear explosion.										iPS	22 17 43						
"	7	Up	iPKP	17 06 33									microns sec						
		New Hebrides Islands											P	Z	3.8 5				
		(h = 30 km).											P	Z'	1.3 2.0				
"	8	Up	iP	05 21 10									S	E	2.1 7				
		Um	iP	05 21 28 C									S	N	3.3 7				
		Ka	iP	05 20 54 C									M	E	27 12				
		Azores region (h = 30 km).											M	N	12 13				
													M	Z	33 12				
												D = 8000 km = 72°.							
											Sk	iP	22 08 12						
												i	22 08 31						
											Gb	iP	22 08 27						
												i	22 08 35						





Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962				
Oct	12	Up	iP	09 20 06 D	Oct	13	Ki	microns sec
				microns sec	cont.		P	Z' 0.2 0.5
			P	Z' 0.1 0.5			S	N 1.4 10
		Ki	iP	09 19 36			M	E 2.1 13
		Sk	iP	09 20 07			M	N 2.5 14
		Um	iP	09 19 48 D			M	Z 3.1 11
		Ryukyu Islands (h = 25 km).					D = 4000 km = 36°.	
"	12	Up	iPKP	17 12 23		Sk	iP	10 30 39
		Near coast of northern Chile (h = 25 km).				Gb	iP	10 30 15
"	12	Up	iPKP	19 23 22		Um	iP	10 30 15
		Ka	ePKP	19 23 21			i	10 31 25
			e	19 23 27		Ka	iP	10 29 52
		Kermadec Islands region (h = 130 km).				Northwestern Iran (h = 30 km). Magn. = 5.7 (Up, Ki).		
"	12	Up	iPg	20 38 15	"	13	Ki	iP
			iSg	20 38 17			Local blast.	
				microns sec	"	14	Up	iPKP
			Sg	Z' 0.1 0.5			i	00 50 10
		Probably local explosion.						microns sec
"	12	Up	iPKP	20 58 17 D			PKP	Z' 0.1 0.5
		Kermadec Islands region (h = 150 km).				Ki	iPKP	00 49 22
"	13	Up	i(P)	01 11 25		Sk	iPKP	00 49 40
		Um	iP	01 11 14		Gb	ePKP	00 49 52
"	13	Up	i(P)	04 26 09		Um	iPKP	00 49 33
"	13	Up	iP	08 45 16			i	00 49 39
"	13	Um	iPKP	08 48 07		Kermadec Islands region (h = 30 km).		
		Near north coast of North Island, New Zealand (h = 180 km).			"	14	Up	i(P)
"	13	Up	iP	10 30 02				01 51 41
			i	10 31 14	"	14	Ki	iP
			i	10 31 28			Central Kamchatka (h = 120 km).	
			iS	10 35 14	"	14	Up	i(P)
				microns sec				09 05 08
			P	Z' 0.1 0.6			i	09 05 13
			M	E 1.3 14	"	14	Gb	iP
			M	N 5.6 14			Near south coast of Kyushu, Japan (h = 30 km).	
			M	Z 3.0 16	"	14	Um	iP
		D = 3550 km = 32°.					Arctic Ocean (h = 40 km).	
		Ki	iP	10 30 40	"	15	Gb	iP
			eS	10 36 20			08 27 16	
					"	15	Up	iPKP
							Sk	iPKP
							Um	iPKP
								14 19 44
								14 19 31
								14 19 27
								14 19 45
						Kermadec Islands (h = 90 km).		

▲ Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962					
Oct	15	Up	iPKP	17 49 59	Oct	16	Up	iP	18 13 34 D
			i	17 50 10				iS	18 22 26
		Sk	ePKP	17 49 50					microns sec
			i	17 50 02				P	Z' 0.1 1.0
		Kermadec Islands region						M	E 1.0 21
		(h = 40 km).						M	N 3.0 21
"	15	Um	eP	22 09 17				M	Z 2.6 20
								D = 7550 km = 68°.	
"	15	Up	iPKP	23 56 33		Ki	eP	18 12 41	
			i	23 56 54			ePS	18 21 16	
		Ki	iPKP	23 56 22 C				microns sec	
				microns sec				M	E 2.2 20
			PKP	Z' 0.8 1.0				M	N 1.6 20
		Sk	ePKP	23 56 29				M	Z 2.8 20
			i	23 56 53		Gb	iP	18 13 50	
		Um	i(PKP)	23 56 21 C		Um	iP	18 13 05	
			iPKP	23 56 28			i	18 13 23	
		Near coast of South					eSS	18 26 07	
		Island, New Zealand					Near Islands, Aleutian		
		(h = 30 km).					Islands (h = 25 km).		
							Magn. = 5.6 (Up, Ki).		
"	16	Ki	iPKP	03 08 35	"	17	Up	iP	12 50 18 C
		New Hebrides Islands						microns sec	
		(h = 30 km).						P	Z' 0.1 0.5
"	16	Ki	iP	05 06 30 C		Ki	iP	12 49 41	
		Um	iP	05 06 17				microns sec	
		Tadzhik, U.S.S.R.						P	Z' 0.1 1.0
		(h = 30 km).				Sk	iP	12 50 14 C	
						Um	iP	12 49 58	
"	16	Ki	iPKP	05 40 25				South of Honshu, Japan	
		Um	iPKP	05 40 31				(h = 340 km).	
		New Hebrides Islands			"	17	Up	iP	15 39 51
		(h = 30 km).							
"	16	Ki	iP	12 06 46	"	18	Up	iP	02 10 11 C
		Um	iP	12 06 24				i	02 10 14
		Iran (h = 30 km).						microns sec	
								P	Z' 0.1 0.5
"	16	Up	iSg	17 58 26		Ki	iP	02 09 59	
		Ki	iSg	17 57 47		Sk	iP	02 10 24	
		Sk	iSg	17 57 53		Um	iP	02 10 00	
		Um	iPg	17 56 09				China-India-Burma border	
			iSg	17 56 19				area (h = 80 km).	
				D = 80 km = 0.7°.	"	18	Up	iP	08 51 33
		North Sweden (64.5°N,						iPcP	08 52 02
		20.5°E). Origin time =						microns sec	
		17 55 55. Aftershock of						P	Z' 0.1 0.5
		Sep. 28, 17 22 01.				Ki	iP	08 50 47	
							iPcP	08 51 28	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962				
Oct 18	Ki		microns sec	Oct 18	Up	iP	11 33 20 D	
cont.	P	Z'	0.1 1.0				microns sec	
	Sk	iP	08 51 22			P	Z' 0.1 0.5	
	Gb	iP	08 51 55		Ki	iP	11 32 33	
	Um	iP	08 51 08		Sk	iP	11 33 09	
		iPcP	08 51 45		Um	iP	11 32 53	
	Kurile Islands (h = 140 km).				Kurile Islands (h = 130 km).			
" 18	Up	iP <sup>x</sup>	10 36 37 D	" 18	Up	iPn	11 51 02	
		iPg	10 36 45 D			iP <sup>x</sup>	11 51 04	
		iSn	10 37 14			i!	11 51 17	
		iSg	10 37 25			iSg	11 51 36	
			microns sec				microns sec	
		P <sup>x</sup>	Z' 0.1 0.5			P <sup>x</sup>	Z' 0.1 0.5	
		Pg	Z' 0.2 0.5			Sg	Z' 0.6 0.5	
		D = 350 km = 3.2°.				D = 230 km = 2.1°.		
	Ki	e(P <sup>x</sup> )	10 37 51		Ki	iPn	11 52 24	
		iSn	10 39 08			iSn	11 54 01	
		iS <sup>x</sup>	10 39 35			iSg	11 54 53	
		iSg	10 39 54			(D = 900 km = 8.1°).		
			microns sec		Sk	iPn	11 51 59	
		Sg	Z' 0.3 1.0			iSn	11 53 12	
		D = 860 km = 7.7°.				iSg	11 53 46	
	Sk	iP <sup>x</sup>	10 36 32 C			D = 670 km = 6.1°.		
		iPg	10 36 37		Gb	iSn	11 52 49	
		iSn	10 37 03			iS <sup>x</sup>	11 53 14	
		iSg	10 37 13			iSg	11 53 25	
		D = 310 km = 2.8°.				D = 600 km = 5.4°.		
	Gb	iPg	10 36 45 C		Um	ePn	11 51 33	
		iS <sup>x</sup>	10 37 21			iP <sup>x</sup>	11 51 45	
		iSg	10 37 28			iSn	11 52 29	
		D = 360 km = 3.3°.				iSg	11 52 48	
	Um	iP <sup>x</sup>	10 37 08 C			D = 490 km = 4.4°.		
		i	10 37 11		Ka	iPn	11 51 32	
		iPg	10 37 18			iP <sup>x</sup>	11 51 44	
		iSn	10 37 56			iS <sup>x</sup>	11 52 43	
		iSg	10 38 23			iSg	11 52 54	
		D = 540 km = 4.9°.				D = 500 km = 4.5°.		
	Ka	i(P <sup>x</sup> )	10 37 08		Central Baltic, 59.4°N,			
		i	10 37 32		21.6°E. Origin time =			
		iS <sup>x</sup>	10 38 13		11 50 25. Possibly			
		iSg	10 38 29		explosion.			
		D = 570 km = 5.1°.			" 18	Up	i(P)	15 52 21
	Norway-Sweden border area, 60.9°N, 11.9°E. Origin time = 10 35 41. Felt. Limit of perceptibility = 80 km on the Swedish side. First motions of P waves seem to indicate tenta- tively a SSE- NNW running fault strike, with a relative northward motion of the eastern side.				" 18	Up	e(P)	19 06 09
							i	19 06 16
					" 18	Ki	iP	20 02 12
						Um	iP	20 02 22
					Chiapas, Mexico (h = 180 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Oct 18	Up	iP	20 02 55 C	Oct 21	Gb	eP	02 15 26
	Ki	iP	20 02 42 C	cont.		ipP	02 15 41
			microns sec		Um	iP	02 14 47
		P	Z' 0.1 1.0			ipP	02 15 03
	Sk	iP	20 02 36			eS	02 22 20
	Um	iP	20 02 52 C			D = 6200 km = 56°.	
	Chiapas, Mexico.				Ka	iP	02 15 38
" 18	Ki	iP	21 33 37			ipP	02 15 53
	Tadzhik, U.S.S.R. (h = 190 km).				Vicinity Anchorage, Alaska. h = 70 km (Up, Ki, Sk, Gb, Um, Ka).		
" 19	Um	iP	02 40 57	" 21	Ki	iP	05 48 17
" 19	Um	ipKP	04 31 36			iS	05 50 20
	San Juan Province, Argentina (h = 120 km).					iSS	05 50 40
" 19	Ki	ipKP	09 58 42			i	05 52 15
	Sandwich Islands (h = 90 km).				D = 1100 km = 11°. West of Spitsbergen, 77 1/4°N, 7 1/2°E. Origin time = 05 45 35. Solution obtained by combination with Finnish data.		
" 19	Up	iP	20 33 56 C	" 21	Ka	i(PKS)	08 40 02
			microns sec		Fiji Islands region (h = 470 km).		
		P	Z' 0.1 0.7	" 22	Up	iP	04 06 29
" 19	Um	eS	21 45 19	" 22	Up	iPg	04 26 10
	Off west coast of Jalisco, Mexico (h = 50 km).					iSg	04 26 12
" 19	Ki	iP	23 56 11		Probably local explosion.		
	Banda Sea (h = 180 km).			" 22	Up	iP	07 39 33 C
" 20	Um	ipKP	03 54 06	" 22	Up	iP	09 10 42 C
	Gb	ipKP	03 54 19			iS	09 14 20
	Fiji Islands region (h = 580 km).					iLi	09 15 58
" 20	Up	iP	05 44 11			iLg1	09 16 33
	Banda Sea (h = 170 km).					iLg2	09 16 46
" 20	Ki	iP	12 35 56		microns sec		
" 21	Up	iP	02 15 15		M	E	2.9 10
		ipP	02 15 29		M	N	8.7 10
	Ki	iP	02 14 18		M	Z	10 10
		ipP	02 14 36		D = 2150 km = 19 1/2°.		
			microns sec	Ki	iP		09 09 10 C
	P	Z' 0.2 1.0			iS		09 11 28
Sk	iP		02 14 46		iSS		09 11 43
	i		02 15 07		iLi		09 12 22
					microns sec		
					P	Z' 0.1 1.2	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Oct 26	Up			Oct 28	Up	iP	23 05 34
cont.	P	Z'	0.1 0.5				microns sec
	D = 3000 km = 27°.				P	Z'	0.1 0.6
	Ki	iP	11 32 53 C		Ki	iP	23 05 22
	Sk	iP	11 32 32 C				microns sec
		i	11 32 39		P	Z'	0.3 1.1
	Gb	iP	11 31 46		Sk	iP	23 05 16
	Um	iP	11 32 21		Gb	iP	23 05 26
		i	11 32 26		Um	eP	23 05 32
	Ka	iP	11 31 24 C		Chiapas, Mexico (h = 110 km).		
	Eastern Mediterranean Sea (h = 30 km).			"	29	Ki	iP 00 32 31 C
"	26	Ki	iPKP 16 17 38			Sk	iP 00 32 19
	Sandwich Islands (h = 30 km).					Gb	iP 00 32 23
"	27	Up	i(P) 06 13 26			Um	iP 00 32 36
"	27	Up	eLR 07 47			Off south coast of Panama (h = 20 km).	
	Novaya Zemlya. Atmospheric nuclear explosion.			"	29	Up	iPg 06 14 30
"	27	Gb	iP 13 45 12			iSg	06 14 32
"	27	Um	iP 14 05 28			Probably local explosion.	
	Near west coast of Nicaragua (h = 80 km).			"	29	Up	iP 07 28 18
"	27	Um	iP 16 09 19			Ki	iP 07 28 43
	Tadzhik, U.S.S.R. (h = 140 km).					Um	iP 07 28 29
"	27	Ki	iP 16 29 32			Indian Ocean.	
	Rat Islands, Aleutian Islands (h = 60 km).			"	29	Up	eLR 07 46
"	28	Up	iP 12 18 37			Novaya Zemlya. Atmospheric nuclear explosion.	
		Ki	iP 12 18 24	"	29	Up	iP 07 50 38 C
	Off west coast of Luzon (h = 120 km).			"	29	Up	i(P) 13 29 11
"	28	Sk	iPKP 14 21 03	"	30	Ki	iP 08 44 19
		Um	iPKP 14 20 41			ipP	08 44 39
	Kermadec Islands region (h = 30 km).					Off west coast of Nicaragua. h = 75 km (Ki):	
"	28	Ki	iP 15 13 32	"	30	Up	iP 16 23 32
	Northern Celebes (h = 60 km).					Ki	iP 16 23 26
"	28	Um	iP 19 26 39			Sk	iP 16 23 48
						Eastern India (h = 30 km).	
				"	31	Up	-
							microns sec
						M	E 1.6 21
						M	N 1.5 19
						M	Z 2.2 22
					Ki	iP	11 45 27
						eS	11 56 06

Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct 31 Ki microns sec  
cont. M E 1.8 20  
M N 1.6 20  
D = 9950 km =  $89\frac{1}{2}^{\circ}$ .  
Sk iP 11 45 15  
South of Panama (h = 30 km).  
Magn. = 5.7 (Up, Ki).

" 31 Up iP 13 38 21  
Rat Islands, Aleutian  
Islands (h = 80 km).

" 31 Up iP 23 39 54 D  
microns sec  
P Z' 0.1 1.5

Markus Båth  
February 15, 1963





Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962											
Nov	2	Ki	iP	15.00	32	Nov	3	Ki	iP	15	39	05			
cont.			i	15	03	51			Sk	iP	15	39	31		
				microns sec					iS	15	41	10			
			P	Z'	0.1 1.0			Arctic Ocean.							
		South of Sumbawa (h = 30 km).													
"	2	Up	iP	15	11	50	D	"	3	Ki	iPKP	18	24	50	
			i	15	12	02			Sk	ePKP	18	25	05		
				microns sec				Near east coast of North Island, New Zealand.							
			P	Z'	0.1	0.7									
		Ki	iP	15	11	10	D	"	3	Up	iP	19	17	26	D
				microns sec				Ki	iP	19	17	26	D		
			P	Z'	0.1	1.0					microns sec				
			M	E	2.1	17				P	Z'	0.1	0.6		
			M	N	0.9	15			Sk	iP	19	17	39		
			M	Z	2.5	17			Southern Sumatra (h = 30 km).						
		Sk	iP	15	11	43									
		Gb	iP	15	12	10	"	4	Ki	iP	02	44	59		
		Near east coast of Honshu, Japan (h = 80 km).													
"	2	Ki	iP	19	16	50	C	"	4	Ki	iP	11	04	46	
		Fox Islands, Aleutian Islands (h = 80 km).													
"	3	Up	iP	03	45	36	D	"	4	Up	iPKP	23	12	37	
		Ki	iP	03	46	10	D				e	23	24	36	
				microns sec						microns sec					
			P	Z'	0.2	1.5			PKP	Z'	0.2	1.5			
			M	E	1.7	18			M	E	1.7	18			
			M	N	2.2	18			M	N	2.2	18			
			M	Z	3.0	19			M	Z	3.0	19			
				microns sec				Ki	iPKP	23	12	44			
			M	E	0.5	10				iPKS	23	16	10		
			M	N	0.5	11					microns sec				
			M	Z	1.3	10			PKP	Z'	0.5	1.5			
		Novaya Zemlya. Atmospheric nuclear explosion.													
"	3	Up	eP	14	25	29	"	4	PKS	E	2.0	5			
		Ki	iP	14	24	05			PKS	Z	1.1	5			
			iT	14	30	23			M	E	2.5	19			
				microns sec				M	N	1.2	17				
			M	E	1.4	14			M	Z	3.1	19			
			M	Z	1.7	14			(D = 14900 km = 134.0°)						
		Sk	iP	14	24	31			Sk	iPKP	23	12	35		
			iS	14	26	12			Gb	iPKP	23	12	33		
			D = 1000 km = 9.0°						Ka	iPKP	23	12	35		
		Gb	iP	14	25	55			Off coast of southern Chile (h = 30 km).						
		Arctic Ocean (h = 50 km).													
									Magn. = 6.2 (Up, Ki).						
"	3	Up	iP	15	10	55	"	5	Ki	iP	00	32	21		
				microns sec						microns sec					
			P	Z'	0.1	0.5				P	Z'	0.1	1.2		
		Ki	eP	15	10	38			Sk	eP	00	32	32		
		Sk	iP	15	11	07	"	5	Ki	i(P)	07	15	25		
		Tsinghai Province, China (h = 30 km).													
"	5	Up	iPn	11	48	11	D	"	5	Up	iPn	11	48	11	D
			i	11	48	21				i	11	48	21		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962						1962					
Nov	5	Up	iSn	11 49 39		Nov	6	Ki	iSS	00 28 06	
cont.			i	11 50 18		cont.				microns sec	
			i	11 50 25					P	Z'	0.3 1.3
									S	E	0.9 6
			Pn	Z' 0.1 0.5					M	E	2.4 12
			Sn	N 1.0 1					M	N	1.7 10
			Sn	Z' 0.4 0.5					M	Z	2.7 12
			D = 840 km = 7.6°						D = 5000 km = 45°		
		Ki	iPn	11 47 34				Sk	iP	00 18 02	C
			iSn	11 48 35					iPcS	00 23 33	
			iS*	11 48 50				Gb	iP	00 17 40	
									i(pP)	00 18 17	
			Pn	Z' 0.3 0.5				Ka	iP	00 17 20	
			Sn	Z' 0.8 0.5					i(pP)	00 18 03	
			M	E 1.3 17				Southern Iran.			
			M	N 0.9 10							
			M	Z 2.2 16				"	6	Up	iP 03 47 54 D
			D = 570 km = 5.1°							Ki	iP 03 47 12
		Sk	iPn	11 47 12 D							microns sec
			i	11 47 40						P	Z' 0.4 1.5
			i	11 47 48				Sk	iP	03 47 26 D	
			iSn	11 47 55				Gb	iP	03 47 56 D	
			D = 390 km = 3.5°					Washington-Oregon border, U.S.A. (h = 40 km).			
		Gb	ePn	11 48 24				"	6	Ki	i(P) 04 53 04
			i	11 48 51							iSg 04 53 46
			i	11 49 40				Sk	eSg	04 56 01	
			iSn	11 50 00				"	6	Ki	i(P) 06 06 26
			i	11 50 25							eSg 06 07 25
			i	11 50 44				"	6	Up	iP 12 35 37
			D = 920 km = 8.3°					"	6	Up	iP 14 58 13
		Ka	iPn	11 48 52						Gb	iP 14 58 01
			iSn	11 50 48				"	6	Up	e(P) 15 29 44
			i	11 51 52				"	6	Up	i(P) 19 01 13 C
			D = 1130 km = 10.2°					"	6	Ki	iP 21 01 14 C
			Off coast of Norway, 66 1/4°N, 8°E. Origin time = 11 46 17. Agreement between the stations not quite satisfactory, probably depending on the complicated structure along the paths.					Near west coast of Panay, Philippine Islands (h = 30 km).			
"	6	Up	iP	00 17 28				"	7	Ki	iP 13 05 05
			i(pP)	00 18 11							microns sec
			iPP	00 19 08						P	Z' 0.2 1.5
			iS	00 23 35						M	E 0.7 13
								Azores (h = 30 km).			
								"	7	Ki	iP 16 16 37 C
			P	Z' 0.1 0.5				Flores Sea (h = 160 km).			
			PP	E 0.2 5				"	7	Up	iP 20 14 22
			M	E 1.9 20						Ki	iP 20 13 48
			M	N 2.4 17							
			M	Z 1.9 20							
			D = 4550 km = 41°								
		Ki	iP	00 18 03							
			i(pP)	00 18 45							
			iPP	00 19 49							
			eS	00 24 34							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962		1962	
Nov	7	Batan Islands, Philippine Islands region (h = 60 km).	Nov 9 Up iP 01 17 30
cont.			i 01 17 34
			microns sec
"	7	Up iP 22 09 33	P Z 0.5 3
		Ki eP 22 09 13	M E 0.6 17
		Near west coast of central Luzon (h = 100 km).	M N 0.5 18
			M Z 0.8 17
"	7	Up iP 22 37 28 D	Ki iP 01 18 16
		i 22 37 41	iPP 01 19 42
		microns sec	eS 01 24 08
		P Z' 0.1 1.0	eSS 01 26 46
		Ki iP 22 36 35 D	microns sec
		Sk eP 22 37 08	P Z' 0.2 0.8
		Rat Islands, Aleutian Islands (h = 40 km).	S E 0.3 5
			M E 1.1 15
			M N 0.7 15
"	8	Up -	M Z 1.6 15
		microns sec	D = 4200 km = 38.
		M E 0.9 23	Sk iP 01 18 11
		M N 0.8 20	Ka iP 01 17 27
		M Z 1.4 21	Iraq-Iran border region (h = 30 km). Magn. = 5.8 (Up, Ki).
		Ki eSS 01 06 56	
		microns sec	
		M E 0.7 18	" 9 Up iP 02 18 14
		M N 0.5 17	i 02 18 19
		M Z 1.0 17	i 02 18 30
		Southwest of Galapagos Islands (h = 30 km).	Ki iP 02 19 37
			Sk iP 02 19 06
"	8	Ki iP 08 34 54	i 02 19 11
"	8	Sk iPKP 15 32 17	Gb iP 02 18 17
		Santa Cruz Islands (h = 230 km).	Ka eP 02 17 54
"	8	Up iPKP 17 37 32	i 02 18 05
		i 17 37 39	Rumania (h = 130 km).
		microns sec	
		PKP Z' 0.1 0.5	" 9 Up -
		Sk iPKP 17 37 27 C	microns sec
		Kermadec Islands region (h = 70 km).	M N 0.4 15
			M Z 0.8 16
"	8	Up iP 18 58 49 D	Ki iP 05 33 52
		microns sec	microns sec
		P Z' 0.1 0.5	M E 1.1 15
		Ki iP 18 58 02 D	M N 0.8 14
		Kurile Islands region (h = 150 km).	M Z 1.7 14
"	8	Up eP 21 26 47	Sk iP 05 34 14
		Ki iP 21 25 53	iS 05 35 58
		Sk eP 21 26 34	Arctic Ocean.
		Near Islands, Aleutian Islands (h = 30 km).	" 9 Ki e(P) 06 36 24
"	8	Up iP 09 33 01 C	" 9 Ki iP 07 46 25
		microns sec	" 9 Up iP 09 33 01 C
		P Z' 0.2 1.0	microns sec
		Ki iP 09 32 23 C	Ki iP 09 32 23 C

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Nov	9	Ki	microns sec	Nov	10	Ki	e(Sg) 05 18 22
cont.		P	Z' 0.1 0.9	"	10	Ki	iP 11 15 24 C
		Sk	iP 09 32 56 C				Near northern coast of Luzon (h = 30 km).
		Gb	iP 09 33 21 C				
			Near east coast of Honshu, Japan (h = 30 km).				
"	9	Up	iP 14 03 04	"	10	Up	iP 19 43 20 C
			microns sec			Ki	iP 19 42 39 C
		P	Z' 0.1 0.5			Sk	e(P) 19 43 26
		Ki	iP 14 02 33				Near east coast of Honshu, Japan (h = 100 km).
		Sk	iP 14 03 01				
			Bonin Islands region (h = 450 km).	"	10	Up	iPKP 22 33 06 D
						i	22 33 11
							microns sec
"	9	Ki	iP 18 16 08				PKP Z' 0.1 0.5
			Azores (h = 30 km).			Sk	iPKP 22 33 00 D
						Gb	iPKP 22 33 13
"	10	Up	iP 01 39 44				Kermadec Islands region (h = 220 km).
		Ki	iP 01 40 17				
		Sk	eP 01 40 18				
		Ka	iP 01 39 34	"	11	Up	iP 11 40 11 C
			Near south coast of Iran (h = 30 km).			i	11 40 18
						iS	11 46 56
"	10	Up	iP 01 44 18 C			iSSS	11 51 13
		iS	01 53 15			e	11 53 05
			microns sec				microns sec
		P	E 0.6 1			P	Z' 0.2 1.0
		P	N 1.1 1			S	E 0.1 3
		P	Z 2.4 1			S	N 0.4 6
		P	Z' 0.8 1.0			M	E 2.2 16
		S	E 0.3 2			M	N 4.8 15
		S	N 0.7 2			M	Z 6.1 15
		M	E 2.0 21				D = 5150 km = 46 $\frac{1}{2}$ .
		M	N 4.3 23			Ki	eP 11 39 24
		M	Z 3.2 20			i	11 39 32
			D = 7700 km = 69 $\frac{1}{2}$ .			iPP	11 41 09
		Ki	iP 01 43 32 C			eS	11 45 33
		iS	01 51 50			i	11 48 09
		i	01 53 17			eSS	11 48 26
			microns sec			eSSS	11 48 56
		P	N 0.6 2			eLg1	11 52 57
		P	Z 1.8 2				microns sec
		P	Z' 1.0 1.0			P	Z' 0.2 1.5
		S	E 0.6 7			PP	Z' 0.3 1.9
		M	E 3.6 18			S	E 0.8 4
		M	N 3.2 20			M	E 2.4 16
		M	Z 4.1 18			M	N 2.2 13
			D = 6900 km = 62.			M	Z 5.4 15
		Sk	iP 01 44 08 C				D = 4550 km = 41.
		i	01 44 15			Sk	iP 11 40 07
		Gb	iP 01 44 39 C			i	11 40 15
		Ka	iP 01 44 37 C			Gb	iP 11 40 39
			Kurile Islands (h = 60 km). Magn. = 6.8 (Up, Ki).			i	11 40 45
						Ka	iP 11 40 34
							Lake Baikal region, U.S.S.R. (h = 30 km). Magn. = 5.8 (Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962						
Nov	11	Sk	eP	15 08 01	Nov	11	Up	iP	16 41 33	
"	11	Up	iP	15 23 52			Sk	eP	16 41 44	
			i	15 23 53			Gb	eP	16 41 26	
			iS	15 30 30	"	11	Up	iPKP	22 33 21	
			eSS	15 34 09				eSKP	22 36 37	
				microns sec					microns sec	
		P	Z	0.3 4			PKP	Z'	0.3 1.5	
		P	Z'	0.1 0.7			SKP	E	0.5 5	
		S	E	0.3 8			M	E	1.7 18	
		S	N	1.4 10			M	N	1.9 16	
		S	Z	0.6 6			M	Z	2.9 18	
		M	E	1.8 19					(D = 14650 km = 132°)	
		M	N	2.5 18		Ki	iPKP	22 33 28 C		
		M	Z	1.9 15			ipPKP	22 33 52		
				D = 5050 km = 45½°			iPP	22 35 49		
	Ki	iP		15 24 43 D			iSKP	22 36 53		
		i		15 24 48				microns sec		
		eS		15 32 05			PKP	Z	0.9 3	
		i		15 37 50			PKP	Z'	1.2 2.0	
				microns sec			PP	E	0.7 5	
		P	Z'	0.3 1.5			PP	Z	1.4 3	
		S	N	0.6 7			SKP	E	2.3 5	
		S	Z	0.6 9			M	E	1.5 18	
		M	E	1.3 15			M	N	1.3 18	
		M	N	1.1 15			M	Z	1.7 18	
		M	Z	2.3 15					(D = 15000 km = 135°)	
				D = 5800 km = 52°		Sk	iPKP	22 33 20 C		
	Sk	iP		15 24 27		Gb	iPKP	22 33 14		
	Gb	iP		15 23 52 D				Off coast of southern Chile.		
				Red Sea (h = 30 km).		"	12	Up	iP	13 01 04 C
				Magn. = 5.8 (Up, Ki).					microns sec	
"	11	Up	iPKP	16 28 55			P	Z'	0.1 0.6	
				microns sec			M	E	1.6 14	
		PKP	Z'	0.1 1.0			M	N	2.0 20	
		M	E	1.9 22			M	Z	2.0 13	
		M	N	4.1 22		Ki	iP	13 00 35 C		
		M	Z	5.0 22			i	13 00 44		
				(D = 14200 km = 128°)				microns sec		
	Ki	iPKP		16 28 42 D			P	Z'	0.2 1.0	
		iPKKP		16 38 47			M	E	1.1 15	
		eSP		16 40 05			M	N	0.4 16	
				microns sec			M	Z	1.4 12	
		PKP	Z'	0.1 1.0		Sk	iP	13 01 04 C		
		PKKP	Z'	0.1 1.1		Gb	iP	13 01 23 C		
		M	E	1.5 18				Ryukyu Islands (h = 40 km).		
		M	N	1.9 20		"	12	Up	e(P)	19 06 04
		M	Z	4.2 20						
				(D = 13550 km = 122°)		"	12	Up	iP	19 43 33
	Sk	iPKP		16 28 53 D				iPcP	19 43 59	
		i		16 29 06					microns sec	
	Gb	iPKP		16 29 03			P	Z'	0.1 0.5	
		iPKS		16 32 25		Ki	iP	19 42 41		
				Santa Cruz Islands						
				(h = 80 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Nov	12	Sk eP	19 43 15	Nov	14	Ka iPg	12 39 27 C
cont.		Andreanof Islands, Aleutian Islands (h = 60 km).				iSg	12 39 28
						Local explosion.	
"	13	Ki iP	03 13 54	"	14	Ka iPg	13 59 47 C
"	13	Ki iP	03 36 53			iSg	13 59 48
						Local explosion.	
"	13	Up iP	09 05 37	"	14	Ki e(P)	16 21 27
		Ki i(P)	09 04 55			North Atlantic Ocean	
		Sk iP	09 05 30			(h = 30 km).	
		Off coast of Hokkaido, Japan (h = 60 km).		"	14	Ki iP	21 21 52
"	13	Ka iPg	14 08 11 C	"	15	Up eL	16 56
		iSg	14 08 12			microns sec	
		Local explosion.				M	E 1.9 20
"	13	Ka iPg	14 59 40 C			M	N 1.9 19
		iSg	14 59 41			M	Z 3.0 19
		Local explosion.				Ki eL	16 58
"	13	Up iP	20 22 16			microns sec	
						M	E 1.5 20
						Central Chile (h = 30 km).	
"	13	Ki iPKP	22 07 15	"	15	Ki iP	18 25 13
		Sandwich Islands (h = 30 km).		"	15	Up iP	19 02 04
"	13	Ki i(P)	23 54 39	"	15	Up eP	19 12 16
"	14	Sk iP	01 36 18			Ki eP	19 12 04
"	14	Up iPKP	07 43 25	"	15	Up iP	19 41 01
		Kermadec Islands (h = 30 km).		"	15	Up eP	22 31 54
"	14	Up iP	07 59 35			i	22 32 21
		microns sec		"	15	Gb iP	23 38 50
		P	Z' 0.1 0.7			Near coast of northern Peru (h = 50 km).	
		M	N 1.7 23	"	16	Up i(P)	00 18 55
		M	Z 1.8 22			i	00 19 42
		Ki iP	07 58 57			microns sec	
		microns sec				M	E 2.2 19
		M	E 2.9 20			M	N 2.0 20
		M	N 1.9 20			M	Z 3.4 21
		Sk eP	07 59 29			Ki	-
		Gb iP	07 59 55			microns sec	
		Ka eP	07 59 48			M	E 2.0 21
		Central Honshu, Japan (h = 60 km).		"	16	Up eSS	07 58 47
"	14	Ka iPg	09 24 21 C			microns sec	
		iSg	09 24 22			M	E 3.1 20
		Local explosion.				M	N 5.4 18
"	14	Ka iPg	10 18 07 C			M	Z 4.6 19
		iSg	10 18 08			Ki	-
		Local explosion.				microns sec	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Nov 16	Ki		microns sec	Nov 17	Up	e(P)	03 17 30
cont.	M	E	4.1 18		Ki	e(P)	03 16 57
	M	N	4.0 20		"	17	Up
	M	Z	6.8 19				iP
	Easter Island region						i
	(h = 40 km). Magn. = 6.4						Ki
	(Up, Ki).						iP
							Sk
"	16	Ka	iPg				eP
			08 45 52 C				Oaxaca, Mexico (h = 10 km).
			iSg		"	17	Up
			08 45 53				iP
			Local explosion.				
"	16	Up	iP		"	18	Up
		Ki	iP				iP
			10 05 04 C				
			10 04 35				
			Mariana Islands (h = 210 km).				
"	16	Ki	iP				
			15 57 33				
"	16	Up	iP		"	19	Up
			21 21 20 C				i(P)
			iS				
			21 30 32		"	19	Up
			microns sec				iP
		P	Z				iP
			0.4 1				
		P	Z'				
			0.5 0.7				
		S	E				
			0.8 6				
		M	E				
			13 22		"	19	Up
		M	N				iP
			23 20				iP
		M	Z				
			15 20				
			D = 7950 km = 71½°				
		Ki	iP				
			21 21 20 C				
			iS				
			21 30 36				
			microns sec				
		P	Z				
			1.5 5				
		P	Z'				
			0.7 0.5				
		S	E				
			2.0 5				
		S	N				
			1.9 5				
		M	E				
			16 16				
		M	N				
			19 18				
		M	Z				
			19 19				
			D = 7950 km = 71½°				
		Sk	iP				
			21 21 37				
			iPcP				
			21 21 54				
		Gb	iP				
			21 21 36 C				
			i				
			21 21 43				
		Ka	iP				
			21 21 23 C				
			i				
			21 21 31				
			Andaman Islands (h = 30 km).				
			Magn. = 6.7 (Up, Ki).				
"	16	Up	iP		"	20	Ki
		Ki	iP				e(P)
			22 56 57				
			22 56 57				
			Andaman Islands (h = 30 km).				
"	17	Up	iP		"	20	Ki
			00 10 50				i(P)
"	17	Gb	i(PP)				
			00 18 35				
			Bolivia (h = 210 km).				



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Nov	20	Up iP	16 13 15	Nov	22	Up iPg	11 43 05
		Ki iP	16 12 31			iSg	11 43 21
		Hokkaido, Japan (h = 40 km).				microns sec	
"	20	Up iP	20 53 26			Pg Z' 0.2 0.5	
		Ki iP	20 54 01			D = 130 km = 1.2.	
		Sk eP	20 53 59			Sk i(Sg)	11 45 39
		Um iP	20 53 38			Um i(Sg)	11 45 20
		Southern Iran (h = 30 km).				Ka e(Sg)	11 44 06
"	21	Up iP	00 36 34			Central Baltic. Origin time	
"	21	Ki e(Sg)	13 57 12	"	22	Up iPg	11 55 46
"	21	Up iP	15 16 06			iSg	11 56 01
		Ki iP	15 15 41 D			iL	11 56 10
		Sk eP	15 16 14			microns sec	
		Ryukyu Islands (h = 30 km).				Pg Z' 0.2 0.5	
"	21	Ki i(P)	17 49 38			D = 130 km = 1.2.	
"	21	Ki i(P)	17 53 32			Sk e(Sg)	11 58 20
"	21	Ki iPKP	19 58 30			Um i(Sg)	11 58 02
		iSKP	20 01 01			Ka i(Sg)	11 56 46
		microns sec		"	22	Up iPg	12 53 05
		SKP Z' 0.1 1.5				iSg	12 53 21
		Um iSKP	20 01 12			microns sec	
		Fiji Islands region				Pg Z' 0.1 0.5	
		(h = 630 km).				D = 130 km = 1.2.	
"	21	Ki i(P)	23 31 56			Sk i(Sg)	12 55 40
"	22	Ki eP	00 57 42			Um i(Sg)	12 55 21
"	22	Um iP	03 20 21			Ka e(Sg)	12 54 07
		Near east coast of Hokkaido,				Central Baltic. Origin time	
		Japan (h = 30 km).				= 12 52 41. Explosion.	
"	22	Ki i(P)	04 38 57			A more consistent solution	
"	22	Ki i(P)	05 38 12			would be obtained in this and	
"	22	Ki i(P)	07 37 30			the three previous cases, if	
"	22	Up iPg	11 40 39			the phases denoted by (Sg)	
		iSg	11 40 55			instead are assumed to be	
		microns sec				Lg1 for Sk and Um and Li for	
		Pg Z' 0.1 0.5				Ka.	
		D = 130 km = 1.2.		"	22	Ki iP	14 30 24
		Sk e	11 43 06			Um iP	14 30 45
		e(Sg)	11 43 14			Kurile Islands (h = 30 km).	
		Um i(Sg)	11 42 58	"	22	Up i(P)	15 41 20
		Ka i(Sg)	11 41 40	"	22	Up iPKP	20 52 38
		Central Baltic. Origin time				i	20 52 43
		= 11 40 15. Explosion.				Ki iPKP	20 52 20
						Sk iPKP	20 52 32
						Um iPKP	20 52 26 C
						Kermadec Islands region	
						(h = 300 km).	
				"	23	Up iS	00 56 02

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962					1962				
Nov 23	Up	ePS	00 57 41		Nov 25	Um	iP	17 47 12	
cont.			microns sec		cont.			Near coast of Chiapas,	
	M	E	0.8 21					Mexico (h = 100 km).	
	M	N	1.1 21		" 25	Um	iP	19 12 42	
	M	Z	1.0 21						
	Ki		-		" 25	Up	iP	23 01 43 D	
			microns sec			Ki	iP	22 59 59	
	M	E	1.8 20				iS	23 01 20	
	Um	eSKS	00 55 04					D = 800 km = 7.2°	
		iPS	00 57 58			Sk	iP	23 00 52	
		i	00 58 17			Um	iP	23 00 53	
			Near coast of southern Peru				i	23 01 01	
			(h = 30 km).					Svalbard (h = 30 km).	
" 23	Ki	iP	07 58 17		" 26	Up	iP	01 48 37	
" 23	Up	iP	20 36 39				ipP	01 49 05	
" 23	Up	iPKP	23 23 59					microns sec	
		iSKP	23 26 46					Z' 0.2 1.2	
	Ki	ePKP	23 23 47			Ki	eP	01 49 14	
		iSKP	23 26 23			Gb	eP	01 49 28	
	Sk	iPKP	23 23 52			Ka	iP	01 49 11 C	
	Gb	iPKP	23 24 10					Hindu Kush (h = 110 km).	
	Um	iPKP	23 23 48		" 26	Up	iP	05 37 20	
		i	23 23 54					microns sec	
		i	23 24 00			P	Z' 0.1 0.9		
		iSKP	23 26 34			M	E 8.8 20		
	Ka	iPKP	23 24 12			M	N 5.1 16		
			Fiji Islands (h = 610 km).			M	Z 6.5 20		
" 24	Up	iPKP	10 52 41			Ki	iP	05 37 17 C	
		i	10 53 20				i	05 37 22	
			microns sec					microns sec	
		PKP	Z' 0.1 0.5			P	Z' 0.3 1.0		
	Gb	iPKP	10 52 51			M	E 5.0 18		
	Ka	iPKP	10 52 51			M	N 3.6 16		
			Fiji Islands region			M	Z 6.1 16		
			(h = 500 km).			Sk	iP	05 37 41 C	
" 24	Up	iP	16 02 58			Um	iP	05 37 12	
	Ki	iP	16 02 06					Sinkiang Province, China	
	Sk	iPcP	16 03 22					(h = 15 km). Magn. = 5.9	
			Kurile Islands (h = 90 km).		" 26	Up	iP	13 39 40 D	
" 24	Ki	iP	16 31 05					microns sec	
	Sk	iP	16 30 34					Z' 0.1 0.8	
	Gb	iP	16 30 14			Ki	iP	13 39 09	
			Mid-Atlantic Ocean			Um	iP	13 39 15	
			(h = 30 km).					Off coast of Hokkaido,	
" 25	Up	iP	17 47 16					Japan (h = 30 km).	
	Ki	iP	17 47 04		" 26	Up	iPKP	16 18 14	
			microns sec			Gb	iPKP	16 18 24	
		P	Z' 0.1 1.1			Ka	iPKP	16 18 25	
	Sk	iP	17 46 58					Tonga Islands (h = 20 km).	
	Gb	iP	17 47 08		" 26	Up	i(P)	18 35 53	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962								
Nov	26	Up	iPg	20 10 32	Nov	28	Up	i	15 37 53			
			iSg	20 10 33					microns sec			
			Probably local explosion.						Z' 0.1 0.6			
"	27	Up	iP	07 04 29 C			Ki	iP	15 37 33 D			
			ipP	07 05 12					microns sec			
			iPP	07 07 21					Z' 0.1 0.6			
				microns sec			Sk	eP	15 37 49			
			P	Z' 0.2 0.7			Gb	iP	15 37 48			
		Ki	iP	07 04 03			Um	iP	15 37 29			
			ipP	07 04 48				i	15 37 45			
		Sk	iP	07 04 32 C			Ka	iP	15 37 33			
		Gb	iP	07 04 49 C			Andaman Islands (h = 50 km).					
			ipP	07 05 32		"	29	Up	iP	02 29 50		
		Um	iP	07 04 13 C				Ki	iP	02 30 25		
			i	07 04 28				Arabian Sea (h = 30 km).				
			ipP	07 04 56			"	29	Up	iPKP	04 17 59	
		Ka	iP	07 04 38 C					i	04 18 01		
		Ryukyu Islands. h = 170 km						Sk	iPKP	04 17 52		
		(Up, Ki, Gb, Um).						Gb	ePKP	04 18 08		
"	27	Up	iP	12 19 36				Um	iPKP	04 17 50		
		Ki	iP	12 19 20				Kermadec Islands (h = 140 km).				
		Sk	iP	12 19 38			"	29	Gb	i(P)	07 36 36 C	
		Ka	iP	12 19 54				"	29	Up	iP	07 50 19
		Near west coast of Luzon							i	07 50 31		
		(h = 40 km).								microns sec		
"	27	Up	iP	17 03 52					P	Z' 0.2 0.8		
		Ki	iP	17 03 27				Gb	iP	07 50 37		
		Um	iP	17 03 38				Um	iP	07 50 21		
		Mariana Islands (h = 30 km).				"	29	Gb	iPKP	09 23 21		
"	28	Up	iP	02 49 14				Ka	iPKP	09 23 23		
			i	02 49 26				Tonga Islands (h = 30 km).				
				microns sec			"	29	Um	eP	13 13 34	
			P	Z' 0.1 1.0				"	29	Um	i(P)	16 12 21
		Ki	iP	02 48 48				"	29	Up	-	
				microns sec						microns sec		
			P	Z' 0.2 1.0				M	E	1.2 21		
		Um	iP	02 48 59				M	N	2.0 20		
			i	02 49 10				M	Z	1.8 19		
		Mariana Islands (h = 30 km).						Ki	iPKP	19 25 39		
"	28	Um	iP	05 15 31						microns sec		
		South Atlantic Ocean						M	E	2.6 20		
		(h = 30 km).						M	N	1.3 18		
"	28	Up	iP	05 35 37				M	Z	2.1 20		
"	28	Um	iP	06 05 19 D				Um	ePKP	19 25 44		
		Volcano Islands (h = 80 km).						New Hebrides Islands				
"	28	Um	eP	12 07 12				(h = 30 km). Magn. = 6.1				
			i	12 07 40				(Up, Ki).				
"	28	Up	iP	15 37 32 D			"	29	Um	iP	19 32 32 D	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Nov 29 Um iP 22 59 14  
Hindu Kush (h = 180 km).

" 30 Up iP 16 12 22  
Ki iP 16 12 16  
Sk eP 16 12 41  
Um iP 16 12 14  
i 16 12 37  
Burma (h = 180 km).

" 30 Ki i(P) 16 45 21

" 30 Ki iP 17 06 34  
Molucca Passage (h = 60 km).

" 30 Up iP 20 57 08  
i 20 57 09  
Probably local explosion.

" 30 Up iP 22 04 16  
i 22 04 31  
i 22 07 30  
e 22 14 18  
iSKS 22 14 34

microns sec

M E 1.4 24  
M N 1.4 22  
M Z 2.2 22

Ki eP 22 03 55  
i 22 04 09  
i 22 06 57  
eS 22 14 11

microns sec

P Z 0.6 5  
S E 0.3 5  
S N 0.6 5  
M E 2.4 21  
M N 1.3 21  
M Z 3.9 21

Sk eP 22 03 50  
i 22 04 05

Gb eP 22 04 13

Um eP 22 04 13  
i 22 04 21

eSKS 22 14 23  
eS 22 14 41

Ka eP 22 04 21

Guerrero, Mexico  
(h = 50 km).

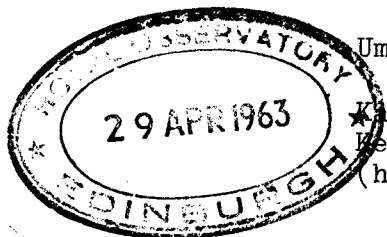
Uppsala

P R E L I M I N A R Y  
S E I S M O L O G I C A L B U L L E T I N  
U P P S A L A , K I R U N A , S K A L S T U G A N , G Ö T E B O R G ,  
U M E Å    a n d    K A R L S K R O N A

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

D E C E M B E R    1    -    31 ,    1962  
.....

1962	Dec	1	Up	iP	02 01 16	1962	Dec	1	Ki	eP	09 27 44		
				eS	02 10 18								
					microns sec				"	2	Up	iP	14 47 51 D
			M	E	1.4 19						i		14 47 56
			M	N	1.6 20						Central China.		
			M	Z	1.2 24				"	2	Up	iP	22 27 52
			Ki	iP	02 00 22						Ki	iP	22 28 30
					microns sec						Iran (h = 40 km).		
				P	Z' 0.1 0.8				"	2	Ki	iP	23 43 27
				M	E 2.1 18						Iran (h = 30 km).		
				M	N 1.3 18				"	3	Ki	iP	11 45 40
				M	Z 2.8 18				"	4	Up	iP	06 26 58
			Sk	iP	02 00 53						Um	iP	06 26 36
				iPcP	02 01 28						Off east coast of Honshu, Japan (h = 80 km).		
			Gb	iP	02 01 32				"	4	Ka	i(P)	07 41 51
			Um	iP	02 00 49				"	4	Ki	iP	07 47 15
				i	02 01 06				"	4	Up	i(P)	14 08 53
			Fox Islands, Aleutian Islands (h = 40 km). Magn. = 5.6 (Up, Ki).						"	4	Up	i(P)	20 35 52
			"	1	Up	iPKP	04 36 38 C						
							microns sec						
						PKP	Z' 0.3 0.5						
			Ki	iPKP	04 36 12				"	4	Um	iP	00 29 22
				i	04 36 21						i		00 29 32
			Sk	iPKP	04 36 31 C						Sk	iP	00 29 35
				i	04 36 35						Um	eP	00 29 07
			Gb	iPKP	04 36 47 C						Central China.		
				i	04 36 50								
			Um	iPKP	04 36 26								
				i	04 36 31								
				iPKP	04 36 44 C								
			Hermadec Islands (h = 50 km).										



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962					
Dec				Dec					
5	Ki	eP	07 20 17	7	Up	iPP	14 18 04		
"	6	Up	iP	cont.		iS	14 24 19		
		Um	iP			iSKS	14 24 34		
		South of Honshu, Japan (h = 30 km).				isS	14 27 07		
						iSS	14 29 35		
						microns sec			
"	6	Up	iP		P	E	1.4 1		
		i	04 14 57		P	N	1.8 3		
					P	Z'	0.6 0.5		
			microns sec		PP	E	1.5 3		
		P	Z' 0.1 0.5		PP	N	2.1 3		
		Ki	iP		PP	Z	3.8 3		
		Sk	iP		S	E	11 3		
		Um	iP		S	N	12 3		
		Ka	eP		S	Z'	0.2 1.0		
		Kurile Islands (h = 90 km).			SKS	N	3.9 4		
					M	E	4.8 17		
					M	N	6.7 19		
"	6	Ki	e(Sg)		M	Z	6.1 16		
		Sk	iPg		(D = 9000 km = 81°).				
			eSg		Ki	iP	14 14 25		
			D = 340 km = 3.1°			isP	14 16 49		
		Um	i(Pg)			iPP	14 17 17		
			i(Sg)			iS	14 23 19		
		Off coast of central Norway.				isS	14 26 02		
						microns sec			
"	6	Up	iP		P	E	3.3 5		
		Ki	iP		P	Z	5.4 5		
		Sea of Okhotsk (h = 480 km).			P	Z'	0.4 0.5		
					PP	Z	3.2 4		
					S	E	17 7		
"	7	Ki	e(P)		S	N	19 7		
					M	E	7.0 15		
"	7	Up	iP		M	N	4.1 16		
		i	09 45 47		M	Z	6.9 17		
			09 46 09		(D = 8200 km = 74°).				
			microns sec		Sk	iP	14 14 55		
		P	Z' 0.1 0.5			iPP	14 17 58		
		Ki	iP			iS	14 24 16		
					Gb	iP	14 15 17 D		
			microns sec			iS	14 24 52		
		P	Z' 0.1 1.0		Um	iP	14 14 39		
		Um	iP			i(sP)	14 16 52		
		Ka	iP			iPP	14 17 36		
		Central China (h = 30 km).				iS	14 23 43		
						isS	14 26 26		
"	7	Up	iPKP		Ka	iP	14 15 15		
						iPP	14 18 29		
			microns sec		Bonin Islands region. h = 440 km (Up, Ki, Um). Magn. = 7.0 (Up, Ki).				
		PKP	Z' 0.1 0.5						
		Sk	iPKP		"	7	Um	iP	23 06 12
		Gb	iPKP						
		Um	iPKP		"	8	Up	iP	00 07 17
		Kermadec Islands (h = 370 km).					Um	iP	00 07 04
"	7	Up	iP						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Dec	8	Near west coast of central Luzon (h = 180 km).			Dec	8	Up	iPKKP	21 56 17
cont.					cont.				microns sec
"	8	Ki iP	01 52 33					S	N 3.6 12
		Central Alaska (h = 30 km).						PKKP	Z' 0.1 1.0
								M	E 9.6 20
								M	N 7.9 22
"	8	Up iP	09 09 34					M	Z 5.5 21
			09 10 10						(D = 12100 km = 109°).
			09 10 38			Ki	iPKP		
		Ki iP	09 10 07				i	21 44 49	
			09 11 12				epPP	21 45 39	
		Sk iP	09 10 07				iSKS	21 47 43	
		Gb iP	09 09 46				i	21 50 36	
		Um iP	09 09 45				iS	21 51 44	
		Ka ePP	09 10 20				i	21 52 28	
		Northern Iran (h = 30 km).					i	21 54 10	
							ipS	21 55 23	
"	8	Up iP	11 43 39				iPKKP	21 56 00	
		Sk iP	11 44 13				i	21 58 09	
		Ka iP	11 43 00					microns sec	
"	8	Up iP	14 28 15				PKP	Z' 0.1 1.0	
		Sk iP	14 28 27				SKS	E 3.1 7	
		Tsinghai Province, China (h = 30 km).					S	N 3.4 11	
							PKKP	Z' 0.2 1.5	
							M	E 19 25	
							M	N 2.9 20	
"	8	Up iPKS	18 41 29				M	Z 6.9 20	
			microns sec					(D = 12550 km = 113°).	
		PKS	N 1.3 5			Sk	eP	21 40 35	
		M	N 5.2 25				iPKP	21 44 32	
		M	Z 4.2 25				i	21 45 07	
		Ki i(PKP)	18 37 30			Gb	iP	21 40 22	
		iPKP	18 37 54				i	21 40 28	
			microns sec				ePKP	21 44 50	
		PKP	Z' 0.5 1.5			Um	eP	21 40 51	
		M	E 2.7 20				iPKP	21 44 47	
		M	N 1.9 20				ePP	21 45 25	
		M	Z 3.5 20				i	21 47 18	
		Sk i(PKP)	18 37 42				iSKS	21 50 30	
		iPKP	18 38 04				i	21 53 42	
		Gb iPKP	18 38 08				iSP	21 53 57	
		Um iPKP	18 37 56				iPS	21 55 18	
		i!	18 38 01				iPKKP	21 55 52	
		ePP	18 40 04				i	21 56 06	
		ePKS	18 40 59				eSS	22 00 06	
		Ka iPKP	18 38 13				i	22 03 31	
		Tonga Islands region (h = 30 km).						(D = 12350 km = 111°).	
		Magn. = 6.3 (Up, Ki).				Ka	iPKP	21 44 49	
							ePKKP	21 56 31	
								Argentina (h = 620 km).	
								Magn. = 6.8 (Up, Ki).	
"	8	Up iP	21 40 38		"	8	Up iP	23 06 08 C	
		i	21 40 44				ipP	23 06 21	
		iPKP	21 44 44				iP'P'	23 34 10	
		i	21 45 09					microns sec	
		i	21 49 08				P	Z' 0.3 0.5	
		iS	21 51 48						





Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Dec	12	Um	iP	23 08 41	Dec	13	Ki	iP	23 32 12
cont.			i	23 08 58			Batan Islands (h = 150 km).		
		Ka	iP	23 08 50					
		Sumatra (h = 140 km).			"	14	Up	iP	03 28 25
"	13	Up	iP	00 36 50	"	14	Up	i(P)	03 57 36
			i	00 36 58					
				microns sec	"	14	Ki	i(Pg)	06 53 45
		P	Z'	0.1 0.6				i(Sg)	06 54 12
		Ki	eP	00 36 56	"	14	Up	iP	17 00 28 D
		Sk	eP	00 37 13				i	17 00 33
		Um	iP	00 36 54			Ki	iP	17 00 02
		Nicobar Islands (h = 30 km).							microns sec
"	13	Up	iP	04 31 02			M	N	0.9 15
		Ki	iP	04 30 05			M	Z	1.1 13
				microns sec			Um	iP	17 00 09
		P	Z'	0.2 0.7			Ka	iP	17 00 51
		Sk	iP	04 30 34			Outer Mongolia-U.S.S.R.		
		Gb	iP	04 31 15 D			border (h = 30 km).		
		Um	iP	04 30 34	"	14	Up	iP	20 32 00 D
		Ka	iP	04 31 30	"	15	Up	iPn	03 50 28
		South-central Alaska						i	03 50 34
		(h = 50 km).						i	03 50 38
"	13	Up	iP	15 07 08				i	03 51 32
			i	15 07 18				iSn	03 51 51
			ipP	15 07 27				i	03 52 07
		Ki	iP	15 06 22				iSg	03 52 37
				microns sec					microns sec
		P	Z'	0.1 1.0			Sn	E	0.8 1
		Sk	iP	15 06 49			Sn	Z'	0.7 0.5
			i	15 06 55			Sg	E	3.0 1
		Gb	iP	15 07 30			Sg	N	0.5 1
		Um	iP	15 06 51			Sg	Z	1.8 1
		Ka	iP	15 07 47			D = 790 km = 7.1°.		
		Kenai Peninsula, Alaska					Ki	iPn	03 49 21 D
		(h = 70 km).						i	03 49 28
"	13	Gb	i(P)	15 21 23				i	03 49 40
"	13	Up	iP	22 50 55				iSn	03 49 53
			i	22 51 02				iSg	03 50 03
			iS	22 55 28					microns sec
				microns sec			Pn	Z'	0.7 0.5
		M	E	0.8 17			Sg	E	2.6 2
		M	N	1.4 16			Sg	N	7.1 2
		M	Z	1.3 16			Sg	Z	5.4 3
		D = 2850 km = 25.1°.					D = 280 km = 2.5°.		
		Ki	iP	22 52 01			Sk	iPn	03 49 37
				microns sec				i	03 49 44
		M	E	1.2 18				iSg	03 50 35
		Sk	iP	22 51 34			D = 380 km = 3.4°.		
		Ka	iP	22 50 32			Gb	i(Pn)	03 51 06 D
		Dodecanese Islands						iSn	03 52 40
		(h = 40 km).						i	03 52 56
								i	03 53 29

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962						
Dec	15	Gb	iSg	03 53 41	Dec	17	Um	iP	11 12 49	
cont.				D = 1010 km = 9.1°	cont.			iPP	11 16 39	
		Um	iPn	03 49 45 D					Celebes Sea (h = 390 km).	
			i	03 49 54					Magn. = 6.3 (Up, Ki).	
			iSn	03 50 34		"	17	Up	iP	17 35 27 C
			iSg	03 50 55					i	17 35 46
				D = 440 km = 4.0°						microns sec
		Ka	iPn	03 51 19					P	Z' 0.1 1.0
			i	03 51 29			Ki	iP		17 35 05 C
			iSn	03 53 19						microns sec
			i	03 54 29					P	Z' 0.2 1.1
				D = 1190 km = 10.7°					M	E 1.8 18
				Coast of Norway, 67.0° N,					M	N 1.4 18
				14.3° E. Origin time =					M	Z 2.8 20
				03 48 41. First motions of						Ningsia Province, China
				P are compatible with a						(h = 30 km).
				fault strike, roughly						Magn. = 5.7 (Up, Ki).
				parallel to the coast, and		"	18	Up	iP	02 13 26
				with eastern (continental)					iPP	02 14 58
				side moving up relative to				Ki	iP	02 13 31
				western (Atlantic) side.				Um	iP	02 13 22
"	15	Ki	eP	11 12 48				Ka	iP	02 13 34
			i	11 12 50						Kirghiz, U.S.S.R.
"	16	Ki	e(P)	06 00 33						(h = 80 km).
			e(Sg)	06 00 53		"	18	Up	iP	03 07 00
"	16	Up	iP	06 41 49				Ki	iP	03 06 31 D
				Hindu Kush (h = 150 km).					iPP	03 07 37
"	16	Ki	e(Sg)	07 23 03						microns sec
"	16	Up	iP	21 10 13					P	Z' 0.1 0.5
"	16	Um	iP	22 16 19 C				Sk	iP	03 06 56
"	16	Ki	e(Sg)	22 29 15				Gb	iP	03 07 17
		Sk	e(Sg)	22 28 17				Um	iP	03 06 43 D
		Um	i(Sg)	22 29 38					iPP	03 07 50
				Probably off coast of		"	18	Up	iP	04 01 17 C
				Norway.				Um	iP	04 01 09
"	17	Up	iP	10 53 09						India-Burma border region
		Um	iP	10 52 32						(h = 120 km).
"	17	Up	iP	11 12 59		"	18	Up	iP	07 26 31
			isP	11 15 22				Ki	iP	07 27 34
			iPP	11 16 59						South of Crete.
				microns sec		"	18	Up	i(P)	07 57 12
				Z' 0.6 1.6		"	18	Up	iPKP	10 53 14 C
		Ki	iP	11 12 44					iPKP	10 54 08
			iPP	11 16 36					i	10 54 14
				microns sec					isPKP	10 54 31
				Z' 0.3 1.5						microns sec
		Sk	iP	11 13 04					PKP	Z' 0.2 0.6

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Dec	18	Ki	ePKP	10 53 00	Dec	21	Up	iP	00 58 00 D
cont.		Sk	iPKP	10 53 05				iPP	01 02 14
			isPKP	10 54 23				iSKS	01 08 34
		Gb	iPKP	10 53 22 C					microns sec
		Um	ePKP	10 53 05			M	E	8.1 21
		Ka	iPKP	10 53 22 C			M	N	10 25
			epPKP	10 54 16			M	Z	10 21
		Kermadec Islands.					Ki	iP	00 57 54 D
		h = 210 km (Up, Ka).							microns sec
"	18	Up	iSn	12 35 22			M	E	6.4 20
			i	12 35 45			M	N	2.8 18
			iSg	12 35 51			M	Z	6.9 20
			D = 600 km = 5.4°.			Sk	iP		00 58 11
		Sk	eSg	12 37 42		Um	iP		00 57 55
		Gb	ePg	12 34 06			eS		01 09 18
			iSg	12 34 51			e		01 12 28
		Ka	iPg	12 33 25			eSS		01 16 37°.
			iSg	12 33 48			D = 11100 km = 100°.		
		D = 200 km = 1.8°.					Near south coast of Java		
		Southern Baltic, 54½° N,					(h = 60 km).		
		14° E. Origin time =			"	21	Sk	iP	01 40 59
		12 32 48.					New Britain region		
"	18	Up	iP	14 57 52			(h = 150 km).		
		Hindu Kush. Intermediate			"	21	Up	iP	06 38 45
		depth.							microns sec
"	19	Up	i(P)	04 11 08			P	Z'	0.2 1.0
"	19	Ki	iP	05 16 31		Ki	iP		06 37 52
"	19								microns sec
"	19	Up	iPKP	11 21 26			P	Z'	0.2 1.0
			i	11 21 29			M	E	1.8 20
		Sk	ePKP	11 21 16			M	N	1.1 20
		Um	iPKP	11 21 13 D			M	Z	2.8 19
		Kermadec Islands region				Sk	iP		06 38 22 C
		(h = 30 km).				Gb	iP		06 39 00 C
"	20	Ki	iP	07 23 00		Um	iP		06 38 18
"	20	Up	i(P)	08 34 29			i		06 38 29
"	20	Ki	iSKP	09 08 19		Ka	iP		06 39 10
				microns sec		Fox Islands, Aleutian			
		Sk	SKP	Z' 0.2 1.5	"	21	Ki	iP	06 41 44
		Gb	iPKP	09 06 00			Fox Islands, Aleutian		
			iSKP	09 08 48			Islands (h = 40 km).		
		Um	iPKP	09 05 49	"	21	Ki	iP	07 17 06
			iSKP	09 08 30			Fox Islands, Aleutian		
		Ka	iPKP	09 05 58			Islands (h = 30 km).		
		Fiji Islands region			"	21	Ki	iP	08 46 54 C
		(h = 510 km).					Fox Islands, Aleutian		
							Islands (h = 30 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962							
Dec	21	Up	iP	08 53 45	Dec	21	Up	P	Z	1.3	3
			i	09 02 55	cont.			P	Z'	0.3	1.0
			iScS	09 03 57			Ki	iP		09 20 03	
				microns sec				i		09 20 06	
			P	Z' 0.5 1.0						microns sec	
			M	E 20 18				P	Z'	1.2	1.5
			M	N 21 18			Sk	iP		09 20 36	
			M	Z 16 20				i		09 20 44	
		Ki	iP	08 52 52			Gb	iP		09 21 14	
			eS	09 01 11			Um	iP		09 20 33	
				microns sec			Ka	iP		09 21 20	
			P	N 0.8 6			Fox Islands, Aleutian Islands (h = 30 km). Magn. = 6.6 (Up, Ki).				
			P	Z' 1.6 1.5							
			S	E 4.7 14			"	21	Up	iP	09 44 17 D
			M	E 19 15					i		09 44 35
			M	N 11 15							microns sec
			M	Z 20 16				P	Z'	0.4	1.0
			D = 6700 km = 60 $\frac{1}{2}$ °.				Ki	iP		09 43 33 D	
		Sk	iP	08 53 21				i		09 43 50	
		Gb	iP	08 54 00						microns sec	
		Um	iP	08 53 18				P	Z'	0.3	1.0
			iS	09 01 51			Sk	iP		09 44 08 D	
		Ka	iP	08 54 08				iPP		09 46 34	
		Fox Islands, Aleutian Islands (h = 30 km). Magn. = 6.6 (Up, Ki).					Gb	iP		09 44 38 D	
"	21	Um	iP	08 59 18 D			Um	iP		09 43 53 D	
"	21	Up	iP	09 01 02			Ka	iP		09 44 36	
		Ki	iP	09 00 09			Near south coast of Hokkaido, Japan (h = 25 km). Magn. = 6.4 (Up, Ki).				
				microns sec			"	21	Ki	iP	14 50 46
			P	Z' 0.2 1.4							
		Um	iP	09 00 36 C							
		Fox Islands, Aleutian Islands (h = 30 km).									
"	21	Up	iP	09 11 38			"	21	Ki	iP	15 38 18 C
				microns sec							
			P	Z 1.6 5					P	Z'	0.1 1.0
			P	Z' 0.2 1.0					Fox Islands, Aleutian Islands (h = 50 km).		
		Ki	iP	09 10 45			"	21	Up	iP	17 56 39
			iPcP	09 11 32					i(S)		18 04 19
				microns sec					Ki	iP	17 57 18
			P	Z' 0.4 1.2							microns sec
		Sk	iP	09 11 13					M	E	1.8 20
		Gb	iP	09 11 53					M	N	1.0 16
		Um	iP	09 11 11					Sk	eP	17 57 20
		Ka	iP	09 12 00					Gulf of Aden (h = 25 km).		
		Fox Islands, Aleutian Islands (h = 30 km). Magn. = 6.2 (Up, Ki).					"	21	Up	iP	18 33 09
"	21	Up	iP	09 20 59					i		18 33 17
				microns sec					Ki	iP	18 32 50 C
			P	N 0.7 2					Near west coast of central Luzon (h = 60 km).		



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962					
Dec	23	Ka	iP	00 47 33	Dec	23	Ki	iP	19 02 41
cont.		Albania-Yugoslavia border region (h = 30 km).					Um	iP	19 03 09
		Fox Islands, Aleutian Islands (h = 30 km).							
"	23	Up	iP	06 35 31	"	23	Um	iP	19 12 10 C
			iPP	06 37 01					
		Ki	iP	06 35 36 D					
				microns sec					
			P	Z' 0.2 0.5	"	24	Up	iPKP	00 42 46 D
		Sk	ePP	06 37 37			Um	iPKP	00 42 54
		Um	iP	06 35 27 D			Sandwich Islands region (h = 30 km).		
		Hindu Kush (h = 200 km).							
"	23	Up	i(P)	08 24 33	"	24	Um	iP	03 53 32
		Near west coast of northern Honshu, Japan (h = 30 km).							
"	23	Ki	eP	08 31 22	"	24	Up	iP	10 48 50 C
		Fukien Province, China (h = 30 km).							microns sec
"	23	Gb	iP	10 18 44			M	N	2.8 9
							M	Z	2.8 9
"	23	Up	iP	10 34 20			Ki	iP	10 47 21
		Um	iP	10 34 08 C				iPP	10 47 31
		Near east coast of Luzon (h = 50 km).						iS	10 49 32
								D = 1400 km = 12 $\frac{1}{2}$ .	
"	23	Ki	iP	10 58 16			Sk	eP	10 48 27
		Um	iP	10 58 42				i	10 48 33
		Fox Islands, Aleutian Islands (h = 50 km).					Um	iP	10 47 42
							Novaya Zemlya. Atmospheric nuclear explosion.		
"	23	Up	eL	11 26	"	24	Up	iP	11 16 21
				microns sec				i	11 19 55
		M	E	0.9 10				iS	11 20 11
		M	N	2.0 10				i(PcP)	11 20 34
		M	Z	2.3 10				iLi	11 21 35
		Ki	eL	11 23				iLg2	11 22 55
				microns sec					microns sec
		M	N	0.9 11			M	E	3.6 9
		Novaya Zemlya..Atmospheric nuclear explosion..					M	N	7.4 9
							M	Z	7.8 10
							D = 2250 km = 20 $\frac{1}{2}$ .		
"	23	Um	iP	15 00 07 C			Ki	iP	11 14 51
								i	11 15 05
"	23	Ki	iP	15 14 40				iS1	11 17 05
		Um	iP	15 15 07				iS2	11 17 14
		Fox Islands, Aleutian Islands (h = 30 km).						iSS	11 17 25
								iSSS	11 17 43
									microns sec
"	23	Um	iPKP	15 54 31 D			P	Z' 0.1 1.0	
			iPKP2	15 54 40			S2	Z' 0.2 1.3	
		Off north coast of North Island, New Zealand (h = 30 km).					M	E	6.6 10
							M	N	6.4 11
							M	Z	12 11
							D = 1450 km = 13 $\frac{1}{2}$ .		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					1962				
Dec	24	Sk	eP	11 16 00	Dec	26	Up	iP	09 03 54
cont.			iS	11 19 31				i	09 04 07
			iSS	11 19 53				iS	09 08 42
			D = 2050 km = 18 $\frac{1}{2}$ °					microns sec	
		Gb	iP	11 16 57 C			P	Z'	0.1 0.9
		Um	iP	11 15 31 C			S	N	2.5 5
			iPP	11 15 37			M	E	1.9 20
			iS	11 18 22			M	N	3.0 15
			iSS	11 18 34			D = 3000 km = 27°		
			iSSS	11 18 49			Ki	iP	09 04 50
			iLi	11 19 05			Sk	iP	09 04 06
			D = 1700 km = 15 $\frac{1}{2}$ °				Gb	iP	09 03 22
		Ka	iP	11 17 08			i	09 03 37	
			iPcP	11 20 42			iS	09 07 41	
			iSSS	11 22 52			Um	iP	09 04 25
			D = 2800 km = 25°				i	09 04 32	
		Novaya Zemlya. Atmospheric nuclear explosion.					Ka	iP	09 03 40
							Off coast of Portugal (h = 20 km).		
"	24	Ki	iP	12 24 12			Magn. = 5.4 (Up).		
		Sk	iP	12 24 23					
		Um	iP	12 24 48					
		Ka	i(P)	12 26 04 C					
"	25	Up	iP	13 40 36					
			i	13 40 45					
			microns sec						
		M	E	2.5 9			P	E	1.0 4
		M	N	3.9 10			P	N	2.3 5
		M	Z	5.0 10			P	Z	2.5 3
		Ki	eP	13 39 06			P	Z'	0.6 0.7
			iS	13 41 23			S	E	3.2 4
		Sk	eP	13 40 14			S	N	1.0 3
			eS	13 43 44			M	E	13 17
		Novaya Zemlya. Atmospheric nuclear explosion.					M	N	24 21
							M	Z	12 17
							D = 7100 km = 64°		
"	25	Ki	iPn	14 35 43 D			Ki	iP	22 34 54 C
			iSn	14 36 31			iPa	22 38 17	
			iSg	14 36 47			iS	22 42 41	
			D = 420 km = 3.8°				eScS	22 44 46	
		Um	iSg	14 38 15			microns sec		
		Probably northwest Russia.					P	Z'	1.2 1.0
		Origin time = 14 34 42.					S	E	7.5 10
							M	E	17 17
							M	N	19 20
							M	Z	44 21
							D = 6200 km = 56°		
"	25	Up	iP	18 38 36			Sk	iP	22 35 29 C
		Ki	iP	18 38 38			i	22 35 41	
		Um	iP	18 38 33			Gb	eP	22 36 07 C
"	26	Ki	iP	05 38 39			Um	iP	22 35 20 C
		Um	iP	05 39 05			iPcP	22 36 02	
		Fox Islands, Aleutian Islands (h = 30 km).					iPa	22 39 06	
							iS	22 43 29	
							D = 6650 km = 60°		
"	26	Up	e(P)	07 44 02			Ka	iP	22 36 11 C

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Dec				Dec			
cont.	26	Komandorskie Islands (h = 30 km). Magn. = 6.7 (Up, Ki).		cont.	27	Up	microns sec
						P	Z' 0.3 0.9
						M	E 0.8 18
						M	N 1.9 19
						M	Z 2.9 18
"	26	Up	iP 23 33 59 i 23 34 09 microns sec			Ki	iP 18 29 13 C microns sec
			P Z' 0.1 0.5				P Z' 0.4 1.0
		Ki	iP 23 34 24 i 23 34 31 microns sec			Sk	iP 18 29 47 C iPP 18 32 12
			P Z' 0.1 0.5			Gb	iP 18 30 15 C
		Sk	iP 23 34 30			Um	iP 18 29 31 C
		Gb	iP 23 34 14			Ka	iP 18 30 15 C
		Um	iP 23 34 05 iPP 23 36 01			Near west coast of southern Honshu, Japan (h = 40 km). Magn. = 6.4 (Up, Ki).	
		Ka	iP 23 33 55	"	28	Ki	iP 14 57 05 i 14 57 16
		Arabian Sea (h = 30 km). Magn. = 6.0 (Up, Ki).				Um	iP 14 57 31
"	26	Up	iP 23 56 47 C microns sec			Fox Islands, Aleutian Islands (h = 30 km).	
			P N 0.8 2	"	28	Up	iP 15 21 04 i 15 22 27
			P Z 0.6 1			Ki	e 15 23 50
			P Z' 0.3 0.5			Sk	iP 15 23 01 e 15 24 21
			M E 2.1 16			Um	iP 15 21 52 i 15 23 13
			M N 3.6 22			Two shocks with same epicenter?	
			M Z 3.2 20	"	28	Ki	iP 20 00 29
		Ki	iP 23 55 53 C microns sec			Um	iP 20 00 49
			P Z' 0.7 1.1			Off east coast of Hokkaido, Japan (h = 40 km).	
		Sk	iP 23 56 28	"	28	Up	i(P) 21 00 05
		Gb	iP 23 57 06 C i 23 57 15	"	28	Up	iP 21 51 20 microns sec
		Um	iP 23 56 19 C i 23 56 28				P Z' 0.1 1.2
		Ka	iP 23 57 11 C i 23 57 21			Sk	iP 21 51 32
		Komandorskie Islands (h = 30 km). Magn. = 6.6 (Up, Ki).				Um	iP 21 51 41
"	27	Ka	iP 01 39 49			Ka	iP 21 50 57
		Komandorskie Islands (h = 30 km).				South Atlantic Ocean (h = 30 km).	
"	27	Um	iP 05 38 20	"	28	Sk	iP 23 35 34
"	27	Ki	iSg 06 28 30			Mediterranean Sea (h = 30 km).	
		Um	i 06 29 15 iSg 06 29 48	"	28	Sk	iP 23 35 34
"	27	Up	iP 07 09 19	"	29	Up	iP 04 25 46
"	27	Up	iP 18 29 54 C i 18 29 58			Ki	iP 04 25 25 i 04 29 05



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962					
Dec	29	Ki	iPP	04 29 15	
cont.				microns sec	
			P	Z' 0.1 1.0	
		Sk	eP	04 25 45	
			iPP	04 29 47	
		Um	iP	04 25 30 C	
			iPP	04 29 20	
			eSKS	04 35 59	
			ePS	04 38 02	
		Halmahera region			
		(h = 30 km).			
"	29	Ki	e(P)	06 52 20	
		Local.			
"	29	Up	iP	08 13 09	
			i	08 13 19	
			iS	08 20 14	
				microns sec	
			S	N 0.3 5	
			M	E 0.7 16	
			M	N 1.6 16	
			M	Z 1.2 15	
			D = 5450 km = 49°.		
		Ki	iP	08 13 32	
			iPP	08 15 37	
			eS	08 21 02	
			e	08 21 21	
			eSS	08 24 48	
				microns sec	
			S	E 0.3 7	
			M	E 1.9 17	
			M	N 2.1 16	
			M	Z 1.7 14	
			D = 5800 km = 52°.		
		Sk	iP	08 13 39	
			i	08 13 47	
		Um	iP	08 13 15	
			i	08 13 26	
			iPP	08 15 20	
		Afghanistan (h = 30 km).			
		Magn. = 5.4 (Up, Ki).			
"	29	Um	iP	08 49 47	
"	29	Um	iP	09 03 29	
"	29	Up	iP	10 55 13	
			ePKP	10 59 34	
			e	11 05 44	
			eSKS	11 06 54	
			e	11 08 49	
				microns sec	
			PKP	E 0.4 3	
			PKP	Z 0.8 5	
			M	E 3.8 20	

1962					
Dec	29	Up	M	N 2.4 20	
cont.			M	Z 5.2 20	
			(D = 12000 km = 108°).		
		Ki	ePKP	10 59 51	
			eSKS	11 06 21	
			eS	11 07 31	
			ePS	11 09 20	
				microns sec	
			PKP	E 0.3 7	
			PKP	Z 0.8 5	
			SKS	E 0.6 9	
			S	N 0.7 14	
			M	E 4.0 20	
			M	N 3.1 23	
			M	Z 9.4 22	
			(D = 12200 km = 110°).		
		Um	iP	10 55 22	
			ePKP	10 59 47	
			iSKS	11 06 19	
			eS	11 07 23	
			ePS	11 09 12	
			eSS	11 15 08	
			(D = 12100 km = 109°).		
			Northern Chile		
			(h = 50 km).		
			Magn. = 6.3 (Up, Ki).		
"	29	Up	ePKP	15 07 28	
			i	15 07 33	
			e	15 10 40	
				microns sec	
			M	E 1.1 20	
			M	N 2.0 20	
			M	Z 1.8 19	
		Ki	iPKP	15 07 05	
			ePP	15 10 13	
			ePKS	15 10 45	
			eSKKS	15 17 10	
			eSS	15 28 40	
				microns sec	
			PKP	Z 0.4 6	
			PKS	E 0.3 7	
			M	E 1.8 20	
			M	N 1.6 20	
			M	Z 4.2 20	
			(D = 15900 km = 143°).		
		Sk	iPKP	15 07 19	
			i	15 07 25	
		Gb	iPKP	15 07 38	
			i	15 07 47	
		Um	iPKP	15 07 14 C	
			i	15 07 18	
			i	15 07 30	
			eSS	15 29 30	
		Kermadec Islands region			
		(h = 40 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962				1962			
Dec	29	Sk e(PKP) Um iPKP i	15 40 37 15 40 17 15 40 30	Dec	30	Near south coast of Hokkaido, Japan (h = 90 km).	
		Kermadec Islands region (h = 40 km).		"	30	Up iPKP 23 10 00 Kermadec Islands (h = 50 km).	
"	29	Um iP	17 00 15	"	31	Ki iSg 06 06 38 Um iSn 06 07 21 iSg 06 08 01 Possibly northwest Russia.	
"	29	Sk ePKP i Um iPKP i	18 33 41 18 33 51 18 33 34 18 34 35	"	31	Up iP 08 10 54 ipP 08 11 04 microns sec P Z' 0.1 1.0 Ki iP 08 10 01 ipP 08 10 12 microns sec pP Z' 0.1 1.0 M E 0.7 17 M N 0.5 18 M Z 0.9 16 Sk iP 08 10 38 Gb iP 08 11 14 Um iP 08 10 26 ipP 08 10 37 Near east coast of Kamchatka (h = 50 km).	
"	29	Sk iP ePP Um iP iPP i	18 39 22 18 43 02 18 39 15 18 42 54 18 43 17				
		Kermadec Islands region (h = 30 km).					
"	29	Um iP i	18 45 40 D 18 45 48				
"	29	Um iP	20 00 09				
"	29	Um iP	23 22 35				
"	30	Um iPKP	02 16 41	"	31	Up iP 10 15 47	
		New Hebrides Islands (h = 50 km).		"	31	Up iP 11 13 39 i 11 13 54 microns sec M N 1.0 20 Ki iP 11 13 35 eS 11 24 05 microns sec S N 0.3 7 M E 1.1 17 M N 1.0 20 M Z 1.3 16 D = 9500 km = 85 $\frac{1}{2}$ <sup>0</sup> . Sk iP 11 13 56 Um iP 11 13 34 i 11 13 42 eS 11 24 01 eSS 11 29 39 Near coast of Sumatra (h = 30 km).	
"	30	Up iP Sk iP Um iP	13 42 47 13 42 40 13 42 35				
		Kermadec Islands (h = 50 km).					
"	30	Um iP	18 07 35 D				
"	30	Up iP e(SP) Um ePKP epPKP e	18 35 58 18 45 24 18 34 41 18 35 22 18 35 31				
		New Britain (h = 120 km).					
"	30	Um i(P)	20 48 54				
"	30	Up iP i Ki iP Um iP i	22 19 36 22 19 40 22 18 53 22 19 11 22 19 15	"	31	Ki iPg 12 08 00 iSg 12 08 25	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Dec 31 Um iSn 12 08 53  
cont. iSg 12 09 08

Probably Finland-Sweden  
border region.

" 31 Up iP 18 40 48  
Um eP 18 40 36  
Luzon (h = 70 km).

" 31 Up iP 21 00 34  
i 21 00 40  
Sk iP 21 00 05  
i 21 00 10  
Gb iP 21 00 37  
Um iP 21 00 14  
i 21 00 20  
Pierce County, Washington,  
U.S.A. (h = 30 km).

" 31 Up iPKP 22 04 16  
Kermadec Islands region  
(h = 240 km).

" 31 Gb iPKP 23 56 50  
Tonga Islands (h = 30 km).

Markus Båth  
April 23, 1963

Geological Institute  
The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

October 26 - November 2, 1962  
.....

October	26	i(P)	11 24 16
"	26	iP	11 31 54
		i	11 32 22
"	27	i(P)	06 13 26
"	28	i(P)	12 18 37
"	28	iP	23 05 34
"	29	iP	06 14 32
"	29	i(P)	10 34 22
"	29	i(P)	13 29 11
"	30	iP	16 23 32
"	31	iP	23 39 54
November	1	iP	05 51 19
"	1	iP	13 54 07
		i	13 55 31
"	1	iP	15 47 06
"	1	iP	18 06 05
"	1	iP	23 31 46
		i	23 32 11

Ulla-Britt Larsson  
November 2, 1962

Markus Båth  
Director

Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

November 2 - November 9, 1962  
.....

November	2	iP	15 11 50
		i	15 12 01
"	3	iP	03 45 36
"	3	eP	14 25 29
"	3	iP	15 10 55
"	3	iP	19 17 26
"	4	iP	23 12 37
"	5	iP	11 48 11
		i	11 48 21
		iS	11 49 39
"	6	iP	00 17 28
		i	00 18 11
"	6	iP	03 47 54
"	6	iP	14 58 13
"	6	e(P)	15 29 44
"	6	i(P)	19 01 13
"	7	iP	22 09 33
"	7	iP	22 37 27
		i	22 37 41
"	8	iP	18 58 48
"	8	e(P)	21 26 47
"	9	iP	01 17 30
		i	01 17 34
"	9	iP	02 18 14
		i	02 18 19
		i	02 18 30

Ingrid Pettersson  
November 9, 1962

Markus Båth  
Director



Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

November 9 - November 16, 1962  
.....

November	9	iP	09 33 01	November	15	iP	19 41 01
"	9	i(P)	14 03 04	"	15	eP	22 31 54
"	10	iP	01 44 18			i	22 32 20
"	10	iP	22 33 06	"	16	i(P)	00 12 56
		i	22 33 11				
"	11	iP	11 40 11				
		i	11 40 18				
"	11	iP	15 23 51				
"	11	iP	16 28 55				
"	11	iP	16 41 33				
"	11	iP	22 33 21				
"	12	iP	13 01 04				
"	12	e(P)	19 06 04				
"	12	iP	19 43 34				
		i	19 43 59				
"	13	iP	09 05 37				
"	13	iP	20 22 16				
"	14	iP	07 43 36				
"	14	iP	07 59 35				
"	15	eP	19 12 16				

Ingrid Pettersson  
November 16, 1962

Markus Båth  
Director



Seismological Institute  
The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

November 16 - November 23, 1962  
.....

November	16	iP	21 21 20
"	16	iP	22 56 57
"	17	iP	00 10 50
"	17	e(P)	03 17 30
"	17	iP	11 20 07
		i	11 20 12
"	17	iP	19 26 00
"	18	iP	06 56 42
"	18	i(P)	21 16 45
"	19	iP	11 11 54
"	19	iP	21 55 39
"	20	iP	07 04 14
"	20	iP	07 42 48
"	20	iP	16 13 15
"	20	iP	20 53 26
"	21	iP	00 36 34

November	21	iP	15 16 06
"	22	iPg	11 40 39
		iSg	11 40 55
"	22	iPg	11 43 05
		iSg	11 43 21
"	22	iPg	11 55 46
		iSg	11 56 01
		iL	11 56 10
"	22	iPg	12 53 05
		iSg	12 53 21
"	22	i(P)	15 41 20
"	22	iP	20 52 43

Ingrid Pettersson  
November 23, 1962

Markus Båth  
Director

Seismological Institute  
The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

November 23 - November 30, 1962  
.....

November 23	iP	20 36 39	November 28	iP	05 35 37
" 23	iP	23 23 59	" 28	iP	15 37 32
	i	23 26 46		i	15 37 53
" 24	iP	10 52 41	" 29	iP	04 17 59
	i	10 53 20		i	04 18 01
" 24	iP	16 02 58	" 29	iP	07 50 19
" 25	iP	17 47 16		i	07 50 30
" 25	iP	23 01 43			
" 26	iP	01 48 38	Ingrid Pettersson		
	i	01 49 05	November 30, 1962		
" 26	iP	05 37 20			
" 26	iP	13 39 40	Markus Båth		
" 26	iP	18 35 53	Director		
" 26	iP	20 10 33			
" 27	iP	07 04 29			
	i	07 05 12			
	i	07 07 21			
" 27	iP	12 19 36			
" 28	iP	02 49 14			
	i	02 49 26			





Seismological Institute  
The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

November 30 - December 7, 1962

.....

November	30	iP	16 12 22
"	30	iP	20 57 13
"	30	e(P)	22 04 25
		i	22 04 31
December	1	iP	02 01 16
"	1	iP	04 36 38
"	2	iP	14 47 51
		i	14 47 56
"	4	iP	14 08 53
"	4	iP	20 35 52
"	5	iP	00 29 22
		i	00 29 32
"	6	iP	04 14 48
		i	04 14 57

Ingrid Pettersson  
December 7, 1962

Markus Båth  
Director



The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

December 7 - December 14, 1962  
.....

December	7	iP	09 45 47	December	13	iP	04 31 02
		i	09 46 09				
"	7	i(P)	13 14 43	"	13	iP	15 07 08
						i	15 07 18
"	7	iP	14 14 57			i	15 07 27
"	7	iP	14 24 20	"	13	iP	22 50 55
						i	22 51 02
"	8	iP	00 07 16	"	14	iP	03 28 25
"	8	iP	09 10 10	"	14	i(P)	03 57 36
		i	09 10 38				
"	8	iP	11 43 39				
"	8	iP	21 40 38				
		i	21 40 44				
"	8	iP	21 44 44				
		i	21 45 10				
"	8	iP	21 56 17				
"	8	iP	23 06 08				
		i	23 06 21				
		iP'P'	23 34 10				
"	10	iP	17 15 33				
		i	17 15 48				
"	10	i(P)	18 46 39				
"	11	iP	18 11 18				
"	12	iP	00 13 55				
"	12	iP	18 48 53				
"	12	iP	23 08 43				
		i	23 09 00				
"	13	iP	00 36 50				
		i	00 36 58				

Ingrid Pettersson  
December 14, 1962

Markus Båth  
Director



The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS

at

U P P S A L A

December 14 - December 21, 1962  
.....

December	14	i(P)	17 00 28	December	18	iP	14 57 52
		i	17 00 33				
"	14	iP	20 32 01	"	19	i(P)	04 11 08
"	15	iP	03 50 28	"	19	i(P)	11 21 26
		i	03 50 34			i	11 21 29
		i	03 50 38				Seismic?
		i	03 51 31	"	20	i(P)	08 34 29
		iS	03 51 51	"	21	iP	00 57 59
		Bodö, Norway				i	01 02 14
"	16	iP	21 10 13	"	21	iP	06 38 45
"	17	iP	10 53 09				
"	17	iP	11 12 59				
		i	11 15 22				
		i	11 16 59				
"	17	iP	17 35 27				
		i	17 35 46				
"	18	iP	02 13 26				
		i	02 14 58				
"	18	iP	03 07 00				
"	18	iP	04 01 17				
"	18	iP	07 26 31				
"	18	i(P)	07 57 12				
"	18	iP	10 53 14	Ingrid Pettersson			
				December 21, 1962			
"	18	iP	10 54 08				
		i	10 54 14				
		i	10 54 31				
"	18	iP	12 35 24				
		i	12 35 45				
		i	12 35 51				
		Local?					

Markus Båth  
Director



The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS  
at  
U P P S A L A

December 21 - December 28, 1962  
.....

December 21	iP	08 53 45	December 26	iP	09 03 54
"	21	i(P)	09 01 03	i	09 04 07
"	21	iP	09 11 38	Portugal.	
"	21	iP	09 20 59	"	26 iP 22 35 48
"	21	iP	09 44 17	"	26 iP 23 33 59
"	21	iP	18 33 09	i	23 34 09
"	21	i	18 33 17	"	26 iP 23 56 47
"	21	iP	20 33 53	"	27 iP 07 09 19
"	21	iP	20 46 44	"	27 iP 18 29 54
"	22	i(P)	01 15 02	i	18 29 58
"	22	iP	02 13 32		
"	22	iP	06 49 18		
"	22	iP	15 31 26		
"	22	i	15 31 53		
"	22	iP'P'	16 01 01		
"	23	iP	00 48 13		
"	23	iP	06 37 01		
"	23	i(P)	08 24 33	Ingrid Pettersson	
"	23	iP	10 34 20	December 28, 1962	
"	24	iP	00 42 46		
"	24	iP	11 16 21	Markus Båth	
"	24	i	11 19 55	Director	
"	26	e(P)	07 44 02		

Seismological Institute  
The University  
Uppsala, Sweden

PRELIMINARY SEISMOGRAM READINGS  
at  
U P P S A L A

FOR OTHER PART OF  
SHEET SEE NEXT YEAR.

December 28, 1962 - January 4, 1963  
~~DECEMBER 31~~

---

December	28	iP	15 21 04
		i	15 22 27
"	28	i(P)	21 00 05
"	29	iP	08 13 09
		i	08 13 19
"	29	eP	15 07 31
		i	15 07 33
"	30	iP	13 42 47
"	30	iP	22 19 36
		i	22 19 40
"	31	iP	08 10 54
		i	08 11 04
"	31	iP	10 15 47
"	31	iP	11 13 39
		i	11 13 54
"	31	iP	18 40 48
"	31	iP	21 00 34
		i	21 00 40

---

1962

June.

*typed*  
*JPB*

PRELIMINARY

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala (Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna (Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan (Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg (Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå (Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona (Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

JUNE 1 - 30, 1962

1962

June 1 Up iP 21 58 58 D  
microns sec  
P Z' 0.1 0.6

" 2 / Up iS 12 45 59  
/ Ki eS 12 44 36  
microns sec  
S N 0.5 8  
Vancouver Island region  
(h = 25 km).

" 2 Up -  
microns sec  
M E 0.6 17  
M N 1.2 15  
M Z 1.4 18  
Ki iP 12 46 04  
microns sec  
M E 2.0 20  
M N 2.0 22  
M Z 3.0 18  
Vancouver Island region  
(h = 25 km).

" 2 Up iP 16 53 35 D  
Ka iP 16 52 56  
Greece.

" 2 / Up iP 17 26 53  
iPcP 17 27 07  
eSKS 17 36 52  
iLg2 17 56 12  
microns sec  
SKS E 0.7 18  
M E 7.2 17  
M N 4.2 18  
M Z 9.4 17  
D = 8350 km = 75°.

1962

June 2 Ki iP 17 26 21  
cont. i 17 26 40  
iS 17 35 37  
iPKKS 17 49 39

microns sec  
M E 13 20  
M N 5.7 18  
M Z 17 20

D = 7800 km = 70°.

Um iP 17 26 31  
ePS 17 36 13  
e 17 41 02  
Ka eP 17 27 09  
i 17 27 14  
Kyushu, Japan (h = 15 km).  
Magn. = 6.3 (Up, Ki).  
Very clear Lg2 at Uppsala  
are noteworthy, considering  
the path.

" 2 Up iP 17 37 02

" 3 Um iP 03 38 19

" 3 Ki iP 10 23 09  
Kamchatka (h = 90 km).

" 3 / Up eP 15 12 18  
/ eS 15 20 09  
microns sec  
P Z 0.8 9  
S E 1.4 15  
S N 1.5 13  
M E 1.7 18  
M N 1.6 18  
M Z 2.6 18  
D = 6400 km = 57½°.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
June 3 Ki iP 15 12 33  
cont. e 15 12 44  
eS 15 20 28  
iPPS 15 20 58  
microns sec  
M E 2.0 19  
M N 0.9 18  
M Z 2.4 20  
D = 6600 km = 59 $\frac{1}{2}$ °.  
Um eP 15 12 27  
eS 15 20 32  
Ka iP 15 11 55  
i 15 12 11  
North Atlantic Ocean  
(h = 25 km). Magn. = 5.6  
(Up, Ki).

" 3 Up iP 19 21 21  
i 19 21 39

" 4 Up e(P) 03 11 09

" 4 Up iP 05 35 31 D  
Sk iP 05 36 05  
Um iP 05 36 15  
Adriatic Sea (h = 40 km).

" 4 Up i(P) 08 45 19

" 4 Up iP 22 13 20  
Um iP 22 13 31

" 5 Sk eP 10 59 14  
Sinkiang Province, China  
(h = 140 km).

" 5 Up iPg 13 08 03 C  
i(Sn) 13 08 21  
iSg 13 08 26  
microns sec  
Sg Z' 0.2 0.5  
D = 200 km = 1.8°.  
Um iPg 13 08 58  
iSg 13 09 53  
D = 470 km = 4.2°.  
The Baltic Sea, 59.6°N,  
21.3°E. Origin time =  
13 07 30. Probably explosion.

" 5 Up iPg 13 45 00  
iSg 13 45 40  
D = 330 km = 3.0°.  
Ki iSg 13 48 32  
Sk i(SX) 13 47 26  
Um iSg 13 46 29

1962  
June 5 Ka iSg 13 47 02  
cont. The Baltic Sea, Finnish  
Bay, 59.7°N, 23.6°E.  
Origin time = 13 44 01.  
Probably explosion.

" 5 Up iSg 14 10 19  
i 14 10 28  
Sk e(SX) 14 12 04  
Um iSg 14 11 07  
The Baltic Sea, Finnish  
Bay, 59.7°N, 23.6°E.  
Origin time = 14 08 39.  
Probably explosion.

" 5 Up ePg 14 28 50  
iSg 14 29 34  
D = 380 km = 3.4°.  
Ki iSg 14 32 25  
Sk iSX 14 31 20  
Um iSg 14 30 21  
Ka iSg 14 30 51  
North coast of Esthonia,  
59.5°N, 24.3°E. Origin  
time = 14 27 42. Probably  
explosion.

" 5 Ki eP 14 49 40

" 5 Up iPg 18 31 21  
iSn 18 31 46  
iSg 18 32 04  
D = 380 km = 3.4°.  
Origin time = 18 30 11.

" 5 Um iP 21 32 52

" 6 Up iP 04 49 34  
Sk i(P) 04 51 04

" 6 Up i(P) 08 54 03

" 6 Ka ePn 12 01 06  
iSg 12 01 34  
Denmark. Explosion of 500  
kg TNT at 19 m water depth  
at 56°08' 51"N, 12°00'30"E  
at 12 00 30 (communication  
from Geodetic Institute,  
Copenhagen).

" 6 Up iPg 12 09 03 C  
i(Sn) 12 09 22  
iSg 12 09 27

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 6 Up microns sec  
cont. Sg Z' 0.2 0.5  
D = 200 km = 1.8°.  
Sk e(Sn) 12 11 16  
Um iSg 12 10 50  
Ka iSg 12 11 05  
The Baltic Sea, 59.6°N,  
21.3°E. Origin time =  
12 08 30. Probably  
explosion.

" 6 Up iPg 13 52 44 C  
i(Sn) 13 53 02  
iSg 13 53 07  
microns sec  
Sg Z' 0.3 0.5  
D = 200 km = 1.8°.  
Sk e(Sn) 13 54 57  
Um iPg 13 53 39  
iSg 13 54 35  
D = 470 km = 4.2°.  
Ka iSg 13 54 46  
The Baltic Sea, 59.6°N,  
21.3°E. Origin time =  
13 52 11. Probably  
explosion.

" 6 Up i(P) 14 18 48

" 6 Up iPg 15 00 15  
i(Sn) 15 00 33  
iSg 15 00 38  
microns sec  
Sg Z' 0.3 0.5  
D = 200 km = 1.8°.  
Sk e(Sn) 15 02 28  
i(Sg) 15 02 41  
Um iPg 15 01 11  
iSg 15 02 05  
D = 470 km = 4.2°.  
Ka iSg 15 02 15  
The Baltic Sea, 59.6°N,  
21.3°E. Origin time =  
14 59 42. Probably  
explosion.

" 6 Up iP 15 08 14

" 6 Up iP 15 24 36

" 6 Up iPg 16 13 47 C  
i(Sn) 16 14 04  
iSg 16 14 10

1962  
June 6 Up microns sec  
cont. Sg Z' 0.2 0.5  
D = 200 km = 1.8°.  
Sk e(Sn) 16 16 01  
Um iPg 16 14 42  
iSg 16 15 37  
D = 470 km = 4.2°.  
Ka iSn 16 15 26  
iSg 16 15 48  
D = 500 km = 4.5°.  
The Baltic Sea, 59.6°N,  
21.3°E. Origin time =  
16 13 14. Probably  
explosion.

" 6 Up iP 18 01 56  
microns sec  
M E 0.6 20  
M N 0.9 18  
M Z 1.1 18  
Ki eP 18 01 19  
microns sec  
M E 0.7 17  
M N 0.6 18  
M Z 1.2 17  
Sk iP 18 01 26  
Um iR 18 01 38  
California (h = 25 km).

" 6 Up iP 18 07 25  
Sk iP 18 07 33  
Um iP 18 07 12

" 6 Up iPg 18 43 48  
i(Sn) 18 44 06  
iSg 18 44 12  
microns sec  
Sg Z' 0.2 0.5  
D = 200 km = 1.8°.  
Sk e(Sn) 18 46 02  
Um iPg 18 44 45  
iSg 18 45 38  
D = 470 km = 4.2°.  
Ka iSg 18 45 41  
The Baltic Sea, 59.6°N,  
21.3°E. Origin time =  
18 43 15. Probably  
explosion.

" 6 Up iLg1 19 02 58  
iSg 19 03 09  
Sk iLg1 19 04 23  
Um eLg1 19 05 02



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
June cont.	6	Ka i(Pn) iSg	19 01 02 19 01 36	June cont.	7	Sk e(Lg1)	08 19 18
Denmark. Explosion of 2000 kg TNT at 17 m water depth at 56°08'18"N, 12°01'09"E at 19 00 30 (communication from Geodetic Institute, Copenhagen).				The Baltic Sea, 59.6°N, 21.3°E. Origin time = 08 16 16. Probably explosion.			
"	6	Up iP	19 49 14	"	7	Ki e(P) Um iP	10 06 21 10 07 08
Kurile Islands (h = 25 km).				"	7	Up iP	10 40 01
"	6	Up iPg i(Sn) iSg	20 04 51 20 05 08 20 05 14	"	7	Up iPg i(Sn) iSg	12 18 22 12 18 40 12 18 45
microns sec Sg Z' 0.2 0.5 D = 200 km = 1.8°.				microns sec Sg Z' 0.2 0.5 D = 200 km = 1.8°.			
Sk	e(S <sup>x</sup> )	20 07 17		Um	iPg iSg	12 19 16 12 20 09	
Um	iPg iSg	20 05 48 20 06 41		D = 470 km = 4.2°.			
Ka	eSg	20 06 46		The Baltic Sea, 59.6°N, 21.3°E. Origin time = 12 17 48. Probably explosion.			
The Baltic Sea, 59.6°N, 21.3°E. Origin time = 20 04 18. Probably explosion.				"	7	Up iPg i(Sn) iSg	13 10 31 13 10 49 13 10 55
microns sec				microns sec			
"	6	Up iP Ki iP Sk iP Um iP	20 14 03 D 20 13 31 20 13 56 20 13 45 D			Sg Z' 0.2 0.5 Sk e(Sn) Um iPg iSg	13 12 49 13 11 26 13 12 19
Bonin Islands region (h = 420 km).				D = 470 km = 4.2°.			
"	6	Um iP	20 59 44	The Baltic Sea, 59.6°N, 21.3°E. Origin time = 13 09 59. Probably explosion.			
"	7	Um iP	02 32 25	"	7	Up i(P)	14 01 03
"	7	Up iP Ki iP Sk iP Um iP	05 46 38 05 45 44 05 46 16 05 46 11	"	7	Up iP Sk i(P)	15 29 03 15 29 39
Rat Islands region (h = 50 km).				"	7	Ki e(P)	18 10 52
"	7	Up iPg i(Sn) iSg	08 16 49 C 08 17 07 08 17 12	"	8	Up iSKP Ki iSKP Um iSKP	01 52 52 01 52 27 01 52 39
microns sec Sg Z' 0.2 0.5 D = 200 km = 1.8°.				Fiji Islands (h = 600 km).			
"	8	Up iP	09 22 59 D	microns sec			
				M	E	1.0	16
				M	N	0.9	15
				M	Z	1.0	16

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962			
June 8	Ki	eP	09 22 25	June 9	✓ Ki	iP	20 10 03
cont.			microns sec	cont.	✓ Sk	iP	20 09 55
	M	E	1.1 17		✓ Gb	iP	20 10 03
	M	N	0.9 17		✓ Um	iP	20 10 10
	M	Z	1.2 17		✓ Ka	iP	20 10 13
	Sk	eP	09 22 58				Off coast of Guatemala
	Gb	iP	09 23 19				(h = 100 km).
	Um	iP	09 22 41	" 10	Um	e(P)	06 32 22
	Ka	eP	09 23 21				
			Ryukyu Islands (h = 40 km).	" 10	Up	iP	14 05 18
" 8	Up	i(P)	11 13 03		Ki	iP	14 04 45
" 8	✓ Up	iP	16 15 45		Um	iP	14 04 59
	✓ Ki	iP	16 15 04				Bonin Islands region
	✓ Sk	iP	16 15 38				(h = 380 km).
	✓ Um	iP	16 15 23 C	" 10	Up	iP	14 49 55
			Honshu, Japan (h = 60 km).	" 11	Um	iPKP	02 24 41
" 8	✓ Up	iP	19 30 15				New Hebrides Islands
	i		19 30 25				(h = 90 km).
	✓ Ki	eP	19 29 52	" 11	Ki	iP	05 09 05
	✓ Sk	eP	19 30 18	" 11	Up	iP	07 19 27 D
			Timor Sea (h = 60 km).		eS		07 22 17
" 8	Up	i	21 08 52		iSS		07 22 38
	Ki	iPKP	21 08 23		i		07 23 05
			Sandwich Islands		iL(3.20)		07 24 55
			(h = 25 km).				microns sec
" 9	Up	i(P)	00 21 31		P	N	1.3 3
" 9	Ki	iP	07 52 58		P	Z	0.7 3
	i		07 53 09		P	Z'	0.5 1.3
			Mindanao, Philippine		M	E	62 14
			Islands (h = 70 km).		M	N	32 10
" 9	Up	i	10 52 42		M	Z	32 10
			microns sec				D = 1800 km = 16°.
	M	N	0.5 16		Ki	iP	07 20 58
	M	Z	0.8 16		iS		07 25 13
	Um	iP	10 47 27		iPcP		07 28 17
			Greece.				microns sec
" 9	Um	i(PKP)	13 43 35		P	N	1.5 4
			Bolivia-Argentina border		P	Z	2.7 3
			(h = 180 km).		P	Z'	3.4 2.4
" 9	Up	iP	13 59 34		S	E	4.2 13
	Um	e(P)	14 01 19		S	N	1.5 7
	i		14 01 31		M	E	48 15
" 9	Up	iP	20 10 12		M	N	14 10
	iS		20 20 55		M	Z	21 10
			microns sec				D = 2650 km = 24°.
" 9	✓ Up	iP	20 10 12		Sk	iP	07 20 15 C
			microns sec		iL(3.24)		07 27 04
	P	Z'	0.1 0.7		Gb	iP	07 19 07 C
					iLg2		07 23 37
					Um	iP	07 20 15 C
					eS		07 23 54

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 11/Um i 07 24 05  
cont. eLg1 07 26 21  
✓Ka iP 07 18 37 C  
Yugoslavia (h = 20 km).  
Magn. = 6.3 (Ki).

" 11 Um iP 15 31 09

" 12 Up iP 01 30 16  
Ki iP 01 30 19  
Um iP 01 30 29

" 12 Up iP 06 10 16

" 12 Up eP 09 50 22  
microns sec  
M N 0.4 15  
Ki iP 09 50 06  
iS 09 53 10  
microns sec  
M E 0.5 15  
M N 0.3 14  
M Z 0.7 14  
D = 1700 km = 15 $\frac{1}{2}$ °.

✓Sk iP 09 49 34  
iS 09 51 51  
✓Gb eP 09 50 06  
✓Um iP 09 50 15  
✓Ka iP 09 50 38  
Iceland (h = 30 km).

" 12 Um iP<sub>PKP</sub> 14 04 16  
New Hebrides Islands  
(h = 230 km).

" 13 Ki i(P) 10 10 12

" 13 Gb iP<sub>PKP</sub> 19 28 24  
Ka iP<sub>PKP</sub> 19 28 32  
Tonga Islands region  
(h = 25 km).

" 13 Ki i(P) 22 54 45

" 14 Up iP 08 02 24 D  
i 08 02 29  
microns sec  
P Z' 0.2 1.0  
M E 2.2 16  
M N 2.7 19  
M Z 3.3 19  
✓Ki iP 08 01 29 D  
i(Pa) 08 05 01  
eS 08 09 06  
i 08 09 56

1962  
June 14 Ki microns sec  
cont. P Z 0.6 10  
P Z' 0.4 1.0  
S E 0.8 10  
S N 3.0 22  
M E 3.5 17  
M N 3.0 17  
M Z 3.4 17  
D = 6100 km = 55°.

✓Gb iP 08 02 43 D  
✓Um iP 08 01 56 D  
✓Ka iP 08 02 52 D  
Near Islands, Aleutian  
Islands (h = 30 km).  
Magn. = 5.9 (Up, Ki).

" 14 Up iP 08 06 19 D  
microns sec  
P Z' 0.1 1.0  
✓Ki iP 08 05 24 D  
microns sec  
P Z 0.7 5  
P Z' 0.3 1.1  
✓Gb iP 08 06 38 D  
✓Ka iP 08 06 48 D  
Near Islands, Aleutian  
Islands (h = 60 km).

" 14 Ki iP 08 42 02  
Um iP 08 42 03  
Puerto Rico region  
(h = 60 km).

" 14 Up iP<sub>g</sub> 09 50 09 D  
iS<sub>g</sub> 09 50 25  
iL 09 50 33  
microns sec  
Pg, Sg Z' 0.1 0.5  
D = 130 km = 1.2°.

Um iP<sub>g</sub> 09 51 18  
iS<sub>g</sub> 09 52 26  
The Baltic Sea, 59°N, 19°E.  
Origin time = 09 49 45.  
Probably explosion.

" 14 Up iP<sub>g</sub> 10 00 42  
iS<sub>g</sub> 10 00 58  
iL 10 01 05  
D = 130 km = 1.2°.  
The Baltic Sea, 59°N, 19°E.  
Origin time = 10 00 18.  
Probably explosion.

" 14 Um e(P) 12 22 12

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 14 Um i(P) 13 23 04  
" 14 Ki iP 17 23 57  
Um iP 17 24 23  
Near Islands, Aleutian  
Islands (h = 60 km).  
" 14 Um iP 19 46 17  
" 14 Um i(PP) 20 34 57  
Ecuador (h = 150 km).  
" 14 Up eP 22 26 01  
i 22 26 12  
iS 22 36 03  
iSS 22 40 40  
e(PKPK) 22 44 54  
microns sec  
M E 3.2 18  
M N 5.9 19  
M Z 2.4 14  
D = 8450 km = 76°.  
Ki iP 22 25 37  
eS 22 34 58  
ePS 22 35 32  
microns sec  
M E 5.9 18  
M N 5.8 16  
M Z 4.4 17  
D = 8000 km = 72°.  
Sk eP 22 26 11  
Gb eP 22 26 24  
i 22 26 38  
Um eP 22 25 43  
i 22 25 54  
eS 22 35 12  
Ka iP 22 26 20  
Ryukyu Islands (h = 20 km).  
Magn. = 6.1 (Up, Ki).  
" 15 Up iP 06 19 25 D  
i 06 19 30  
microns sec  
P Z' 0.1 0.5  
Sk iP 06 19 37  
" 15 Up iPP 06 49 12  
iSKS 06 55 29  
iPS 06 58 34  
Near coast of northern  
Chile (h = 60 km).  
" 15 Up iPKP 12 15 04  
Ki iPKP 12 14 50  
microns sec  
PKP Z' 0.1 0.5

1962  
June 15 Sk iPKP 12 15 01  
cont. Gb iPKP 12 15 09  
Um iPKP 12 14 56  
New Hebrides Islands  
(h = 210 km).  
" 15 Up iP 21 40 36  
Ki iP 21 39 53  
Off southeast coast of  
Hokkaido, Japan (h = 25 km).  
" 16 Up eP 05 32 59  
i 05 33 15  
microns sec  
M E 1.0 17  
M N 1.5 19  
M Z 1.0 16  
Ki eP 05 32 30  
microns sec  
M E 2.1 18  
M N 1.4 16  
M Z 2.0 17  
Sk eP 05 33 04  
Gb eP 05 33 33  
Ryukyu Islands (h = 40 km).  
" 16 Up iP 21 51 20 C  
" 17 Up iP 04 47 52  
microns sec  
P Z' 0.1 0.7  
M E 0.7 19  
M N 1.5 15  
M Z 0.5 16  
Ki iP 04 47 58 C  
microns sec  
P Z' 0.2 0.5  
M E 2.5 15  
M N 1.0 14  
M Z 2.4 14  
Sk iP 04 48 16  
Ka iP 04 47 57 C  
i 04 48 10  
Kashmir region (h = 20 km).  
" 17 Up eP 06 03 16  
" 17 Up iP 14 34 42  
Ki eP 14 34 26  
i 14 34 39  
Sk eP 14 34 56  
Sinkiang Province, China  
(h = 50 km).  
" 17 Up iP 15 53 15 C

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 17 Up iP 22 39 00 D  
Ki iP 22 38 08  
Sk eP 22 38 41  
Andreanof Islands,  
Aleutian Islands  
(h = 20 km).

" 18 Up eP 01 59 20

" 18 Up iP 06 30 54  
Ki iP 06 29 58  
microns sec  
P Z' 0.1 1.0  
Sk iP 06 30 26  
Gb iP 06 31 06  
Ka iP 06 31 19  
Alaska (h = 190 km).

" 18 Up iP 07 01 36

" 18 Up i(P) 17 17 28

*2.23-42*  
*18/19*  
*19/5*  
" 19 Up iPKP 00 01 07  
iPP 00 02 01  
iPKKP 00 11 43  
Ki iPKP 00 00 56  
eSKS 00 08 05  
ePS 00 10 51  
microns sec  
PKP Z' 0.1 1.2  
/ Sk iPKP 00 01 07  
/ Gb iPKP 00 01 14  
/ Um ePP 00 01 41  
ePS 00 11 28  
/ Ka iPKP 00 01 11  
New Britain region  
(h = 50 km).

" 19 Up i 00 30 18  
iSg 00 30 29  
Ki iPn 00 26 06  
iPg 00 26 12  
iSg 00 26 48  
microns sec  
Sg Z' 0.1 0.5  
D = 300 km = 2.7°.  
Sk iS<sup>x</sup> 00 28 10  
iSg 00 28 26  
Off northwest coast of  
Norway, 69<sup>1</sup>/<sub>2</sub>°N, 14 1/4°E.  
Origin time = 00 25 19.

" 19 Sk iP 01 11 58  
South of Panama  
(h = 40 km).

1962  
June 19 Gb i(P) 14 36 50

" 19 Up iPKP 16 57 54  
Ka iPKP 16 58 03  
Fiji Islands region  
(h = 410 km).

" 19 Ki iP 20 28 02  
Sk eP 20 30 15  
Um iP 20 31 05  
i 20 31 22  
i 20 31 37

" 19 Um i(P) 21 44 05

" 20 Up iPKP 00 24 47  
Ki iSKP 00 27 34  
Tonga Islands (h = 240 km).

" 20 Um i(P) 02 25 49

" 20 Ka iPg 11 18 31  
iSg 11 18 35  
Probably local explosion.

" 20 Ka iPg 13 08 20  
iSg 13 08 23  
Probably local explosion.

" 20 Ka iPg 13 17 32  
iSg 13 17 35  
Probably local explosion.

" 20 Ka i(P) 14 53 07

" 21 Up iP 03 35 36  
Ki iP 03 35 22  
Um iP 03 35 26  
Celebes Sea (h = 600 km).

" 21 Up i 05 06 46  
iSKS 05 07 13  
iS 05 07 34  
eSS 05 13 37  
Ki iP 04 56 44  
iSKS 05 07 13

microns sec  
SKS E 0.9 13  
M E 2.2 22  
M N 1.1 23  
M Z 1.2 21

/ Sk iP 04 56 31  
/ Um iP 04 56 47  
iS 05 07 47

South of Panama (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 21 Up i(P) 14 00 49 C  
microns sec  
(P) Z' 0.1 0.5

" 21 Up iP 16 06 51  
Near east coast of  
Kamchatka (h = 40 km).

" 21 Sk iP 19 33 47

" 22 Um iP 00 04 11

" 22 Up iP 01 09 30

" 22 Ki iP 07 49 55

iS 07 52 06

Um i(P) 07 50 49

i 07 54 17

i 07 54 56

Arctic Ocean, between  
Novaya Zemlya and  
Spitsbergen, 78°N, 48°E.  
Origin time = 07 47 11.  
Solution obtained by  
combination with Finnish  
observations.

" 22 Up iP 12 00 51 D

i 12 01 04

microns sec

P Z' 0.1 0.5

✓ Ki iP 12 00 14 D

iS 12 09 31

microns sec

S N 0.3 10

M E 0.6 15

M N 0.5 15

D = 7900 km = 71°.

✓ Gb iP 12 01 10

✓ Um iP 12 00 30

i 12 00 44

Off coast of Honshu,  
Japan (h = 25 km).

" 23 Um iP 04 34 44

Near east coast of Honshu,  
Japan (h = 60 km).

" 23 Up iP 05 12 05

Ki iP 05 12 47

Sk iP 05 12 42

Um eP 05 12 22

Ka iP 05 11 56

Persian Gulf (h = 25 km).

1962  
June 23 Up iP 09 56 35 D

i 09 56 53

iS 10 06 26

microns sec

P E 1.1 6

P Z 2.4 7

P Z' 0.3 0.6

S E 3.3 9

S N 1.9 8

M E 32 17

M N 37 18

M Z 49 17

D = 8550 km = 77°.

✓ Ki eP 09 56 07

i 09 56 16

i 09 57 07

iPa 10 00 38

iS 10 05 29

microns sec

P E 0.7 7

P N 0.3 7

P Z' 0.4 1.1

S E 3.8 8

S N 1.1 11

M E 19 18

M N 11 16

D = 8000 km = 72°.

✓ Sk iP 09 56 36

✓ Gb iP 09 56 54

i 09 57 26

✓ Um iP 09 56 18 D

iPP 09 59 03

✓ Ka iP 09 56 50

Ryukyu Islands (h = 40 km).

Magn. = 6.6 (Up, Ki).

" 23 Up iP 10 10 34 C

i 10 10 45

iS 10 20 33

microns sec

P Z' 0.2 0.5

D = 8800 km = 79°.

✓ Ki iP 10 10 13 C

i 10 10 24

microns sec

Z' 0.3 0.9

✓ Sk iP 10 10 39 C

i 10 10 50

✓ Gb iP 10 10 54

✓ Um iP 10 10 20 C

i 10 10 29

✓ Ka iP 10 10 45

i 10 10 56

Near coast of Luzon,  
Philippine Islands (h = 40 km).  
Magn. = 6.4 (Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
June 23 Up i(P) 22 51 04  
Um iP 22 50 50 C

" 24 Up iP 01 31 57 D  
eS 01 40 39  
eScS 01 41 41

microns sec  
P Z' 0.1 0.6  
S E 0.4 8  
M E 2.0 18  
M N 6.5 19  
M Z 3.7 18

D = 7100 km = 64°.

Ki iP 01 31 44 D  
ePa 01 35 40  
iS 01 40 17

microns sec  
P Z' 0.3 1.0  
S E 0.6 10  
M E 4.3 14  
M N 9.0 20

D = 6950 km = 62½°.

Sk iP 01 32 09 D  
Um iP 01 31 46 D  
Ka iP 01 32 06 D  
i 01 32 11

Yunnan Province, China  
(h = 40 km). Magn.=6.0(Up,Ki).

" 24 Up iPKP 12 15 58  
Kermadec Islands region  
(h = 50 km).

" 24 Up iP 15 17 27  
Ki eP 15 18 08  
Sk iP 15 17 58  
Um iP 15 17 44  
Gulf of Aden (h = 50 km).

" 24 Um iP 16 48 13

" 24 Um iPKP 17 22 03  
New Hebrides Islands  
(h = 130 km).

" 24 Up i(P) 22 19 37

" 25 Up iPKP 01 49 50  
iSKP 01 52 35  
Ki iPKP 01 49 43  
iSKP 01 52 11  
Sk ePKP 01 49 44  
iSKP 01 52 28  
Um ePKP 01 49 44  
i 01 49 50

1962  
June 25 Um iSKP 01 52 23  
cont. X Fiji Islands region  
(h = 650 km).

" 25 Up  
microns sec  
M E 0.8 18  
M N 0.7 18  
M Z 1.3 17

Ki

microns sec  
M E 0.7 17  
M N 0.4 16

Um iPKP 06 45 44  
Near coast of Chile  
(h = 40 km).

" 25 Up iP 11 22 14  
i 11 22 17  
iPa 11 26 56  
iS 11 31 47

microns sec  
P E 0.5 6  
P Z 1.2 8  
P Z' 0.2 1.0  
S E 1.3 12  
S N 2.2 11  
M E 34 18  
M N 36 18  
M Z 57 18

D = 8400 km = 75½°.

Ki iP 11 21 48 C  
iPa 11 26 18  
eS 11 31 07

microns sec  
P E 0.7 8  
P Z' 0.2 1.0  
S E 3.0 13  
S N 1.8 11  
M E 18 14  
M N 15 16

D = 7950 km = 71½°.

Sk iP 11 22 18  
Gb iP 11 22 36  
i 11 22 51  
Um iP 11 21 57  
ePa 11 26 33

Off coast of Formosa  
(h = 30 km). Magn.=6.4 (Up,  
Ki). The average velocity  
of Pa for this earthquake  
(Up, Ki, Um) is 8.38 km/sec!

" 25 Ki iP 13 02 54  
Molucca Passage (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962				1962				
June 25	Um	i(P)	14 39 27 C	June 27	Up	eL	04 27	
"	25	Um	i(P)				microns sec	
"	25	Up	iP		M	E	0.6 20	
"	25		i		M	N	0.8 20	
"	25	Sk	iP		M	Z	0.9 19	
"	25	Um	eP		New Britain region			
"	25	Off east coast of Nicaragua (h = 25 km).		"	27	Ki	e(P)	07 25 20
"	25	Ki	iP		"	27	Up	iPKP
			microns sec				i	08 37 30
		M	E					08 37 32
		M	N					microns sec
		Um	eP			PKP	Z'	0.1 0.8
		Spitsbergen region (h = 25 km).				Sk	iPKP	08 37 22
"	26	Up	iP			Gb	iPKP	08 37 37
"	26	Up	iP			Um	iPKP	08 37 18
			microns sec			Kermadec Islands (h = 70 km).		
		M	E		"	27	Ki	eP
		M	N					08 40 35
		M	Z					Off coast of Kamchatka
		Ki	iP					(h = 20 km).
			microns sec	"	27	Up	iPg	13 25 30
		M	E				iSg	13 26 03
		M	N				i	13 26 07
		M	Z					D = 280 km = 2.5°.
		Ki	iP			Ki	eSg	13 29 04
			microns sec			Um	iSg	13 27 04
		M	E			Off southwest coast of Finland, 59.7°N, 22.7°E.		
		M	N			Origin time = 13 24 41.		
		Sk	eP		"	27	Ki	eL
		Gb	iP					14 43
		Um	iP					microns sec
		i				M	E	0.5 17
		Ryukyu Islands (h = 40 km).				M	N	0.2 16
"	26	Up	eP			M	Z	0.7 17
			microns sec	"	27	Up	iP	18 11 49
		M	N					microns sec
		M	Z			P	Z'	0.1 1.2
		Ki				Ki	iP	18 11 15
			microns sec					microns sec
		M	E			P	Z'	0.1 1.2
		M	N			Sk	eP	18 11 20
		Sk	eP			Um	iP	18 11 35
		Um	iP			i		18 12 42
		Bulgaria (h = 25 km).				Nevada, U.S.A. Underground nuclear explosion.		
"	27	Up	iP		"	27	Um	i(P)
		i						21 43 09
		i(S)		"	27	Up	iP	23 38 37
		Sk	iP			Ki	iP	23 38 06
		Gb	iP			Off coast of Formosa (h = 80 km).		
		Um	iP					
		Caucasus.						



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

June 28 Up iP 04 25 35  
Ki iP 04 24 45  
Sk iP 04 25 35  
Um iP 04 25 18  
Kyushu, Japan (h = 40 km).

" 28 Up iP 04 41 06 C  
iSKS 04 51 45  
iS 04 52 41

microns sec  
M E 0.5 19  
M N 0.8 20  
M Z 0.6 19  
D = 11100 km = 100°.

✓ Ki iP 04 40 31  
iSKS 04 51 03

microns sec  
SKS N 0.5 9  
M E 0.8 19  
M N 0.7 21  
M Z 1.2 19  
D = 10200 km = 92°.

✓ Sk iP 04 40 48  
✓ Um iP 04 40 48

Hawaii Island, Hawaii  
(h = 25 km).

" 28 ✓ Up iP 06 55 29  
eS 06 59 03

microns sec  
M E 0.7 16  
M N 1.9 9  
M Z 2.5 10  
D = 2100 km = 19°.

✓ Ki eP 06 56 46  
e 07 01 50

microns sec  
M E 1.5 15  
M N 1.0 10  
M Z 1.9 11

✓ Sk iP 06 56 11  
✓ Gb eP 06 55 17  
✓ Um eP 06 56 07  
i 06 56 18

Near Greece-Albania  
border (h = 25 km).

" 28 Ki iP 11 31 06 D  
Near coast of Java  
(h = 90 km).

" 28 Ki iP 17 50 14

" 28 Up iP 18 01 58  
Ki iP 18 01 14

1962

June 28 Um iP 18 01 34  
cont. Near coast of northern  
Hokkaido, Japan (h = 60 km).

" 28 ✓ Up iSKS 19 14 33  
✓ Ki iP 19 03 45  
iSKS 19 14 17

microns sec  
P Z' 0.2 1.4  
SKS E 0.6 7  
M E 0.6 16  
M N 0.3 17  
M Z 0.9 16  
D = 10550 km = 95°.

✓ Sk iP 19 03 58  
i 19 04 05

✓ Um iP 19 03 50  
ePS 19 16 25

Northern Celebes (h = 60 km).

" 28 Um iPKP 21 06 19  
Tonga Islands region  
(h = 240 km).

" 28 Up iPg 22 36 02  
i 22 36 14  
iSg 22 36 18

microns sec  
Sg Z' 0.2 0.5  
D = 130 km = 1.2°.

Sk iSg 22 37 30  
Gb i(Sg) 22 37 51

Um iSg 22 37 19

East coast of Sweden, 61.0°N,  
17.2°E. Origin time =  
22 35 38.

" 29 Up i(PKP) 01 11 30  
New Hebrides Islands  
(h = 120 km).

" 29 Ki iPKP 03 49 23 D  
Sandwich Islands.

" 29 Gb iP 05 13 48

" 29 Gb iPKP 10 48 14 C  
South of Easter Island  
region (h = 25 km).

" 29 Ki iPn 15 28 22 D  
eSn 15 29 09  
iSg 15 29 37  
D = 490 km = 4.4°.  
Sk iSg 15 32 26  
Origin time = 15 27 12.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962

June 29 Up iP 16 37 54  
 eS 16 45 46  
 microns sec  
 M E 0.6 20  
 M N 1.0 20  
 M Z 0.9 19  
 D = 6350 km = 57°.  
 Ki iP 16 36 56 C  
 iPP 16 38 46  
 iS 16 44 04  
 microns sec  
 P Z' 0.2 1.4  
 M E 0.7 18  
 M N 0.5 18  
 M Z 1.1 18  
 D = 5450 km = 49°.  
 Sk iP 16 37 25  
 i 16 37 31  
 Gb eP 16 38 05  
 i 16 38 12  
 Um iP 16 37 26  
 i 16 37 31  
 Ka iP 16 38 17  
 Alaska (h = 40 km).  
 " 29 Up iP 16 40 34  
 Ki iP 16 39 37  
 i 16 39 43  
 Um iP 16 40 07  
 Alaska.  
 " 29 Um i(P) 20 57 10  
 i 20 57 12  
 " 29 Up iP 22 42 24  
 i 22 42 28  
 i 22 42 31  
 iS 22 47 54  
 i 22 49 34  
 microns sec  
 P Z' 0.1 0.6  
 S E 0.3 4  
 M E 0.7 18  
 M N 1.1 14  
 M Z 0.5 17  
 D = 3800 km = 34°.  
 Ki iP 22 43 09 C  
 ePP 22 44 41  
 iS 22 49 06  
 iSS 22 52 03  
 microns sec  
 P Z' 0.2 1.0  
 S E 0.6 9  
 S N 0.3 9  
 M E 1.8 18

1962

June 29 Ki M N 1.2 17  
 cont. M Z 1.1 16  
 D = 4350 km = 39°.  
 Sk iP 22 43 04  
 eS 22 49 01  
 Gb iP 22 42 42  
 Um iP 22 42 43 C  
 i 22 43 31  
 iS 22 48 23  
 eSS 22 50 43  
 Ka iP 22 42 17 D  
 Iran (h = 25 km).  
 Magn. = 5.6 (Up, Ki).  
 " 29 Um iP 22 57 37  
 " 30 Up iP 01 21 29  
 Ki iP 01 20 52  
 Sk eP 01 21 23  
 Um iP 01 21 08  
 i 01 21 24  
 Off coast of Honshu,  
 Japan (h = 50 km).  
 " 30 Sk i(P) 08 11 19  
 " 30 Ki iP 09 54 13  
 microns sec  
 M E 0.5 15  
 M N 0.3 16  
 M Z 0.7 16  
 Sk iP 09 54 14  
 Um iP 09 53 54  
 Iran (h = 25 km).  
 " 30 Ki iP 13 01 01  
 i 13 01 05  
 microns sec  
 P Z' 0.2 0.8  
 " 30 Up iP 19 42 21  
 i 19 42 35  
 iS 19 52 28  
 microns sec  
 P Z' 0.1 1.0  
 S N 0.7 11  
 M E 2.0 18  
 M N 2.5 18  
 M Z 3.5 17  
 D = 9350 km = 84°.  
 Ki iP 19 41 56  
 i 19 42 05  
 eS 19 51 53  
 microns sec  
 P E 0.2 7

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
 Ka = Karlskrona

1962

June 30	Ki	P	Z	0.5	7
cont.		P	Z'	0.2	0.9
		S	E	1.2	18
		S	N	0.5	8
		M	E	1.8	20
		M	N	1.8	20
		M	Z	2.6	16
		D = 8850 km = $79\frac{1}{2}^{\circ}$ .			
✓	Sk	eP		19 42	23
		i		19 42	30
✓	Gb	eP		19 42	40
✓	Um	iP		19 42	05
		eS		19 52	06
✓	Ka	iP		19 42	30
		i		19 42	35

Near coast of Luzon,  
 Philippine Islands  
 (h = 40 km).  
 Magn. = 5.8 (Up, Ki).

Markus Båth  
 November 10, 1962

1962

July

Copies 98

P R E L I M I N A R Y

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A , K I R U N A , S K A L S T U G A N , G Ö T E B O R G ,  
U M E Å and K A R L S K R O N A

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

J U L Y 1 - 31, 1962

1962	July	1	✓	Up	iPKP	01 51 02
			✓	Ki	iPKP	01 50 47
						microns sec
				PKP	Z'	0.1 1.0
			✓	Sk	iPKP	01 50 58
			✓	Um	iPKP	01 50 53
				New Hebrides Islands (h = 160 km).		
"	"	1		Up	eP	03 48 08
				Ki	iP	03 47 48
				Sk	eP	03 48 17
				Sikang Province, China (h = 25 km).		
"	"	1		Up	eSg	05 04 52
				Ki	iSn	05 01 35
					eSg	05 01 56
				D = 410 km = 3°.7.		
				Sk	eS <sup>*</sup>	05 04 00
					eSg	05 04 23
				Northwest Russia, 67°.4 N, 30°.0 E. Origin time = 04 59 55. Probably explosion.		
"	"	1		Ki	ePn	05 29 20
					iSn	05 30 05
					iSg	05 30 23

1962	July	1	cont.	D = 410 km = 3°.7. Northwest Russia. Origin time = 05 28 20. Probably explosion.		
"	"	1		Up	i(S <sup>*</sup> )	06 05 19
					i(Sg)	06 05 48
				Ki	iSn	06 02 40
					iSg	06 03 01
				D = 410 km = 3°.7.		
				Sk	eSn	06 04 31
					iSg	06 05 27
				D = 900 km = 8°.1.		
				Um	iS <sup>*</sup>	06 03 43
					iSg	06 03 56
				D = 590 km = 5°.3.		
				Northwest Russia, 67°.4 N, 30°.0 E. Origin time = 06 01 00. Probably explosion.		
"	"	1		Up	i(Sg)	06 07 53
				Gb	iPg	06 05 49
					iSg	06 06 14
				D = 210 km = 1°.9.		
				Ka	iPg	06 06 37
					iSg	06 07 32
				D = 470 km = 4°.2.		
				Skagerrack, 57°.6 N, 8°.4 E. Origin time = 06 05 11.		

Up= Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
July 1 Up iP 11 52 13  
i(pP) 11 52 30  
i 11 52 40  
i 11 57 23  
Ki iP 11 52 48  
i 11 53 38  
i 11 59 08  
Sk iP 11 52 50  
i 11 53 36  
iPP 11 53 52  
Gb eP 11 52 30  
Um iP 11 52 24  
i(pP) 11 52 39  
Ka iP 11 52 11  
i 11 53 45  
Off coast of Azerbaijan,  
U.S.S.R. (h= 50 km).

" 1 Up iP 21 31 21 C  
i 21 31 42  
ePP 21 32 58  
iS 21 37 29  
eSSS 21 40 53  
e(Li) 21 43 57  
iLg1 21 45 06  
... microns sec  
M E 3.2 17  
M N 2.2 16  
M Z 6.5 17  
D = 4450 km = 40°.  
Ki iP 21 31 21 C  
i 21 31 32  
ePP 21 33 04  
i 21 35 13  
e(PcS) 21 37 08  
iLg1 21 44 59  
... microns sec  
P Z' 0.1 0.8  
PP E 0.3 9  
M E 4.3 15  
M N 1.5 10  
M Z 4.7 15  
D = 4450 km = 40°.  
Sk iP 21 31 43  
Gb eP 21 31 43  
Um iP 21 31 15  
eLg1 21 44 32  
Ka iP 21 31 29  
Sinkiang Province, China  
( h = 25 km). Magn.=5.7(Ki).

" 2 Up iP 08 51 31 C  
iPP 08 53 21  
e 08 53 57

1962  
July 2 ✓ Up e 09 03 42  
cont. microns sec  
M E 1.1 22  
M N 2.5 22  
M Z 2.9 22  
(D = 13900 km = 125°)  
Ki iP 08 51 17  
i 08 52 12  
ePP 08 52 30  
eS 09 00 13  
ePS 09 02 11  
e(ScSP) ✓ 09 02 20

microns sec  
S N 0.3 8  
M E 2.0 23  
M N 1.1 21  
M Z 2.1 22  
(D = 13000 km = 117°).

Sk iP 08 51 28 C  
i 08 51 59  
Um iP 08 51 22  
i 08 51 54  
eS 09 00 34  
e 09 03 15  
Santa Cruz Islands ( h = 50  
km). Magn. = 6.1 (Up,Ki).

" 3 Up iP 03 24 19  
Ki iP 03 24 27  
Um iP 03 24 17  
Hindu Kush ( h = 200 km ).

" 3 Sk iP 06 39 25  
Um iP 06 39 03  
Iran ( h= 25 km ).

" 3 ✓ Up —  
microns sec  
M E 1.0 20  
M N 4.3 23  
M Z 3.6 22  
Ki e(SS) 19 07 07

microns sec  
M E 1.8 18  
M N 2.0 22  
M Z 3.4 22

Gb iP 18 33 54  
About 1000 km west of  
Macquarie Island ( h = 25  
km). Magn.=6.2 (Up, Ki).

" 3 Up iP 21 27 54  
Ki iP 21 28 28  
Um iP 21 28 14

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 July cont. 3 Mid-Atlantic Ocean (h = 25 km).

" 4 Ki eP 17 10 37

" 4 Up i 18 59 22  
i(Sn) 18 59 42  
iS\* 19 00 04  
iSg 19 00 28

microns sec  
Sg Z' 0.2 0.6  
D = 900 km = 8° .1.

Ki iPn 18 56 59  
iSn 18 57 44  
iSg 18 58 03

microns sec  
Sn Z' 0.4 0.5  
Sg Z' 0.7 0.5  
D = 410 km = 3° .7.

Sk iPn 18 57 49  
iSn 18 59 26  
iSg 19 00 13

Gb eSg 19 02 22

Um iSn 18 58 07  
iS\* 18 58 17  
i(Sg) 18 58 37  
i 18 58 42

Ka i(S\*) 19 01 35  
i 19 02 23  
iSg 19 02 31

Finland - U.S.S.R. border region, 66° .3 N, 29° .0 E.  
Origin time = 18 56 00

" 4 Up iPKP 23 37 18  
i 23 37 23  
Sk iPKP 23 37 10 C  
Um iPKP 23 37 05  
Kermadec Islands (h = 25 km).

5 Up iP 15 28 00

5 Up iP 17 47 10

Up iP 17 52 56  
i 17 53 08  
eS 18 02 47

microns sec  
S E 0.5 7  
M E 0.7 15  
M N 0.7 15  
Z 0.9 15  
D = 8650 km = 78° .

1962 July cont. 5 Ki iP 17 52 19  
ePa 17 56 47  
eS 18 01 41

microns sec  
S E 1.0 10  
S N 0.5 8  
M E 1.8 16  
M N 1.4 17  
M Z 1.7 18  
D = 7950 km = 71° .1/2.

✓ Sk eP 17 52 52  
✓ Gb iP 17 53 23  
✓ Um iP 17 52 34  
iS 18 02 11

South of Honshu, Japan (h = 25 km). Magn. = 6.0 (Up, Ki).

" 5 Um iP 18 47 08

" 6 Ki iP 01 26 42  
Gb iP 01 27 38  
Um iP 01 26 57

South of Honshu, Japan (h = 60 km).

" 6 Up iP 02 21 51  
i 02 22 20  
ePa 02 25 10  
iS 02 29 39

microns sec  
P Z 0.4 4  
P Z' 0.1 0.9  
S E 0.4 6  
M E 2.0 21  
M N 1.8 20  
M Z 2.6 20  
D = 6100 km = 55° .

✓ Ki iP 02 22 24 D  
ePa 02 25 55  
eS 02 30 31

microns sec  
P N 0.3 4  
P Z 0.6 4  
P Z' 0.3 1.2  
S E 0.7 7  
M E 2.2 18  
M N 1.7 17  
M Z 3.1 19  
D = 6550 km = 59° .

✓ Sk iP 02 22 21 D  
✓ Gb iP 02 21 59  
i(PcP) 02 22 50

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962 July cont. 6 Um iP 02 22 04 D  
 ePcP 02 23 06  
 ePa 02 25 28  
 iS 02 30 05  
 D = 6350 km = 57°.  
 Ka iP 02 21 41  
 i 02 21 43  
 Arabian Sea (h = 30 km).  
 Magn. = 5.8 (Up, Ki).

" 6 Up iP 09 21 08 C  
 eS 09 25 06  
 microns sec  
 P Z' 0.5 0.5  
 S E 6.1 9  
 S N 4.3 11  
 M E 11 19  
 M N 13 14  
 M Z 15 14  
 D = 2400 km = 21° 1/2.

Ki iP 09 22 22  
 iS 09 27 19  
 i(SS) 09 28 35  
 microns sec  
 P N 0.3 9  
 P Z 0.5 10  
 P Z' 0.4 1.3  
 S E 1.4 10  
 S N 0.7 10  
 M E 33 14  
 M N 9.3 12  
 M Z 16 12  
 D = 3300 km = 29° 1/2.

Sk iP 09 21 47 C  
 Gb iP 09 20 53 C  
 Um iP 09 21 45 C  
 iS 09 26 14  
 eRg 09 32 17  
 D = 2850 km = 25° 1/2.  
 Ka iP 09 20 30  
 Ionian Sea (h = 30 km).  
 Magn. = 5.7 (Up, Ki).

" 6 Up iP 09 33 52  
 i 09 33 58  
 microns sec  
 P Z' 0.1 0.6  
 Sk iP 09 34 34  
 Gb iP 09 33 41  
 Um iP 09 34 36  
 Ka eP 09 33 18  
 Ionian Sea.

1962 July 6 Up iP 09 41 37 D  
 Sk iP 09 42 16  
 Um iP 09 42 16  
 Ionian Sea.

" 6 Up iP 13 30 29  
 Ki  
 microns sec  
 M E 0.4 15  
 Sk eP 13 31 18

" 6 Up i(P) 14 20 41  
 " 6 Up iP 14 24 27 D  
 iS 14 28 28  
 microns sec  
 P Z' 0.1 0.6  
 D = 2450 km = 22°.  
 Ki eP 14 25 42  
 microns sec

M E 0.6 16  
 M N 0.2 13  
 M Z 0.5 13  
 Sk iP 14 25 07 D  
 Gb iP 14 24 12  
 Um iP 14 25 08  
 Ka iP 14 23 48  
 Ionian Sea.

" 6 Up iP 15 23 00  
 Ki iP 15 22 29  
 Sk iP 15 23 00  
 Um iP 15 22 42 D  
 Northern Ryukyu Islands  
 (h = 25 km).

" 6 Up e(P) 15 48 23  
 Ki  
 microns sec  
 M E 0.5 15  
 M N 0.2 14  
 M Z 1.0 15

" 6 Up iP 15 57 31  
 Sk iP 15 58 11  
 Ionian Sea.  
 " 6 Up iP 15 59 21 D  
 microns sec  
 P Z' 0.1 0.6  
 M E 0.4 10  
 M N 0.3 11  
 M Z 0.5 11

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 July cont.	6	Ki	iP	16 00 35	
				microns sec	
		M	E	0.7 13	
		M	N	0.4 14	
		M	Z	0.5 13	
		Sk	iP	16 00 00	
		Gb	iP	15 59 06	
		Um	iP	16 00 02	
		Ka	iP	15 58 46	
		Ionian Sea (h = 25 km).			
"	6	Up	iP	16 10 17	
		Sk	e(P)	16 10 50	
			i	16 11 01	
		Um	iP	16 11 06	
		( Ionian Sea ).			
"	6	Up	iP	16 16 38 D	
		Sk	e(P)	16 16 24	
"	6	Sk	eP	16 46 47	
"	6	Up	iP	17 04 49 D	
				microns sec	
		M	E	0.2 10	
		M	N	0.5 12	
		Ki			
				microns sec	
		M	E	0.5 13	
		M	N	0.2 13	
		M	Z	0.5 13	
		Sk	iP	17 05 29	
		Gb	iP	17 04 34	
		Um	iP	17 05 29	
		Ionian Sea.			
"	6	Up	e(P)	18 32 32	
"	6	Ki	iP	18 50 03	
		Sk	iP	18 50 31	
			i	18 51 03	
		Um	iP	18 50 32	
		Kenai Peninsula, Alaska (h = 70 km).			
"	6	Up	e(P)	18 56 47	
"	6	Up	iP	23 12 53 C	
			ipP	23 13 40	
			isP	23 14 05	
			iPP	23 14 29	
			iS	23 18 48	

1962 July cont.	6	Up	i(sS)	23 19 59	
			i	23 21 22	
				microns sec	
		P	Z	6.0 2	
		P	Z	1.0 0.5	
		PP	E	18 4	
		PP	N	2.1 2	
		PP	Z	9.2 3	
		S	E	18 12	
		S	N	36 10	
		M	E	22 12	
		M	N	37 10	
		M	Z	22 10	
		D = 4450 km = 40°.			
		Ki	iP	23 13 03 C	
			ipP	23 13 50	
			isP	23 14 13	
			iPP	23 14 45	
			ipPP	23 15 20	
			iPcS	23 18 39	
			iS	23 19 05	
			i(sS)	23 20 05	
				microns sec	
		P	E	12 7	
		P	N	5.0 7	
		P	Z	20 7	
		P	Z	6.8 1.5	
		S	E	26 12	
		S	N	17 10	
		M	E	40 9	
		M	N	59 12	
		M	Z	59 9	
		D = 4550 km = 41°.			
		Sk	iP	23 13 20 C	
		Gb	iP	23 13 14 C	
			ipP	23 14 03	
		Um	iP	23 12 52 C	
			ipP	23 13 40	
			isP	23 14 03	
			iS	23 18 46	
			i	23 19 37	
			isS	23 20 03	
			i	23 21 25	
		D = 4450 km = 40°.			
		Ka	iP	23 12 54 C	
		Hindu Kush. h = 230 km. (Up, Ki, Gb, Um).			
		Magn. = 7.1 (Up, Ki).			
"	7	Up	iP	03 09 35 C	
		Ki	iP	03 09 33	
		Sk	iP	03 09 54	



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962						1962				
July	7	Gb	iP	03 09 55		July	7	Up	iP	12 52 04
cont.		Um	eP	03 09 27						microns sec
		Tibet (h = 25 km).						F	Z'	0.1 0.7
"	7	Up	iP	03 22 38 C				M	E	0.2 9
"	7	Up	iP	06 23 44 C				M	N	0.5 12
			ipP	06 23 57				M	Z	0.4 12
			iS	06 32 39			Ki	iP		12 53 18
			iPS	06 33 13			Sk	iP		12 52 44
			eP'P'	06 52 01			Gb	iP		12 51 50
							Um	iP		12 52 45 C
							Ka	iP		12 51 24
							Ionian Sea (h = 25 km).			
						"	7	Sk	e(P)	18 25 43
						"	7	Up	iP	21 31 29
									i	21 31 32
								Ki	iP	21 30 40
								Sk	iP	21 31 16
								Gb	iP	21 31 52
								Um	iP	21 31 04
								Ka	eP	21 31 51
								Near south coast of Kamchatka (h = 30 km).		
						"	7	Up	eP	23 14 52
								( Ionian Sea ).		
						"	8	Up	iP	03 32 58
									eP'P'	04 01 08
										microns sec
								M	E	0.3 17
								M	N	0.6 16
								M	Z	0.3 16
								Ki	iP	03 32 05
									ipP	03 32 21
									eP'P'	04 01 26
										microns sec
								M	E	0.6 15
								M	N	0.6 17
								M	Z	1.0 17
								Sk	iP	03 32 38
									iPcP	03 33 12
									eP'P'	04 01 09
								Gb	eP	03 33 12
									i	03 33 44
								Um	iP	03 32 33
									eP'P'	04 01 16
								Ka	iP	03 33 19
									ipP	03 33 33
									i	03 33 57
								Rat Islands, Aleutian Islands (h = 60 km).		
1962	7	Up	iP	07 25 32 C						
			ipP	07 25 45						
		Rat Islands, Aleutian Islands (h = 60 km).								
"	7	Um	iP	12 01 22						
		Banda Sea (h = 30 km).								

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

Year	Month	Day	Station	Phase	Time	Location	Notes
1962	July	8	Ki	iPKP	04 23 01	Sandwich Islands (h = 25 km).	
"	"	8	Ki	e	05 31 23		
"	"	8		iSg	05 31 41		
"	"	8	Sk	e(Sg)	05 34 13		
"	"	8	Up	iP	07 41 37	Mid-Atlantic Ocean (h = 25 km).	
"	"	8	Ki	iP	07 42 07		
"	"	8	Sk	eP	07 41 36		
"	"	8		i	07 41 42		
"	"	8	Gb	iP	07 41 14		
"	"	8	Um	iP	07 42 02		
"	"	8	Ka	eP	07 41 15		
"	"	8	Up	iP	08 23 58 D		
"	"	8	Gb	iPKP	12 20 59	Fiji Islands (h = 600 km).	
"	"	8	Ka	iPKP	12 21 00		
"	"	8	Up	iP	20 16 49	( Ionian Sea ).	
"	"	8	Up	e(P)	20 44 06		
"	"	8	Up	iPKP	23 14 26 C	Kermadec Islands region (h = 25 km).	
"	"	8	Sk	iPKP	23 14 18		
"	"	8	Gb	ePKP	23 14 40		
"	"	8	Um	ePKP	23 14 11		
"	"	8	Ka	iPKP	23 14 33 C		
"	"	8		i	23 14 41		
"	"	8	Up	iP	23 32 18	Near east coast of Kamchatka (h = 20 km).	
"	"	8	Ki	eP	23 31 15		
"	"	8	Ka	iP	23 32 40		
"	"	9	Up	iP	00 03 22 C		
"	"	9	Ki	iP	00 03 16		
"	"	9	Sk	iP	00 03 38		
"	"	9	Ka	iP	00 03 27		
"	"	9	Um	iP	00 03 15 C		
"	"	9	Up	iP	04 51 09 D		
"	"	9	Sk	iP	04 51 48		
1962	July	9	Ka	iP	04 50 29	Ionian Sea.	
"	"	9	Up	i	11 03 11	D = 180 km = 1 <sup>o</sup> .6. North of Jutland, 57 <sup>o</sup> 29'16" N, 9 <sup>o</sup> 4'2" E. Origin time = 11 00 31.81. Explosion of 2000 kg TNT at 25 m water depth (data obtained from the Geodetic Institute, Copenhagen).	
"	"	9	Sk	e(Sg)	11 03 38		
"	"	9	Gb	iP(g)	11 01 01 D		
"	"	9		iSg	11 01 22		
"	"	9					
"	"	9	Gb	iP(g)	13 00 59 D	North of Jutland, 57 <sup>o</sup> 25'32" N, 9 <sup>o</sup> 5'41" E. Origin time = 13 00 29.67. Explosion of 1000 kg TNT at 17 m water depth (data obtained from the Geodetic Institute, Copenhagen).	
"	"	9	Up	iP	14 03 58 D	Kurile Islands (h = 70 km).	
"	"	9	Ki	iP	14 03 12		
"	"	9	Um	iP	14 03 32		
"	"	9	Ka	i(P)	16 06 58		
"	"	9	Up	iP	16 50 22	Greece.	
"	"	9	Sk	iP	16 50 57		
"	"	9	Ka	iP	16 49 42		
"	"	9	Up	iP	17 43 11	Greece.	
"	"	9	Ki	iP	17 44 35		
"	"	9	Sk	iP	17 43 53		
"	"	9	Um	eP	17 43 51		
"	"	9	Ka	eP	17 42 32		
"	"	9		i	17 42 40		
"	"	9	Up	iP	18 04 53	( Ionian Sea ).	
"	"	9	Sk	iP	18 05 35		
"	"	10	Up	iPKP	05 30 20		
"	"	10		iSKP	05 35 07		
"	"	10	Ki	iSKP	05 32 43		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

July 10 cont. Ki microns sec  
 ✓ SKP Z' 0.2 1.5  
 ✓ Sk ePKP 05 30 10  
 iSKP 05 32 59  
 ✓ Um iSKP 05 32 55  
 ✓ Ka iPKP 05 30 31  
 Fiji Islands (h = 580 km).

" 10 Up iP 10 10 56  
 eS 10 14 54  
 microns sec  
 M E 1.7 13  
 M N 1.5 13  
 M Z 1.0 13  
 D = 2400 km = 21<sup>0.1</sup>/<sub>2</sub>.  
 Ki iP 10 12 07  
 e 10 19 12  
 eLg1 10 21 07  
 e(Lg2) 10 21 42  
 microns sec  
 M E 2.3 14  
 M N 0.5 11  
 M Z 0.9 10  
 Sk eP 10 11 38  
 i 10 11 49  
 Um iP 10 11 33  
 iPP 10 12 06  
 Ka iP 10 10 25  
 Aegean Sea (h = 25 km).

" 11 Up iP 01 11 58  
 i 01 12 01  
 ePP 01 13 29  
 iS 01 18 18  
 eSS 01 21 19  
 microns sec  
 M E 1.3 19  
 M N 2.2 15  
 M Z 1.5 14  
 D = 4800 km = 43<sup>0.1</sup>/<sub>2</sub>.  
 Ki iP 01 12 13  
 iPP 01 14 02  
 eSS 01 21 50  
 microns sec  
 M E 2.6 16  
 M N 3.2 17  
 M Z 3.5 16  
 ( D = 4950 km = 44<sup>0.1</sup>/<sub>2</sub>.)  
 ✓ Sk iP 01 12 26  
 ✓ Um iP 01 12 04  
 eSS 01 21 29  
 ✓ Ka iP 01 11 57  
 Afghanistan (h = 25 km).

1962

July 11 ✓ Up iP 07 27 50  
 ✓ Ki iP 07 26 57  
 ✓ Sk iP 07 27 34  
 Kamchatka (h = 70 km).

" 11 ✓ Up iP 12 53 14  
 eS 13 03 46  
 microns sec  
 P Z' 0.2 1.5  
 S N 0.5 7  
 M E 1.1 20  
 M N 4.1 20  
 M Z 2.3 18  
 D = 9550 km = 86<sup>0.1</sup>/<sub>2</sub>.  
 Ki iP 12 52 57  
 eS 13 03 14

microns sec  
 P Z' 0.6 1.2  
 S E 0.7 7  
 S N 0.6 7  
 M E 4.3 19  
 M N 1.2 15  
 M Z 4.6 19  
 D = 9150 km = 82<sup>0.1</sup>/<sub>2</sub>.

✓ Sk iP 12 53 20  
 ✓ Gb eP 12 53 28  
 ✓ Um iP 12 53 03  
 Panay, Philippine Islands  
 (h = 25 km). Magn. = 6.1  
 (Up, Ki).

" 11 Up iP 17 12 29 D  
 Sk ePKP 17 12 26  
 Um iP 17 12 19  
 Ka ePKP 17 12 39  
 Kermadec Islands region  
 (h = 40 km).

" 11 Gb iP 19 45 59

" 11 Up i(P) 20 19 58

" 12 Up iP 01 25 26

" 12 Up iP 02 16 34  
 Sk eP 02 17 11  
 Greece.

" 12 Up iP 08 28 55  
 Ki iP 08 28 24 C  
 Luzon, Philippine Islands  
 (h = 100 km).

Up = Uppdala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	July 12	Up	ePS	23 19 25		1962	July 13	Up	iP	05 10 03	C		
				microns sec					i	05 10 10			
		M	E	0.6 20						microns sec			
		M	N	0.6 20					P	Z' 0.1 0.6			
		M	Z	0.3 20					✓ Ki	iP	05 10 07	C	
		Ki								microns sec			
				microns sec						P	Z' 0.1 0.5		
		M	E	1.5 23					✓ Gb	iP	05 10 24	C	
		M	N	0.7 19					✓ Um	iP	05 10 00	C	
		M	Z	1.7 20					✓ Ka	iP	05 10 09	C	
		Pacific Ocean (h = 25 km).							Tibet-India border (h = 25 km).				
"	13	Up	iP	03 44 45		"	13	Up	iP	08 18 39			
			i	03 44 57						microns sec			
			iSKS	03 55 10					P	Z' 0.1 0.8			
			iS	03 55 28					"	13	Up	iP	12 39 57
				microns sec					"	13	Up	i(Pg)	14 01 25
		P	Z'	0.1 0.8								iSg	14 01 35
		S	E	0.7 9					"	13	Up	iP	22 19 57
		M	E	1.9 20							Ka	iP	22 19 22
		M	N	2.2 18							( Ionian Sea ).		
		M	Z	1.9 17					"	13	Up	iP	22 29 33
		( D = 9900 km = 89° ).									iS	22 37 59	
		✓ Ki	iP	03 44 31							microns sec		
			i	03 44 41							P	Z' 0.1 1.2	
			iSKS	03 54 46							M	E	0.8 20
			iS	03 54 55							M	N	0.4 18
				microns sec							D = 6900 km = 62°.		
			P	Z	0.8 4				✓ Ki	iP	22 28 37		
			P	Z'	0.4 1.5					i	22 28 47		
			SKS	E	1.8 7					eS	22 36 15		
			S	N	0.7 8					microns sec			
			M	E	3.1 22					P	Z' 0.1 1.1		
			M	N	1.7 19					M	E	0.7 20	
			M	Z	5.5 18					M	N	0.5 15	
			( D = 9450 km = 85° ).							M	Z	0.8 15	
		✓ Gb	iP	03 45 05						D = 6000 km = 54°.			
		✓ Um	iP	03 44 34					✓ Gb	iP	22 29 55	C	
			i	03 44 46						i	22 30 05		
			ePP	03 48 15					✓ Ka	iP	22 30 00	C	
			eSKS	03 54 36					Komandorshie Islands region (h = 60 km).				
			( D = 9550 km = 86° ).										
		✓ Ka	iP	03 44 57									
			i	03 45 08									
		Panay, Philippine Islands (h = 160 km). Magn. = 6.0 (Up, Ki).											
"	13	Up	iPKP	04 30 27		"	14	Up	iP	01 13 50			
			i	04 30 35					i	01 14 02			
		Um	iPKP	04 30 17					iPcP	01 14 16			
		Kermadec Islands region (h = 90 km).							Ki	iP	01 12 56		
									Gb	eP	01 14 09		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	July	14	Um	iP	01 13 24	
cont.			Rat Islands, Aleutian Islands (h = 25 km).			
"	"	14	Up	iP	05 16 20	
"	"	14	Up	iP	06 52 17 C	
				i	06 52 25	
					microns sec	
				P	Z' 0.1 0.6	
			Ki	iP	06 52 49	
			Gb	iP	06 52 32	
			Um	iP	06 52 29	
			Ka	iP	06 52 11	
			Iran (h = 30 km).			
"	"	14	Up	iP	16 07 47 C	
				i	16 08 00	
					microns sec	
				P	Z' 0.1 0.7	
				M	E 0.6 15	
				M	N 0.5 17	
				M	Z 0.9 14	
			Ki	iP	16 07 51 C	
					microns sec	
				M	E 0.4 13	
				M	N 0.3 14	
				M	Z 0.9 14	
			Sk	iP	16 08 10 C	
			Gb	iP	16 08 08	
			Um	iP	16 07 44	
			Ka	iP	16 07 53	
				i	16 07 58	
			Tibet-India border (h = 40 km).			
"	"	14	Up	iS	20 05 12	
					microns sec	
				M	E 0.9 22	
				M	N 0.8 20	
				M	Z 1.3 20	
			Ki	eS	20 04 03	
					microns sec	
				M	E 1.1 20	
				M	N 1.1 21	
				M	Z 1.4 20	
			Northern California (h = 25 km).			
"	"	14	Up	iP	20 48 38	
				iPcP	20 49 10	
					microns sec	
				M	E 0.6 22	

1962	July	14	Up	M	N	1.9	23
cont.					Z	1.5	23
			Ki	iP		20 47 46	
						microns sec	
				M	E	0.5	17
				M	N	0.5	17
				M	Z	0.7	17
			Sk	eP		20 48 30	
			Gb	iP		20 49 00	
				i		20 50 15	
			Um	iP		20 48 12	
			Ka	iP		20 49 03	
			Kurile Islands (h = 60 km).				
"	"	14	Up	iP		23 47 15	
			Ki	iP		23 46 46	
			Mariana Islands (h = 200 km).				
"	"	15	Up	iP		03 18 01	
				i		03 18 13	
			Sk	eP		03 18 43	
			Greece.				
"	"	15	Up	iP		06 58 26 D	
				iPP		07 00 58	
				i		07 01 27	
				eS		07 07 27	
				iPS		07 08 14	
						microns sec	
				P	Z' 0.5 1.0		
				PP	Z' 0.2 1.2		
				(D = 7650 km = 69°).			
			Ki	iP		06 57 45 D	
				ipP		06 58 11	
				i		06 59 16	
				iS		07 06 13	
				isS		07 06 53	
						microns sec	
				P	Z 0.8 4		
				P	Z' 0.5 1.0		
				S	E 0.4 10		
				S	N 0.3 8		
				M	E 0.6 16		
				M	N 0.4 16		
				M	Z 1.0 15		
				(D = 7000 km = 63°).			
			Sk	iP		06 58 20 D	
				ipP		06 58 45	
				iPP		07 00 48	
			Gb	iP		06 58 47 D	
				ipP		06 59 13	
				iPP		07 01 34	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 July cont.	15	Um	iP	06 58 03	D	1962 July cont.	15	Ki		microns	sec	
			ipP	06 58 29				S	E	0.3	10	
			isP	06 58 38				S	N	0.2	10	
			iPP	07 00 25				M	E	0.6	14	
		Ka	iP	06 58 47	D			M	N	0.4	13	
			ipP	06 59 10				M	Z	0.9	14	
			iPP	07 01 31				D = 6450 km = 58°.				
			ipPP	07 01 56				Sk	eP	22 02 08		
		Honshu, Japan. h = 100 km (Ki, Sk, Gb, Um, Ka). Magn. = 6.4 (Up, Ki).						Um	eP	22 01 52		
								Ka	iP	22 01 25		
								Gulf of Aden (h = 25 km).				
"	15	Up	iP	08 26 57		"	15	Up	iP	22 05 24		
"	15	Up	iP	08 40 22				Um	iP	22 05 39		
								(Gulf of Aden).				
"	15	Ki	iPn	13 27 23		"	16	Up	iP	00 07 39		
			iSn	13 28 11								
			iSg	13 28 27		"	16	Up	iPKP	02 24 41		
			D = 410 km = 3°.7.					i		02 24 50		
			Origin time = 13 26 25.							microns	sec	
"	15	Up	iP	15 23 54	C			M	E	0.6	21	
		Ki	iP	15 23 12	C			M	N	0.6	20	
			i	15 23 24				M	Z	1.1	23	
								Ki	iPKP	02 24 37		
								i		02 24 49		
										microns	sec	
			P	Z	0.1	0.7		PKP	Z	0.1	1.0	
			M	E	0.5	17		M	E	0.9	20	
			M	N	0.3	16		M	N	0.5	20	
			M	Z	0.7	16		M	Z	1.7	20	
		Sk	iP	15 23 47				Sk	iPKP	02 24 46		
		Gb	iP	15 24 16				i		02 24 58		
		Um	iP	15 23 31	C			Gb	iPKP	02 24 50		
		Ka	iP	15 24 15				Um	iPKP	02 24 36		
		Honshu, Japan (h = 60 km).						Ka	ePKP	02 24 40		
"	15	Up	iP	17 14 15	C			South of Tasmania (h = 15 km).				
		Ki	iP	17 13 21								
		Andreanof Islands, Aleutian Islands (h = 25 km).					"	16	Ki	iP	06 28 44	
"	15	Um	iPKP	19 53 19				Bonin Islands region (h = 40 km).				
		Loyalty Islands (h = 25 km).					"	16	Ki	iP	06 59 38	
"	15	Up	iP	22 01 36				"	16	Ki	iP	07 09 47
			eS	22 09 05				Gb	iP	07 08 21		
								Um	iP	07 09 11	C	
								Ka	iP	07 07 56		
								i		07 08 23		
		Ki	eP	22 02 11				Greece.				
			eS	22 10 14								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 July 16  
 ✓ Up iPKP 09 44 41 C  
 ✓ Ki iPKP 09 44 27  
 ✓ Gb iSKP 09 47 58  
 ✓ Um iPKP 09 44 34  
 ✓ ipPKP 09 45 23  
 ✓ Ka iSKP 09 47 59  
 Santa Cruz Islands region  
 (h = 180 km).

" 16  
 ✓ Up iP 13 04 30 C  
 i 13 05 01  
 microns sec  
 P N 0.4 3  
 P Z 0.5 3  
 P Z' 0.4 1.0  
 M E 0.6 16  
 M N 1.0 19  
 M Z 1.4 21  
 Ki iP 13 03 34  
 ePa 13 06 07  
 iS 13 10 39  
 microns sec  
 P N 0.3 6  
 P Z 0.5 5  
 P Z' 0.5 1.5  
 S E 0.3 7  
 M E 1.1 17  
 M N 0.9 19  
 M Z 2.2 19  
 D = 5550 km = 50°.  
 ✓ Gb iP 13 04 44 C  
 ✓ Um iP 13 04 04  
 eS 13 11 26  
 ✓ Ka iP 13 04 55 C  
 i 13 05 24  
 Alaska (h = 40 km).  
 Magn. = 6.1 (Up, Ki).

" 16 Ka ePKP 16 35 57  
 900 km south of Easter Island (h = 25 km).

" 16 Up iP 19 42 38

" 16 Up iP 21 13 37  
 Ki iP 21 13 46  
 Um iP 21 13 36  
 Ka iP 21 13 41  
 Hindu Kush.

" 17 Up iP 03 06 04  
 microns sec  
 P Z' 0.1 0.5

1962 July 17  
 cont. Ki iP 03 07 18  
 Um iP 03 06 44  
 Ka iP 03 05 27  
 Greece.

" 17 Up iPKP 05 51 11 C  
 i 05 51 21  
 iPKS 05 54 28  
 microns sec  
 PKP Z' 0.1 1.5  
 PKS E 0.2 5  
 M E 0.9 19  
 M N 0.9 21  
 M Z 1.7 21  
 (D = 14450 km = 130°).

Ki iPKP 05 51 19  
 i 05 51 28  
 iPP 05 53 37  
 iPKS 05 54 43  
 iSKSP 06 03 39  
 microns sec  
 PKP Z 0.6 5  
 PKP Z' 0.2 1.5  
 PP E 0.5 6  
 PP Z 0.8 6  
 PKS E 1.5 6  
 M E 1.2 18  
 M N 0.6 19  
 M Z 1.9 21  
 (D = 14650 km = 132°).

✓ Gb iPKP 05 51 04  
 Um iPKP 05 51 16  
 ePP 05 53 22  
 iPKS 05 54 38  
 ✓ Ka iPKP 05 51 06  
 Near coast of Chile  
 (h = 25 km).

" 17 Up iP 10 04 37

" 17 Up iP 11 20 12

" 17 Up iP 17 31 25 C  
 iS 17 40 23  
 microns sec  
 P Z 0.5 5  
 P Z' 0.2 0.7  
 S E 0.3 5  
 S N 0.8 6  
 M E 1.9 20  
 M N 2.8 20  
 M Z 4.5 20  
 D = 7650 km = 69°.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 July cont.	17	Ki	iP	17 30 41 C	1962 July	19	✓ Up	iP	22 16 50 D	
			eS	17 38 58			✓ Ki	iP	22 16 09	
				microns sec			✓ Sk	iP	22 16 43	
		P	E	0.3 6			✓ Um	iP	22 16 27	
		P	N	0.3 6			✓ Ka	iP	22 17 09	
		P	Z	1.0 4			Honshu, Japan (h = 90 km).			
		P	Z	0.1 0.9		"	20	Up	iP	06 22 20
		S	E	0.7 8		"	20	Up	iP	11 45 22
		S	N	0.9 9		"	21	Up	iP	03 13 41
		M	E	3.7 20				i	03 14 35	
		M	N	3.9 20			Ki	iP	03 14 10	
		M	Z	7.0 20					microns sec	
		D = 6900 km = 62°					M	E	0.3 12	
		Sk	iP	17 31 15 C			M	Z	0.4 12	
		i		17 31 28			Northern Iran (h = 40 km).			
		Gb	iP	17 31 47 C		"	21	Ka	iP	10 51 48 D
		i		17 32 01		"	21	Up	iP	17 36 19
		Um	iP	17 31 00 C				Ki	iP	17 36 27
		i		17 31 13				Sk	iP	17 36 45
		eS		17 39 37				Um	iP	17 36 18
		Ka	iP	17 31 47 C				Ka	iP	17 36 22
		i		17 33 39				Hindu Kush region (h = 40 km).		
		Hokkaido, Japan (h = 30 km).				"	22	Ki	iP	00 25 34
		Magn. = 6.0 (Up, Ki).						eS		00 29 11
"	18	Up	iP	00 25 52 D					microns sec	
		i		00 26 04			P	N	0.4 6	
		Ki	iP	00 25 36			P	Z	0.4 4	
		Um	iP	00 25 41			S	E	0.4 7	
		Panay, Philippine Islands (h = 160 km).					M	E	0.6 18	
"	18	Ki	eP	10 23 07			M	N	0.3 18	
		Um	iP	10 23 18 C			M	Z	0.6 19	
		Mariana Islands region (h = 15 km).					D = 2200 km = 20°			
"	18	Ka	iP	14 12 53			Um	eP	00 26 19	
		i		14 14 19			North of Franz Josef Land (h = 30 km).			
"	18	Up	iP	16 25 45		"	22	Up	i(P)	16 51 32
		Sk	eP	16 26 25		"	23	Ki	eL	02 00
		Greece.							microns sec	
"	18	Up	i(P)	16 57 49			M	E	0.6 18	
		i		16 57 58			M	N	0.3 18	
		Sk	eP	16 58 38			M	Z	0.8 18	
		Greece.					Off coast of Costa Rica (h = 40 km).			
"	19	Up	i(P)	11 34 13						
"	19	Um	i(P)	17 15 37						



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	July 23	Ki	iP	22 23 16
		Virgin Islands region (h = 25 km).		
"	24	Um	iP	04 12 45
"	24	Ki	iP	09 05 47
"	24	Sk	e(P)	10 05 45
"	24	Ki	iP	10 47 33
"	24	Up	iP	16 36 01
		Ki	iP	16 35 46
			eS	16 46 06
			microns sec	
		P	Z'	0.1 1.1
		M	E	0.7 18
		M	N	0.6 18
		M	Z	1.1 18
		D = 9350 km = 84°.		
		Um	iP	16 35 51
		Sulu Sea (h = 20 km).		
"	24	Up	iP	16 40 42
		Ki	iP	16 41 14
		Sk	iP	16 41 12
		Um	iP	16 40 55 C
"	24	Up	iP	21 20 49
			ipP	21 21 18
			isP	21 21 32
			iPP	21 24 12
			ipPP	21 24 39
			iS	21 30 58
			microns sec	
		S	E	0.5 9
		M	E	1.2 21
		M	N	1.4 22
		M	Z	2.0 21
		(D = 9650 km = 87°).		
		Ki	iP	21 20 40
			ipP	21 21 07
			i	21 23 51
			iPP	21 24 18
			i	21 24 29
			iS	21 30 51
			ipS	21 31 33
			microns sec	
		P	Z	0.5 6
		P	Z'	0.1 1.5
		PP	E	0.3 7
		S	E	1.8 13

1962	July 24	Ki	S	N	0.5	11
	cont.		M	E	2.7	20
			M	N	1.6	20
			M	Z	3.5	20
			(D = 9450 km = 85°).			
		Sk	iP		21 20 32	C
			ipP		21 21 01	
			iPP		21 24 08	
		Gb	iP		21 20 41	
		Um	iP		21 20 47	
			isP		21 21 23	
			iPP		21 24 07	
			ipPP		21 24 34	
			eS		21 31 09	
		Ka	iP		21 20 53	
		Mexico-Guatemala border region. h = 110 km (Up, Ki, Sk, Um). Magn. = 5.9 (Up, Ki).				
"	25	Up	iP		04 49 45	
			iS		04 59 38	
			microns sec			
			P	Z	0.7	6
			P	Z'	0.1	0.8
			S	E	1.0	9
			S	N	2.4	10
			M	E	4.8	20
			M	N	6.1	19
			M	Z	12	22
		D = 8800 km = 79°.				
		Ki	iP		04 49 36	
			i		04 49 48	
			i		04 50 47	
			i		04 54 22	
			iPa		04 55 40	
			iS		04 59 25	
			microns sec			
			P	E	0.4	6
			P	Z	0.9	5
			P	Z'	0.3	1.2
			S	E	2.5	11
			S	N	1.5	10
			M	E	5.9	18
			M	N	5.2	18
			M	Z	5.5	18
		D = 8600 km = 77°.				
		Sk	iP		04 49 24	
			i		04 49 27	
			i		04 49 46	
		Gb	iP		04 49 33	
		Um	iP		04 49 46	
			eS		04 59 33	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
July  
cont.

25 ✓ Ka iP 04 49 46  
West of Jamaica (h = 60 km).  
Magn. = 6.2 (Up, Ki).

" 26 ✓ Up iP 04 34 09 C

microns sec

P Z' 0.3 0.8

M E 0.4 20

M N 0.7 17

M Z 0.6 18

✓ Ki iP 04 33 20 C

microns sec

P Z' 0.1 0.8

M E 0.6 18

M N 0.5 17

M Z 1.0 17

✓ Sk iP 04 33 55 C

✓ Gb iP 04 34 30 C

✓ Ka iP 04 34 32 C

i 04 34 44

Kurile Islands (h = 40 km).

" 26 Ki eP 04 44 40

Sk eP 04 44 53

" 26 Up iP 08 27 36 D

i 08 30 34

iPP 08 31 05

i 08 31 12

iSKS 08 38 01

iS 08 38 23

microns sec

P E 1.4 4

P N 2.3 6

P Z 12 7

P Z' 2.3 2.0

PP E 2.1 5

PP N 2.5 6

PP Z 6.9 6

SKS E 10 14

S N 17 14

M E 58 24

M N 84 24

M Z 110 24

D = 9800km = 88°

✓ Ki iP 08 27 34 D

i 08 30 53

iPP 08 31 03

iSKS 08 38 00

microns sec

P E 7.7 6

P N 2.7 6

P Z 21 7

1962

July  
cont.

26 Ki P Z' 4.6 2.0

SKS E 24 11

SKS N 14 11

M E 160 23

M N 74 23

M Z 220 25

D = 9800 km = 88°

Sk iP 08 27 23 D

i 08 30 40

✓ Gb iP 08 27 25 D

iPP 08 30 54

✓ Ka iP 08 27 36 D

iPP 08 31 05

South of Panama (h = 20 km).

Magn. = 7.4 (Up, Ki).

" 26 Ki i(P) 17 38 20

" 26 Um iP 18 56 32

i 18 56 45

" 26 Ki ePKP 21 51 35

Sandwich Islands region

(h = 25 km).

" 26 Up iP 22 38 18

iPP 22 38 30

i 22 38 46

eS 22 41 06

D = 1650 km = 15°

Ki iP 22 39 50

Sk eP 22 39 12

Um iP 22 39 05 C

Ka iP 22 37 45

iS 22 39 59

D = 1350 km = 12°

" 27 Up iP 01 29 29

Ki iP 01 29 00

Sk iP 01 29 26

Um iP 01 29 12

i(pP) 01 29 43

North of Mariana Islands

(h = 100 km).

" 27 Sk e(P) 04 31 38

" 27 Sk iP 06 03 00

Um i(P) 06 02 35

" 27 Um iP 06 30 37

New Hebrides Islands

(h = 210 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
July 27 ✓ Up iP 12 49 35  
✓ Ki iP 12 48 42  
✓ Sk iP 12 49 13  
✓ Gb eP 12 49 50  
✓ Um iP 12 49 08  
ipP 12 49 21  
✓ Ka iP 12 49 59 C  
Andreanof Islands, Aleutian  
Islands (h = 60 km).

" 27 Ki iP 14 16 59

" 27 Up iP KP 19 45 11  
Sk iP KP 19 45 08  
Um iP KP 19 45 04  
Santa Cruz Islands region  
(h = 290 km).

" 28 Ki iP 00 07 15 D

" 28 ✓ Up i(PP) 00 27 05  
iPKS 00 28 02  
microns sec  
PKS N 0.3 4  
M E 0.7 23  
M N 0.9 23  
M Z 0.8 23  
✓ Ki iP KP 00 24 15  
i 00 24 30  
i(PP) 00 26 14  
e(PKS) 00 27 27  
microns sec  
PKP Z 0.1 1.0  
M E 0.8 19  
M N 0.6 19  
M Z 1.4 20  
✓ Sk iP KP 00 24 25  
i 00 24 41  
✓ Gb iP KP 00 24 29  
i 00 24 37  
✓ Um ePKP 00 24 16  
i 00 24 23  
i 00 24 38  
i(PP) 00 26 38  
iPKS 00 27 47  
Samoa Islands region  
(h = 40 km).

" 28 Ki iP 06 29 32

1962  
July 28 Up iP 12 22 22  
i 12 22 29  
i 12 22 42  
i 12 27 25  
Ki iP 12 23 36  
microns sec  
M E 0.5 15  
M N 0.5 15  
M Z 0.8 15  
Sk iP 12 23 01  
Gb iP 12 22 09  
Um iP 12 23 06  
i 12 23 13  
Ka iP 12 21 45  
(Ionian Sea).

" 28 Up iS 14 21 53  
Ki iP 14 11 11  
microns sec  
M E 0.7 20  
M Z 1.4 20  
Sk iP 14 11 05  
Um iP 14 11 21  
Near coast of Chiapas,  
Mexico (h = 70 km).

" 28 Ki iP 14 39 43

" 28 Sk iP 19 52 53  
Um iP 19 52 28

" 28 ✓ Up iP 19 54 28  
iPcP 19 54 47  
microns sec  
M E 0.7 18  
M N 0.5 17  
M Z 0.8 17  
✓ Ki eP 19 53 49  
eS 20 02 42  
microns sec  
S E 0.3 11  
M E 1.1 15  
M N 0.5 15  
M Z 1.3 16  
D = 7400 km = 66  $\frac{1}{2}$ .  
✓ Sk eP 19 54 27  
✓ Gb iP 19 54 49  
✓ Um iP 19 54 06  
eS 20 03 15  
Off east coast of Honshu,  
Japan (h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962	July 28	Up	iP	20 57 28	1962	July 30	Up	iP	11 02 17
				microns sec			Ki	iP	11 01 36
			P	Z 0.1 0.9			Sk	iP	11 02 10
			M	N 0.8 20			Um	iP	11 01 54 C
			M	Z 0.6 19			Honshu, Japan (h = 40 km).		
		Ki	iP	20 56 43	"	30	Up	i(P)	14 58 26
				microns sec	"	30	Up	iP	17 31 17
			M	E 0.3 18			ePKP	17 35 24	
			M	N 0.2 17			iPP	17 35 52	
			M	Z 0.6 18			iS	17 43 28	
		Sk	eP	20 57 18			iPS	17 45 05	
		Gb	iP	20 57 48			i	17 45 26	
		Um	iP	20 57 03			iPKKP	17 46 30	
		Ka	eP	20 57 49			microns sec		
		Kurile Islands (h = 30 km).					PP	E 0.8 6	
"	28	Ki	iP	22 05 01			PP	N 1.0 6	
		Um	iP	22 05 19			PP	Z 1.9 6	
		Hokkaido, Japan (h = 50 km).					PP	Z 0.1 1.1	
"	28	Ki	iP	23 58 59			S	N 1.8 9	
"	29	Um	iP	00 38 17			M	E 18 24	
"	29	Up	iP	03 49 00 C			M	N 14 18	
		Ki	iP	03 48 33			M	Z 22 22	
		Sk	iP	03 49 01			(D = 12200 km = 110°).		
		Gb	eP	03 49 21			Ki	iP	17 30 52
		Um	iP	03 48 43			iPP	17 35 08	
		Ryukyu Islands (h = 180 km).					i	17 35 12	
"	29	Up	iP	09 09 11			i	17 36 39	
		Ki	eP	09 08 51			iSKS	17 41 34	
				microns sec			iS	17 42 45	
			M	E 0.5 16			ePKKP	17 46 33	
			M	N 0.5 17			microns sec		
		Um	iP	09 08 58			P	Z 0.8 5	
		Kwangtung Province, China (h = 70 km).					PP	E 1.6 6	
"	29	Ki	ePKP	18 39 27			PP	N 1.1 6	
		Um	ePKP	18 39 37			PP	Z 3.6 6	
		South Island, New Zealand (h = 80 km).					SKS	E 2.6 9	
"	30	Sk	iP	03 33 48			S	N 1.5 10	
		Um	iP	03 33 23			M	E 23 22	
"	30	Gb	i(P)	09 14 11			M	N 14 21	
							M	Z 43 23	
							(D = 11600 km = 104 1/2°).		
							Sk	eP	17 31 06
							iPKP	17 35 24	
							ePKKP	17 46 32	
							Gb	e(PKP)	17 35 13
							iPP	17 36 19	
							Um	iP	17 31 05
							i	17 34 10	
							iPKP	17 35 18	
							iPP	17 35 30	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
July 30 cont.

Um	eS	17 42 59
	iPS	17 44 43
	i(PKKP)	17 46 17
	eSS	17 50 37
Ka	iP	17 31 32
	i	17 31 37
	i	17 34 38
	iPP	17 36 16
	iPKKP	17 46 27

Near north coast of New Guinea (h = 25 km).  
Magn. = 6.9 (Up, Ki).

" 30

Up	iP	19 10 06
Ki	iP	19 10 09
Sk	iP	19 09 54
Um	iP	19 10 11

Central Colombia (h = 200 km).

" 30

Up	iP	19 47 55
Ki	iP	19 47 02
Um	iP	19 47 29 D

" 30

Up	iP	20 31 32 C
	i	20 31 36
	ipP	20 32 03
	isP	20 32 25
	i	20 35 25
	iSKS	20 41 50
	iS	20 42 02
	iP'P'	20 57 32

microns sec

P	E	0.6	5
P	N	0.5	5
P	Z	3.2	6
P	Z'	0.3	0.5
pP	Z'	0.5	0.8
S	N	13	8
M	E	11	20
M	N	14	23
M	Z	19	20

(D = 9800 km = 88°).

Ki

iP	20 31 34 C
ipP	20 32 04
i	20 35 26
iPa	20 39 16
iSKS	20 41 53
iS	20 42 11
ipS	20 42 41
i	20 43 55

microns sec

P	E	1.3	5
---	---	-----	---

1962  
July 30 cont.

Ki	P	Z	4.0	6
	P	Z'	0.8	1.3
	pP	Z	10	10
	SKS	E	4.0	9
	S	N	23	8
	M	E	16	19
	M	N	8.1	19
	M	Z	24	20

(D = 9800 km = 88°).

Sk

iP	20 31 19
i	20 31 22
ipP	20 31 50
iP'P'	20 57 31

Gb

iP	20 31 20
ipP	20 31 50

Um

iP	20 31 36
i	20 31 39
i(pP)	20 31 59
iPP	20 35 16
i	20 35 33
iSKS	20 41 48
iS	20 42 13
ipS	20 42 42
i	20 43 49

(D = 9900 km = 89°).

Ka

iP	20 31 30
ipP	20 32 01

Western Colombia. h = 120 km (Up, Ki, Sk, Gb, Ka).  
Magn. = 6.9 (Up, Ki).

" 31

Up	iP	01 30 34
	i	01 30 42
Ki	iP	01 31 45
Sk	iP	01 31 12
Gb	iP	01 30 21 D
Um	iP	01 31 09
Ka	iP	01 29 57

Near south coast of Greece (h = 110 km).

" 31

Ki	iP	02 33 13
Gb	iPKP	02 37 28

Near north coast of New Guinea (h = 20 km).

" 31

Up	iP	05 20 47
Ki	iP	05 20 14

microns sec

P	Z'	0.2	1.0
---	----	-----	-----

Sk

iP	05 20 45 C
----	------------

Gb

iP	05 21 08
----	----------

Um

iP	05 20 28 C
----	------------

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,  
Ka = Karlskrona

1962  
July 31 cont. / Ka iP 05 21 03  
Near coast of Shikoku,  
Japan (h = 30 km).

" 31 / Up iP 05 25 15  
i 05 25 25  
iS 05 35 15  
microns sec  
P Z' 0.1 0.9  
S E 0.4 8  
M E 1.6 21  
M N 1.6 20  
M Z 2.3 18  
D = 8950 km = 80<sup>01</sup>/<sub>2</sub>.

/ Ki iP 05 24 54  
i 05 25 06  
iS 05 34 36  
microns sec  
P Z' 0.1 0.7  
M E 2.3 14  
M N 1.3 14  
M Z 3.1 13  
D = 8550 km = 77<sup>0</sup>.

/ Sk eP 05 25 17  
/ Gb eP 05 25 25  
/ Um iP 05 25 01  
eS 05 34 50  
/ Ka iP 05 25 26  
Near north coast of Luzon  
(h = 40 km). Magn. = 5.7  
(Up, Ki).

" 31 Ki iP 07 33 15  
Off east coast of Honshu,  
Japan (h = 70 km).

" 31 Ka iP 18 52 22  
(Kashmir).

Markus Båth  
December 6, 1962

1962  
Aug.

*Spind 1/45*

PRELIMINARY  
SEISMOLOGICAL BULLETIN  
UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala	(Up);	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki);	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk);	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb);	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um);	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka);	56°09.9'N,	15°35.5'E;	h = 11 m

AUGUST 1 - 31, 1962

1962  
Aug 1 Up eP 02 53 38  
Gb eP 02 54 26

" 1 Up iPKP 04 08 48 C  
i 04 08 59  
microns sec  
PKP Z' 0.1 0.7  
Sk e(PKP) 04 08 59  
Gb ePKP 04 09 11  
Ka iPKP 04 09 01  
Kermadec Islands region  
(h = 30 km).

" 1 Up eP 04 51 39  
i 04 55 51  
iPP 04 56 07  
iPS 05 05 30  
i 05 06 30  
microns sec  
PP E 0.5 5  
PP N 0.5 5  
PP Z 1.1 5  
M E 9.0 23  
M N 9.7 20  
M Z 11 21  
(D = 12350 km = 111°).

Ki iP 04 51 06  
i 04 51 25  
iPP 04 55 26  
iSKS 05 01 48  
iPS 05 04 39  
microns sec  
P Z' 0.1 1.3  
PP E 1.3 5  
PP N 0.5 8  
PP Z 2.7 5

1962  
Aug 1 Ki SKS E 0.9 7  
cont. M E 7.3 20  
M N 5.2 20  
M Z 18 24  
(D = 11800 km = 106°.)

Sk iP 04 51 40  
iPP 04 56 03  
Um iP 04 51 17  
i 04 55 22  
ePP 04 55 40  
iSKS 05 01 57  
iPS 05 05 03  
Ka eP 04 51 41  
iPP 04 56 06

Near north coast of New Guinea (h = 30 km). Magn. = 6.9 (Up, Ki).

" 1 Up iPKP 05 41 01  
microns sec  
M E 1.9 20  
M N 1.5 19  
M Z 2.6 20  
Kermadec Islands region  
(h = 30 km).

" 1 Up iSg 08 59 11  
iL 08 59 24  
Um iSg 08 59 50  
Baltic Sea, 60°32'45"N,  
21°09'40"E.  
Underwater explosion of 900 kg dynamite (data from Seismological Laboratory, Helsinki).

" 1 Up iP 12 58 30

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 1 Up iPKP 13 07 24  
Um iPKP 13 07 18  
Kermadec Islands region  
(h = 30 km).

" 1 Up iPn 13 56 51  
i(Sn) 13 57 54  
iS<sup>x</sup> 13 58 06  
iSg 13 58 18  
microns sec  
Sg Z' 0.5 0.5  
D = 560 km = 5.0°.

Ki e(Pn) 13 57 49  
iPg 13 58 49  
iSg 14 00 46  
microns sec  
Sg Z' 0.2 0.7  
D = 1060 km = 9.5°.

Sk ePn 13 56 41  
iP<sup>x</sup> 13 56 50  
iSg 13 57 51  
D = 470 km = 4.2°.

Gb i(Pn) 13 56 22  
iP<sup>x</sup> 13 56 32  
iS<sup>x</sup> 13 57 12  
iSg 13 57 18  
D = 360 km = 3.2°.

Um i(Pn) 13 57 23  
i 13 58 52  
iSg 13 59 20  
D = 770 km = 6.9°.

Ka iPn 13 56 56  
iSn 13 58 04  
i(S<sup>x</sup>) 13 58 27  
iSg 13 58 34  
D = 610 km = 5.5°.  
Southwest Norway, 60°N,  
8°E. Origin time =  
13 55 33.

" 1 Up iSg 14 00 19  
microns sec  
Sg Z' 0.3 0.5  
Ki iSg 14 02 45  
microns sec  
Sg Z' 0.1 0.7  
Sk iSg 13 59 50  
Gb iS<sup>x</sup> 13 59 11  
iSg 13 59 17  
Um iSg 14 01 20  
Ka iSg 14 00 34  
Southwest Norway, 60°N,  
8°E. Origin time =  
13 57 33.

1962

Aug 1 Up iSg 14 59 14  
Um iSg 14 59 56  
Baltic Sea, 60°32'45"N,  
21°09'40"E.  
Underwater explosion of  
600 kg dynamite (data  
from Seismological  
Laboratory, Helsinki).

" 1 Up iP 15 17 30

" 1 Up iP 15 57 01 C  
microns sec  
P Z' 0.3 0.7  
Ki iP 15 56 40 C  
microns sec  
P Z' 0.2 0.8  
M E 2.2 15  
M N 1.2 19  
M Z 2.9 15  
Sk iP 15 57 10 C  
iPcP 15 58 14  
Um iP 15 56 45 C  
i 15 56 50  
iPcP 15 58 01  
Ka iP 15 57 16 C  
Kansu Province, China  
(h = 25 km).

" 1 Ki iP 16 45 38  
Iraq (h = 30 km).

" 2 Up iP 04 53 48  
Ki eP 04 53 40  
Sk iP 04 53 26  
Um eP 04 53 56  
South of Cuba (h = 50 km).

" 2 Up iPg 09 15 45  
iSg 09 16 10  
iL 09 16 21  
D = 210 km = 1.9°.  
Sk e(Sg) 09 17 51  
Um iSg 09 16 56  
Baltic Sea, 60°32'45"N,  
21°09'40"E. Origin time =  
09 15 07. Underwater  
explosion of 1200 kg  
dynamite (data from  
Seismological Laboratory,  
Helsinki).

" 2 Ki eP 11 41 07



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 2 Ki iP 14 08 11  
iPP 14 09 17  
Caspian Sea.

" 2 Up iP 15 40 32  
microns sec  
M E 0.3 14  
M N 0.6 14  
Ki iP 15 40 40 C  
eLg1 15 56 04  
microns sec  
P Z' 0.1 1.0  
M E 0.4 9  
M N 0.3 12  
M Z 0.5 10  
Sk iP 15 40 56  
Um iP 15 40 30 C  
West Pakistan (h = 30 km).

" 3 Sk eP 04 18 31  
Western Colombia (h = 80 km).

" 3 Up iP 07 13 01

" 3 Up iP 09 10 23  
iPP 09 13 57  
i 09 14 35  
i 09 14 52  
iSKS 09 20 51  
i 09 21 41  
iS 09 22 14  
isS 09 23 21  
iSP 09 23 56  
iPKKP 09 26 00  
iP'P' 09 34 11  
microns sec  
P Z 0.5 7  
SKS E 2.7 4  
S N 5.3 9  
PKKP Z' 0.1 1.0  
P'P' Z' 0.2 1.5  
M E 9.4 24  
M N 6.6 23  
M Z 19 25  
(D = 12000 km = 108°.)  
Ki eP 09 10 39  
esP 09 11 16  
iPKP 09 14 31  
iPP 09 15 17  
ipPP 09 15 49  
iSKS 09 21 04  
iSKKS 09 22 00  
iS 09 22 38  
iSP 09 24 32

1962  
Aug 3 Ki iPKKP 09 25 37  
cont. i 09 25 47  
iSS 09 30 35  
microns sec  
PKP Z' 0.3 1.7  
PP E 0.9 8  
PP Z 1.9 6  
SKS E 4.7 5  
SKS N 1.3 4  
SKS Z 1.5 5  
S N 4.2 8  
M E 8.0 20  
M N 2.4 20  
M Z 12 20  
(D = 12450 km = 112°.)  
Sk iP 09 10 21  
i 09 13 23  
iPP 09 14 45  
iPKKP 09 25 51  
i 09 26 06  
eP'P' 09 34 14  
Gb i 09 13 25  
iPP 09 14 29  
iPKKP 09 26 17  
eP'P' 09 34 18  
Um esP 09 11 10  
iPKP 09 14 37  
iPP 09 15 10  
iS 09 22 37  
iSP 09 24 17  
iPKKP 09 25 40  
i 09 25 50  
iSS 09 30 25  
Ka iPKP 09 14 36  
iPKKP 09 26 11  
Northern Chile-Argentina  
border (h = 70 km).  
Magn. = 6.8 (Up, Ki).

" 3 Sk iPKP 10 23 34  
Solomon Islands (h = 40 km).

" 3 Up iP 11 11 28 C  
i 11 11 34  
iPP 11 12 58  
eS 11 17 05  
iLi 11 22 37  
iLg2 11 24 40  
microns sec  
P Z' 0.1 1.0  
M E 3.8 11  
M N 3.6 12  
M Z 5.3 10  
D = 4300 km = 38½°.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	Aug 3	Ki	iP	11 11 29
cont.			i	11 11 35
			iPP	11 13 07
			eScS	11 21 31
			iLg1	11 24 16
			iLg2	11 24 33
				microns sec
		P	Z'	0.2 1.0
		M	E	6.7 13
		M	N	13 13
		M	Z	10 13
				D = 4300 km = 38 $\frac{1}{2}$ °.
		Sk	iP	11 11 50
			i	11 11 57
			iLi	11 23 45
			iLg1	11 26 01
		Gb	iP	11 11 52
			iLg2	11 26 18
		Um	iP	11 11 22
			eSS	11 19 55
			iLg1	11 23 48
			iLg2	11 24 06
		Ka	iP	11 11 37
			i	11 11 43
				Kirghiz, U.S.S.R.
				(h = 25 km).
				Magn. = 5.8 (Up, Ki).
"	3	Up	iP	11 48 26 D
		Sk	i(P)	11 48 15
"	3	Up	i(P)	13 14 37
"	3	Ki	i(P)	17 15 22
"	3	Up	iP	18 10 10
		Ki	iP	18 10 18
				microns sec
		P	Z'	0.1 1.2
		Sk	iP	18 10 35
		Gb	iP	18 10 32
		Um	iP	18 10 08
		Ka	iP	18 10 15
				Hindu Kush (h = 210 km).
"	3	Ki	eP	18 21 18
"	3	Up	e(P)	20 44 19
		Um	iP	20 43 53
"	3	Up	eP	22 57 06
"	3	Up	iP	22 57 43
		Ki	eP	22 57 37

1962	Aug 3	Sk	eP	22 57 58
cont.		Um	iP	22 57 33
				Andaman Islands.
"	4	Up	iP	02 11 09
"	4	Ki	iP	03 02 22 C
			eS	03 12 52
				microns sec
		M	E	0.3 18
				D = 9450 km = 85°.
		Sk	iP	03 02 15
		Um	eP	03 02 30
			i	03 02 41
		Ka	iP	03 02 33
				Near coast of Guatemala
				(h = 30 km).
"	4	Sk	iP	07 15 39
"	5	Up	iP	09 13 13 C
			iPP	09 13 28
			eS	09 16 49
			i	09 18 04
			iLi	09 18 32
			iLg2	09 19 23
				microns sec
		S	N	0.4 10
		M	E	5.2 11
		M	N	14 10
		M	Z	16 10
				D = 2100 km = 19°.
		Ki	iP	09 11 43 C
			iS	09 13 57
			iSS	09 14 13
			eLi	09 14 51
			iLg1	09 15 06
			i	09 15 47
				microns sec
		S	Z'	0.3 1.8
		M	E	6.5 10
		M	N	6.5 11
		M	Z	13 10
				D = 1350 km = 12°.
		Sk	iP	09 12 53
			iSS	09 16 20
		Gb	iP	09 13 53
		Um	iP	09 12 22 C
			iSS	09 15 25
		Ka	iP	09 13 56
			eLi	09 19 53
				Novaya Zemlya. Atmospheric
				nuclear explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 8 Ki iP 11 05 01 C  
          microns sec  
          P Z' 0.2 1.0  
Um iP 11 05 28  
Fox Islands, Aleutian  
Islands (h = 40 km).

" 8 Ki e(P) 11 56 39  
          i 11 57 10

" 8 Up iP 17 21 55 C

" 8 Up iP 17 28 52  
Ki iP 17 28 23  
          microns sec  
          P Z' 0.1 0.7  
Sk iP 17 28 48  
Mariana Islands  
(h = 390 km).

" 8 Ki iP 18 06 23  
Sk iP 18 06 56  
Um iP 18 06 41  
Near east coast of Honshu,  
Japan (h = 50 km).

" 8 Up iP 20 53 21

" 9 Ki iPg 01 04 55  
          eSg 01 05 39  
          D = 380 km = 3.4°.  
Sk iPg 01 04 40  
          iSg 01 05 12  
          D = 270 km = 2.4°.  
Um iSg 01 05 58  
West coast of Norway,  
66.1°N, 12.9°E. Origin  
time = 01 03 50.

" 9 Up i(P) 03 09 37

" 9 Up iP 04 34 09  
          microns sec  
          P Z' 0.1 0.6  
/ Ki iP 04 34 13 C  
          microns sec  
          P Z' 0.3 1.3  
/ Sk iP 04 33 57  
/ Um iP 04 34 14  
Colombia (h = 180 km).

" 9 Up i(P) 05 12 41

1962  
Aug 9 Up iSKS 06 44 22  
          i 06 47 30  
Salta Province, Argentina  
(h = 130 km).

" 9 Up iP 10 55 17  
Ki iP 10 54 46 C  
Sk iP 10 55 16 C  
Um iP 10 54 59  
Ryukyu Islands (h = 200 km).

" 9 Sk eP 23 35 52  
Ionian Sea.

" 10 Up i(P) 00 57 03

" 10 Up eP 09 04 59  
          eLi 09 10 11  
          microns sec  
          M E 0.5 10  
          M N 1.0 10  
          M Z 1.4 10  
Ki -  
          microns sec  
          M E 0.5 9  
          M N 0.5 10  
          M Z 1.1 10  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 10 Up iP 12 58 10 D  
Ki i(P) 12 58 10  
Ka eP 12 57 57

" 10 Up iP 21 09 47  
          i 21 09 52  
          i(S) 21 14 48  
          microns sec  
          (S) E 0.4 8  
          M E 2.2 19  
          M N 2.5 18  
          M Z 3.0 19  
/ Ki iP 21 10 07  
          i 21 10 16  
          ePP 21 11 07  
          i 21 12 54  
          eS 21 14 53  
          microns sec  
          P Z' 0.2 1.0  
PP E 0.4 8  
S E 0.4 9  
S N 0.3 12  
M E 2.4 18

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 10 Ki M N 0.6 14  
cont M Z 3.1 21  
D = 3350 km = 30°.  
/ Sk iP 21 09 29  
iPP 21 10 01  
/ Gb iP 21 09 17  
i 21 09 27  
/ Um iP 21 10 02  
eS 21 14 54  
North Atlantic Ocean  
(h = 30 km).  
Magn. = 5.4 (Up, Ki).  
" 10 Up i(P) 22 31 17  
" 10 Up i(P) 22 57 35  
" 10 Um iP 23 50 13  
Afghanistan.  
" 11 Up iPKP 02 05 46  
iSKP 02 08 32  
microns sec  
SKP Z' 0.1 1.0  
Ki iP 02 05 28  
i 02 05 40  
iSKP 02 08 05  
i 02 08 20  
ePKS 02 09 03  
microns sec  
SKP N 0.3 7  
SKP Z 1.6 6  
SKP Z' 0.6 1.4  
PKS E 0.4 7  
PKS N 0.4 6  
/ Sk iP 02 05 38  
iSKP 02 08 26  
/ Gb iP 02 05 56  
iSKP 02 08 42  
/ Um iP 02 05 40 C  
i 02 05 47  
eSKP 02 08 13  
/ Ka iP 02 05 57  
iSKP 02 08 44  
Fiji Islands (h = 640 km).  
" 11 Up i(P) 02 35 03  
" 11 Up iP 08 27 16 D  
i 08 27 25  
iPP 08 30 10  
iS 08 36 46  
iSKS 08 37 10  
isSS 08 42 36

1962  
Aug 11 Up microns sec  
cont. P E 0.5 3  
P N 0.8 4  
P Z 1.7 3  
P Z' 1.0 1.5  
PP Z 0.4 2  
S E 0.7 5  
S N 6.2 6  
SKS E 0.5 3  
SKS N 2.8 7  
M E 3.2 17  
M N 9.9 17  
M Z 5.1 16  
(D = 8450 km = 76°.)  
Ki iP 08 26 51 D  
epP 08 27 21  
iS 08 35 58  
ipS 08 36 38  
isS 08 36 58  
microns sec  
P E 1.0 7  
P N 0.2 7  
P Z 2.4 7  
P Z' 1.8 1.8  
S E 2.8 8  
S N 8.3 10  
M E 8.3 18  
M N 3.5 14  
M Z 4.3 15  
(D = 7900 km = 71°.)  
/ Sk iP 08 27 19 D  
ipP 08 27 52  
/ Gb iP 08 27 36 D  
i 08 27 46  
/ Um iP 08 27 00 D  
ipP 08 27 34  
/ Ka iP 08 27 30  
i 08 27 42  
Off northeast coast of  
Formosa. h = 130 km (Ki,  
Sk, Um). Magn. = 6.6 (Up, Ki).  
" 11 Up iP 18 25 29  
Ki iP 18 25 11  
Um iP 18 25 18  
Banda Sea (h = 170 km).  
" 12 Up i(P) 00 13 56  
" 12 Ki iP 04 55 45  
Turkey (h = 30 km).

Up = Uppsala, Ki = Kiruan, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 12 Up iP 11 20 39 C  
i 11 20 46  
microns sec  
P Z' 0.1 0.5  
Ki iP 11 20 22  
Sk iP 11 20 51

" 12 Up iP 11 35 44  
i 11 35 51  
Ki iP 11 35 27  
Sk iP 11 35 56

" 13 Up i(P) 03 39 48

" 13 Up X  
microns sec  
M E 2.7 23  
M N 3.2 22  
M Z 4.5 23  
Ki iP 06 49 10 D  
iSKS 06 59 45  
microns sec  
SKS E 1.6 9  
SKS N 0.5 10  
M E 1.9 18  
M N 1.6 24  
M Z 6.3 24

Off coast of Ecuador  
(h = 30 km).

" 13 Ki iPg 14 19 57  
iSg 14 20 29

" 13 Ki iP 14 57 51  
Molucca Passage  
(h = 30 km).

" 13 Up iP 15 36 43

" 13 Ki i(P) 16 32 56  
(Greece).

" 13 Up X  
microns sec  
M E 1.4 15  
M N 2.2 14  
M Z 2.6 14  
Ki iP 20 19 26  
microns sec  
M E 0.7 16  
M N 0.6 16  
M Z 1.2 15  
Baikal, U.S.S.R. (h = 30 km).

1962  
Aug 13 Up iP 20 36 15

" 14 Up  
microns sec  
M E 0.7 19  
M N 1.2 20  
M Z 1.2 19

✓ Ki iPKP 01 30 50  
microns sec  
M E 1.8 20  
M N 0.8 20  
M Z 1.4 20

North of Macquarie Islands  
(h = 40 km).

" 14 Ki iP 07 35 57

microns sec  
P Z' 0.1 1.2  
Ka iP 07 35 17  
Iran (h = 40 km).

" 15 Up iP 02 57 12 D

microns sec  
P Z' 0.1 0.6  
Ki iP 02 56 37 D  
Sk iP 02 57 08  
Um iP 02 56 52 D  
Ka eP 02 57 23

South of Honshu, Japan  
(h = 160 km).

" 15 Ki iP 03 20 42

Komandorskie Islands  
(h = 30 km).

" 15 Up iP 08 29 53

i 08 29 55  
microns sec  
P Z' 0.1 1.1

✓ Ki iP 08 29 01 C

microns sec  
P Z' 0.1 1.3  
M E 0.8 19  
M N 0.2 14  
M Z 0.5 13

✓ Sk iP 08 29 38

✓ Gb iP 08 30 11

✓ Ka iP 08 30 16 C

Near east coast of  
Kamchatka (h = 50 km).

" 15 Up iP 10 17 15

Ki iP 10 16 32 C  
Sk iP 10 17 09

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 15 Um iP 10 16 51 C  
cont. Manchuria, China (h = 40 km).

" 15 Up iP 11 31 41  
i 11 31 53  
Ki eP 11 30 43  
i 11 31 07

Andreanof Islands,  
Aleutian Islands  
(h = 50 km).

" 15 Up iP 13 17 59  
iS 13 25 31  
D = 5900 km = 53°.  
Ki iP 13 18 29  
iS 13 26 38

microns sec  
S E 0.3 9  
M E 0.4 16  
M Z 0.4 15  
D = 6450 km = 58°.

Sk iP 13 18 30  
Um iP 13 18 11  
eS 13 26 01  
Ka iP 13 17 49  
Socotra Island region  
(h = 30 km).

" 15 Ki e(Sg) 13 21 36  
Sk i(Sg) 13 22 22

" 15 Ki e(P) 15 54 10

" 15 Up eP 21 42 54

" 16 Ki e(P) 07 45 05

" 16 Ki iPg 08 30 26  
iSg 08 30 59  
Sk eSg 08 32 13

" 16 Ki iP 08 57 31

" 16 Ki iP 21 02 47

" 16 Ki iP 23 05 09 C

" 17 Ki iP 03 20 14  
Sk iP 03 19 58  
Um iP 03 20 15  
Venezuela (h = 15 km).

" 17 Um iPKP 03 42 15  
San Juan Province, Argentina  
(h = 30 km).

1962

Aug 17 Sk iPKP 04 15 14  
Um iPKP 04 15 09  
Santa Cruz Islands  
(h = 20 km).

" 17 Um iP 04 57 16

" 17 Up iP 05 17 18 D  
i 05 17 23  
iS 05 27 58

microns sec  
P Z' 0.1 0.7  
S E 0.4 5  
S N 0.5 5  
M E 3.6 16  
M N 10 20  
M Z 6.9 18

D = 9800 km = 88°.

Ki iP 05 17 03 D  
i 05 21 21  
iSKS 05 27 15  
iS 05 27 28

microns sec  
P Z' 0.4 1.0  
SKS E 1.8 14  
S N 1.2 11  
M E 9.2 16  
M N 7.7 16  
M Z 11 16

D = 9400 km = 84½°.

Sk iP 05 17 24

Gb iP 05 17 38

i 05 20 53

Um iP 05 17 07

eS 05 27 37

Ka iP 05 17 32

i 05 17 36

Panay region, Philippine  
Islands (h = 30 km).  
Magn. = 6.3 (Up, Ki).

" 17 Up i(P) 12 31 58

" 17 Um iPKP 16 38 02  
Fiji Islands (h = 530 km).

" 18 Um i(P) 00 30 24

" 18 Ki iSKP 04 22 20

Gb iPKP 04 20 06 C

Um iSKP 04 22 31

Ka iPKP 04 20 07

Fiji Islands region  
(h = 520 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 18 Up iP 04 34 16  
Ki iP 04 35 17  
Sk iP 04 34 56  
Gb iP 04 34 17  
Um iP 04 34 43  
Turkey (h = 30 km).

" 18 Ki iP 09 23 52  
Panay region, Philippine  
Islands (h = 40 km).

" 18 Up iP 16 53 43 C  
i 16 53 51  
microns sec  
M E 0.6 15  
M N 0.9 17  
M Z 1.0 16  
Ki iP 16 52 47 C  
microns sec  
P N 0.2 6  
P Z 0.4 6  
P Z' 0.2 1.4  
M E 0.7 17  
M N 0.6 18  
M Z 0.9 19  
Sk iP 16 53 15  
Gb iP 16 53 56  
i 16 54 04  
Um iP 16 53 16 C  
Ka iP 16 54 08  
i 16 54 15  
Central-Alaska (h = 30 km).  
Magn. = 6.0 (Ki).

" 18 Up iP 17 56 05  
iS 18 04 00  
microns sec  
P N 0.2 2  
P Z' 0.3 1.0  
M E 0.8 17  
M N 0.9 17  
M Z 1.1 17  
D = 6450 km = 58°.  
Ki iP 17 55 08  
iS 18 02 10  
microns sec  
P N 0.2 6  
P Z 0.4 6  
P Z' 0.3 1.0  
S E 0.3 7  
S N 0.3 11  
M E 1.2 16  
M N 1.2 19  
M Z 2.5 19  
D = 5550 km = 50°.

1962

Aug 18 Sk iP 17 55 36  
cont. Gb iP 17 56 17  
i 17 56 23  
Um iP 17 55 38  
Ka iP 17 56 29  
iPcP 17 57 09  
Central Alaska (h = 30 km).  
Magn. = 6.0 (Up, Ki).

" 19 Ki iSn 06 01 24  
iSg 06 01 45  
Sk eSg 06 04 11  
Um eSg 06 02 39  
Northwest Russia, 67.4°N,  
32.3°E. Origin time =  
05 59 16. Explosion?

" 19 Ki iP 06 26 05

" 19 Ki iPn 07 04 18  
iSn 07 05 17  
iSg 07 05 37  
D = 510 km = 4.6°.  
Sk eSg 07 08 00  
Um iSn 07 05 55  
iSg 07 06 28  
D = 680 km = 6.1°.  
Northwest Russia, 67.4°N,  
32.3°E. Origin time =  
07 03 07. Explosion?

" 19 Up eL 11 55  
microns sec  
M E 0.7 15  
M N 1.0 16  
M Z 1.2 15  
Ki eL 11 55  
microns sec  
M E 0.6 14  
M N 0.3 13  
M Z 1.0 14

" 19 Up iP 18 34 14 D  
i 18 34 24  
iS 18 40 15  
i 18 40 37  
iSS 18 43 01  
i 18 47 05  
iLg1 18 47 47  
microns sec  
P Z' 0.2 0.7  
S E 0.8 4  
S N 0.9 5

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 19 Up S Z 1.1 7  
cont. M E 12 10  
M N 32 4  
M Z 25 10

D = 4450 km = 40°

Ki iP 18 34 01  
i 18 34 12  
i 18 35 23  
iS 18 39 55  
iSS 18 42 34  
iLg1 18 46 55

microns sec

P Z' 0.5 0.7  
S E 1.9 10  
S N 0.8 7  
S Z 1.5 10  
M E 29 10  
M N 33 7  
M Z 31 10

D = 4350 km = 39°

Sk iP 18 34 31 D

i 18 34 42  
Gb iP 18 34 41  
i 18 34 52  
iPP 18 36 30  
iLg1 18 49 45

Um iP 18 34 01  
i 18 34 12  
i 18 35 26  
iPP 18 35 44  
iS 18 39 53  
iSS 18 42 33  
iLg1 18 46 49

D = 4350 km = 39°

Ka iP 18 34 28  
i 18 34 39  
iLg1 18 48 30

Northwest Sinkiang Province,  
China (h = 30 km).  
Magn. = 6.2 (Up, Ki).

" 19 Up iP 21 52 04 C  
Sk iP 21 52 17

" 19/Ki ePKP 23 31 27  
Um iPKP 23 31 25  
Near coast of northern  
Chile (h = 50 km).

" 20 Up iSn 06 38 50  
i 06 39 18  
iSg 06 39 22  
microns sec  
Sg Z' 0.1 0.5  
D = 680 km = 6.1°

1962

Aug 20 Ki iPg 06 37 07  
cont. iSn 06 37 41  
iSg 06 37 52

microns sec

Sg Z' 0.3 0.8

D = 380 km = 3-4°

Sk iPg 06 36 47

iSg 06 37 17

D = 260 km = 2.3°

Gb iSg 06 40 22

Um iP<sup>x</sup> 06 37 02

iPg 06 37 10

iSn 06 37 42

iSg 06 37 55

D = 380 km = 3.4°

Central Norway, 65.7°N,  
13.7°E. Origin time =  
06 36 02.

" 20 Up iP 09 06 38 C

iS 09 10 15

eLg1 09 12 31

i 09 12 50

iLg2 09 13 05

microns sec

M E 1.6 11

M N 4.3 10

M Z 5.0 10

D = 2100 km = 19°

Ki iP 09 05 07

iS 09 07 21

i 09 07 26

iSS 09 07 40

iSSS 09 07 55

eLg1 09 08 18

eRg 09 09 36

microns sec

M E 1.9 9

M N 2.1 10

M Z 2.3 9

D = 1350 km = 12°

Sk iP 09 06 18 C

eS 09 09 27

iSS 09 09 46

D = 1900 km = 17°

Gb iP 09 07 18

e(SSS) 09 12 18

Um iP 09 05 48

i 09 05 56

iS 09 08 23

D = 1600 km = 14½°

Ka eP 09 07 20

Novaya Zemlya. Atmospheric  
nuclear explosion.



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Aug 20 Up

microns sec  
M N 0.8 16  
M Z 0.7 9  
Ki iP 10 55 11  
microns sec  
M E 0.5 15  
M N 0.2 14  
Gulf of California  
(h = 15 km).

" 20 Gb iPKP 11 41 01  
Ka iPKP 11 41 04 D  
Tonga Islands region  
(h = 610 km).

" 20 Sk iP 13 27 32 C  
Off coast of Chiapas,  
Mexico (h = 30 km).

" 20 Ki iPKP 23 37 30  
i 23 37 33  
Sk iPKP 23 37 41  
i 23 37 45  
Gb iPKP 23 37 54  
Um iPKP 23 37 36  
i 23 37 40  
Ka iPKS 23 41 32  
New Hebrides Islands  
(h = 50 km).

" 21 Up iPKP 16 29 44  
i 16 29 57  
Sk iPKP 16 29 37  
Gb ePKP 16 29 59  
Ka iPKP 16 29 55  
Kermadec Islands region  
(h = 60 km).

" 21 Up iP 17 40 02  
Sk iP 17 39 34  
Gb iP 17 40 17  
Ka iP 17 40 28  
Central Alaska (h = 40 km).

" 21 Up iP 18 13 21  
iS 18 16 50  
iL(3.26) 18 19 36  
i 18 21 23  
microns sec  
P N 0.6 2  
P Z' 0.5 1.2  
S E 1.0 8  
S N 2.1 15

1962

Aug 21 Up  
cont.

S Z 2.6 14  
M E 5.6 11  
M N 13 10  
M Z 10 10  
D = 2050 km =  $18\frac{1}{2}^{\circ}$ .  
Ki iP 18 14 44  
iPP 18 15 32  
eS 18 19 16  
i 18 19 32  
iLg2 18 23 43

microns sec  
P Z' 0.4 1.2  
S E 1.0 10  
S N 0.7 10  
M E 15 12  
M N 7.4 10  
M Z 12 10  
D = 2950 km =  $26\frac{1}{2}^{\circ}$ .

Sk iP 18 14 03  
Gb iP 18 13 05  
Um iP 18 14 07  
eS 18 18 13  
e 18 23 51  
Ka iP 18 12 39  
Italy (h = 40 km).  
Magn. = 5.6 (Up, Ki).

" 21 Up iP 18 23 48  
i 18 25 21  
i 18 26 53  
iS 18 27 19  
iPcP 18 28 32  
iLg2 18 29 34  
iL(3.26) 18 30 02

microns sec  
P N 1.3 3  
P Z' 0.5 0.9  
S E 5.6 6  
S N 5.8 5  
S Z 11 10  
M E 32 11  
M N 53 10  
M Z 63 11

D = 2050 km =  $18\frac{1}{2}^{\circ}$ .  
Ki iP 18 25 09  
i 18 25 10  
i 18 30 02

microns sec  
P Z 2.4 9  
P Z' 0.6 1.0  
M E 72 12  
M N 43 12  
M Z 77 12  
Sk iP 18 24 28

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 21 Gb iP 18 23 29  
cont. i 18 23 34  
iS 18 26 45  
Um iP 18 24 33  
iS 18 28 36  
i 18 28 45  
Ka iP 18 23 06  
i 18 23 10  
i 18 23 17  
Italy (h = 30 km). Magn.  
= 6.1 (Up, Ki).

" 21 Up eP 18 49 13  
i 18 49 20  
Ki iP 18 50 35  
i 18 50 40  
microns sec  
P Z' 0.2 1.2  
Sk iP 18 49 55  
Um iP 18 49 59  
Ka iP 18 48 30  
Italy (h = 30 km).

" 21 Up iPKP 21 25 35  
microns sec  
PKP Z 0.7 14  
Ki ePKP 21 25 27  
ePP 21 28 21  
Sk iPKP 21 25 28 D  
Gb iPKP 21 26 06  
Um iPKP 21 25 28  
Ka iPKP 21 25 52  
Kermadec Islands region  
(h = 60 km).

" 21 Up iPP 21 31 41  
ePKS 21 32 43  
eSS 21 49 34  
microns sec  
PKS E 0.3 7  
M E 3.2 21  
M N 3.8 23  
M Z 3.9 20  
Ki iPKP 21 29 04  
iPP 21 31 32  
ePKS 21 32 39  
microns sec  
PP Z 0.5 7  
PKS E 0.9 7  
PKS N 0.5 8  
M E 8.9 22  
M N 4.0 19  
M Z 14 20

1962  
Aug 21 Um ePKS 21 32 48  
cont. Ka iPKP 21 29 10  
Easter Island region  
(h = 30 km).  
Magn. = 6.3 (Up, Ki).

" 21 Up iPKP 22 24 19  
Sk iPKP 22 24 11  
Kermadec Islands region  
(h = 60 km).

" 22 Up iP 04 44 53  
i(pP) 04 45 12  
iS 04 55 10  
microns sec  
M N 0.9 18  
D = 9200 km = 83°.  
Ki iP 04 44 24  
iS 04 54 10  
microns sec  
S E 0.4 7  
S N 0.3 8  
M E 0.2 16  
M N 0.2 16  
M Z 1.0 17  
D = 8600 km = 77½°.  
Sk iP 04 44 51  
Um iP 04 44 36  
i(pP) 04 44 54  
Volcano Islands region.  
h = 70 km (Up, Um).

" 22 Up iPKP 05 49 01  
Sk iPKP 05 48 54  
Kermadec Islands region  
(h = 60 km).

" 22 Up iP 09 04 32 C  
eS 09 08 08  
iLg1 09 10 17  
microns sec  
M E 1.3 10  
M N 3.5 10  
M Z 3.9 10  
D = 2100 km = 19°.  
Ki iP 09 03 00  
i 09 03 15  
iS 09 05 18  
iSS 09 05 33  
iSSS 09 05 47  
eLi 09 06 09  
eLg1 09 06 24

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 22 Ki microns sec  
cont. M E 1.4 9  
M N 1.5 10  
M Z 2.8 10  
D = 1350 km = 12°.  
Sk iP 09 04 11  
eS 09 07 29  
iLi 09 08 43  
Um i(PP) 09 03 49  
eS 09 06 21  
eLi 09 07 20  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 23 Ka iP 10 39 25  
i(Sg) 10 39 39

" 23 Up iPg 10 41 58  
iSg 10 42 24  
D = 220 km = 2.0°.  
Baltic. Origin time =  
10 41 18. Explosion.

" 23 Up iPg 10 42 07  
iSg 10 42 34  
D = 220 km = 2.0°.  
Baltic. Origin time =  
10 41 27. Explosion.

" 23 Up iSg 10 58 14  
Baltic. Explosion.

" 23 Up iPg 11 08 48  
iSg 11 09 13  
D = 210 km = 1.9°.  
Baltic. Origin time=  
11 08 10. Explosion.

" 23 Sk iP 12 55 45  
Central Alaska.

" 23 Up iP 15 41 38 D  
i 15 41 42  
X Ki  
microns sec  
M E 0.5 12  
M N 0.1 13  
M Z 0.5 12  
Sk iP 15 41 44  
Um iP 15 41 23  
Near south coast of  
Formosa (h = 15 km).

1962  
Aug 23 Up iP 16 28 53  
" 23 Up iP 19 40 49  
i 19 40 58  
iS 19 50 17  
microns sec  
P Z' 0.1 0.7  
S E 0.2 5  
S N 0.3 6  
M E 1.1 20  
M N 2.1 21  
M Z 1.6 20  
D = 8200 km = 74°.  
Ki iP 19 40 05  
iS 19 49 05  
microns sec  
S E 0.6 7  
S N 0.3 7  
M E 1.8 20  
M N 1.0 19  
M Z 2.4 20  
D = 7450 km = 67°.  
Sk iP 19 40 23  
i 19 40 31  
Um iP 19 40 31 C  
i 19 40 40  
eS 19 49 45  
Del Norte County, California  
(h = 30 km).  
Magn. = 5.7 (Up, Ki).

" 23 Up iPKP 21 11 40  
Um iPKP 21 11 48  
Sandwich Islands  
(h = 30 km).

" 24 Up iP 01 48 57 D

" 24 Up iP 01 56 10  
Um iP 01 55 45  
Off east coast of  
Kamchatka (h = 30 km).

" 24 Sk iPKP 07 05 31  
iSKP 07 08 19  
Um iPKP 07 05 23  
SKP 07 08 15  
Ka iPKP 07 05 53  
Fiji Islands region  
(h = 530 km).

" 24 Up iPKS 09 27 10

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962  
 Aug 24 Up cont.  
 PKS Z 0.5 5  
 M E 0.8 20  
 M N 1.4 22  
 M Z 1.8 22  
 Ki eSS 09 42 22  
 microns sec  
 M E 1.8 20  
 M N 0.9 19  
 M Z 1.7 20  
 Um iPKP 09 23 32  
 ePKS 09 26 58  
 Samoa Islands region  
 (h = 30 km).

" 24 Ki iP 16 04 55

" 24 Ki e(P) 18 13 13

" 24 Up iP 21 57 42  
 Sk iP 21 57 30  
 Gb eP 21 57 56

" 25 Up iP 00 40 00  
 Ki iP 00 39 15  
 Kurile Islands (h = 80 km).

" 25 Sk iP 01 03 10  
 Red Sea.

" 25 Ki iP 02 20 55 D  
 Off southeast coast of  
 Alaska (h = 30 km).

" 25 Up eL 05 52  
 microns sec  
 M E 0.6 13  
 M N 0.7 14  
 M Z 1.2 15  
 Ki eL 05 50  
 microns sec  
 M E 0.4 15  
 M N 0.3 16  
 M Z 0.5 14

" 25 Up iP 07 23 31  
 Sk iP 07 24 12  
 Greece.

" 25 Up iPKP 08 50 03  
 i 08 50 17  
 i(SKP) 08 52 41  
 iSKP 08 52 54  
 iPKS 08 53 47

1962  
 Aug 25 Up cont.  
 epPKS 08 55 56  
 iSKKS 08 59 01

microns sec  
 PKF Z' 0.2 0.5  
 SKP Z 0.6 3  
 SKP Z' 0.5 1.0  
 (D = 15550 km = 140°.)

Ki iPKP 08 49 45  
 i 08 49 58  
 i(SKP) 08 52 20  
 iSKP 08 52 30  
 iPKS 08 53 18  
 epPKS 08 55 32  
 isPKS 08 56 34  
 i 08 58 21  
 eSKSP 09 01 27

microns sec  
 PKP Z' 0.2 1.0  
 SKP N 0.3 10  
 SKP Z' 1.2 1.7  
 PKS E 0.6 8  
 (D = 14650 km = 132°.)

Sk iPKP 08 49 54  
 i 08 50 08  
 iSKP 08 52 47  
 Gb iPKP 08 50 16  
 i 08 50 24  
 iSKP 08 53 05  
 Um ePKP 08 49 50  
 i 08 49 57  
 iSKP 08 52 42  
 epPKS 08 55 40  
 Ka iPKP 08 50 20  
 iSKP 08 53 08  
 Fiji Islands (h = 560 km).

" 25 Up iS 09 09 36  
 microns sec  
 M E 1.1 10  
 M N 3.0 10  
 M Z 3.7 10  
 Ki iS 09 07 01  
 iSS 09 07 14  
 iSSS 09 07 29

microns sec  
 M E 1.5 9  
 M N 1.4 10  
 M Z 2.8 10

Novaya Zemlya. Atmospheric nuclear explosion.

" 25 Up iP 20 04 13 D  
 Ki iP 20 05 21

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 25 Ki microns sec  
cont. M E 0.6 15  
M N 0.3 12  
Sk eP 20 04 36  
Near coast of Algeria  
(h = 30 km).

" 26 Up iP 01 45 24  
Ryukyu Islands  
(h = 30 km).

" 26 Up iP 07 00 36  
iS 07 10 09  
eSS 07 14 51  
microns sec  
M E 3.7 18  
M N 4.7 18  
M Z 2.7 17  
D = 8350 km = 75°.  
Ki eP 06 59 58  
i 07 00 02  
eS 07 09 02  
i 07 12 58  
microns sec  
P Z' 0.1 1.2  
S E 0.3 7  
S N 0.3 10  
M E 9.2 19  
M N 12 19  
M Z 5.3 16  
D = 7650 km = 69°.  
Sk iP 07 00 31  
Near east coast of Honshu,  
Japan (h = 40 km).  
Magn. = 5.9 (Up, Ki).

" 26 Up i(P) 07 36 01

" 26 Up iP 16 36 16 C  
Ki iP 16 37 23  
Sk iP 16 36 37  
Near coast of Algeria  
(h = 15 km).

" 26 Ki iP 22 46 12  
microns sec  
M E 0.5 16  
M N 0.7 17  
Sk eP 22 46 45  
Near east coast of Honshu,  
Japan (h = 50 km).

1962  
Aug 26 Ki eP 23 44 38  
microns sec  
M E 0.8 19  
M N 0.5 17  
M Z 1.2 19  
New Guinea (h = 50 km).

" 27 Up iP 02 29 35 D  
i 02 29 44  
i 02 30 01  
iPP 02 32 01  
microns sec  
P Z' 0.1 0.5  
Ki iP 02 28 55 D  
iPP 02 31 14  
microns sec  
P Z' 0.2 0.9  
Sk iP 02 29 29 D  
iPP 02 30 33  
iPP 02 31 52  
Gb iP 02 30 00  
Ka iP 02 29 58  
Sea of Japan. h = 270 km (Sk).

" 27 Up iP 09 05 15 C  
eS 09 08 45  
microns sec  
M E 1.8 10  
M N 4.9 10  
M Z 5.6 10  
D = 2100 km = 19°.  
Ki iP 09 03 42 C  
i 09 04 16  
iS 09 05 55  
iSS 09 06 17  
iSSS 09 06 30  
iLg1 09 06 52  
microns sec  
P Z' 0.1 1.7  
M E 2.3 9  
M N 2.3 10  
M Z 4.8 10  
D = 1300 km = 11½°.  
Sk iP 09 04 53  
iPP 09 05 08  
eS 09 08 12  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 27 Ki i(P) 14 34 10

" 27 Up eL 16 00

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Aug 27 Up  
cont.

			microns	sec
M	E	1.2	16	
M	N	1.0	16	
M	Z	1.6	17	
Ki	eL		15	57
			microns	sec
M	E	0.5	15	
M	N	0.4	14	
M	Z	1.0	15	

Ryukyu Islands (h = 30 km).

" 27 Up iP 16 31 27 C  
i 16 31 40

			microns	sec
P	Z'	0.1	0.7	
M	E	1.8	16	
M	N	1.8	18	
M	Z	2.3	18	
Ki	iP		16	30 46 C
			microns	sec
P	Z'	0.2	1.0	
M	E	1.8	18	
M	N	0.6	17	
M	Z	2.5	17	
Sk	iP		16	31 20 C
	iPP		16	33 50
Gb	eP		16	31 44

Off east coast of Honshu,  
Japan (h = 40 km).  
Magn. = 5.8 (Up, Ki).

" 27 Up iP 19 20 10  
i 19 20 25

			microns	sec
P	Z'	0.1	0.5	
Ki	iP		19	20 19 C
			microns	sec
P	Z'	0.1	0.6	
Sk	iP		19	20 35
Gb	iP		19	20 34
Ka	iP		19	20 18

Hindu Kush (h = 210 km).

" 27 Sk iPKP 22 32 05  
Santa Cruz Islands  
(h = 220 km).

" 28 Ki eP 00 40 29

			microns	sec
M	E	0.5	15	
M	N	0.4	13	

Near east coast of Honshu,  
Japan (h = 30 km).

1962  
Aug 28 Ki i(P) 08 22 47  
i(Sg) 08 23 11

" 28 Up iP 08 24 54

			microns	sec
M	E	1.0	18	
M	N	1.4	17	
Ki	iP		08	24 16
			microns	sec
M	E	2.6	19	
M	N	2.6	19	
M	Z	1.3	16	
Sk	eP		08	24 45
	i		08	24 49

Near east coast of Honshu,  
Japan (h = 40 km).

" 28 Up iP 11 04 45 D  
ipP 11 05 09  
iPP 11 05 23  
iS 11 08 38

			microns	sec
P	N	7.7	2	
P	Z	5.6	2	
P	Z'	0.9	0.5	
PP	E	1.4	1	
S	E	1.6	3	
S	N	35	5	
S	Z	110	6	
M	E	21	9	
M	N	27	9	
M	Z	27	10	

D = 2450 km = 22°.

Ki iP 11 05 57 C  
isP 11 06 33  
iPP 11 06 51  
i 11 10 02  
i(S) 11 10 40  
iS 11 10 47

			microns	sec
P	N	1.1	8	
P	Z	1.8	8	
P	Z'	0.8	0.8	
PP	E	0.9	10	
PP	Z'	2.5	1.5	

			microns	sec
S	E	13	7	
S	N	41	9	
S	Z	16	7	
M	E	27	10	
M	N	14	11	
M	Z	24	10	

D = 3350 km = 30°.  
Sk iP 11 05 26 C  
iS 11 09 51

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
 Aug 28 Gb iP 11 04 34 C  
 cont. i 11 07 33  
 iS 11 08 10  
 Ka iP 11 04 09 C  
 iS 11 07 37  
 Greece (h = 120 km).  
 Magn. = 6.8 (Up, Ki).  
 " 28 Up i(Sg) 14 31 00  
 Sk e(Sg) 14 32 55  
 Ka i(Sg) 14 31 13  
 Baltic.  
 " 28 Up iP 22 57 35 C  
 iS 23 06 54  
 D = 8150 km =  $73\frac{1}{2}^{\circ}$ .  
 Ki iP 22 57 53  
 microns sec  
 P Z' 0.1 1.5  
 M E 0.5 17  
 M N 0.2 16  
 M Z 0.6 19  
 Sk eP 22 57 53  
 Northwest of Chagos Islands  
 region (h = 30 km).  
 " 29 Ki iP 09 23 51  
 i 09 23 58  
 microns sec  
 P Z' 0.1 1.3  
 Sk iP 09 23 53  
 Northwest of Chagos Islands  
 region (h = 30 km).  
 " 29 Ki eL 18 14  
 microns sec  
 M E 0.8 19  
 M N 0.9 19  
 M Z 0.6 18  
 Near east coast of Honshu,  
 Japan (h = 30 km).  
 " 29 Up  
 microns sec  
 M E 0.8 18  
 M N 0.9 18  
 Ki eP 20 31 20  
 microns sec  
 M E 1.6 19  
 M N 1.4 19  
 M Z 1.0 17  
 Sk iP 20 31 51  
 Near east coast of Honshu,  
 Japan (h = 30 km).

1962  
 Aug 29 Up i(P) 21 45 28  
 i 21 45 52  
 " 29 Up i(P) 21 53 56  
 " 29 Up iP 22 48 32  
 i 22 48 38  
 eS 22 57 58  
 microns sec  
 M E 2.5 19  
 M N 5.1 17  
 M Z 1.9 20  
 D = 8300 km =  $74\frac{1}{2}^{\circ}$ .  
 Ki iP 22 47 55  
 i 22 48 07  
 eS 22 56 57  
 microns sec  
 P Z' 0.1 0.8  
 S N 0.2 7  
 M E 9.9 19  
 M N 7.2 19  
 M Z 6.1 18  
 D = 7600 km =  $69\frac{1}{2}^{\circ}$ .  
 Sk iP 22 48 27  
 Gb iP 22 49 00  
 Near east coast of Honshu,  
 Japan (h = 30 km).  
 Magn. = 5.9 (Up, Ki).  
 " 30 Up i(P) 03 22 30  
 " 30 Ki iP 06 44 54  
 " 30 Up iP 07 49 58 D  
 i 07 50 11  
 microns sec  
 P Z' 0.1 0.5  
 Ki iP 07 51 19  
 iS 07 55 44  
 Sk iP 07 50 50  
 i(S) 07 55 01  
 Ka iP 07 49 24  
 Romania (h = 100 km).  
 " 30 Up iP 10 08 49 D  
 microns sec  
 P Z' 0.1 0.5  
 " 30 Ki iP 12 15 58  
 Italy (h = 30 km).  
 " 30 Up iP 12 55 10 C  
 microns sec  
 P Z' 0.2 0.6

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962  
 Aug 30 Up iP 13 46 41 D  
 i 13 46 46  
 microns sec  
 P Z' 0.1 0.7  
 M E 1.1 19  
 M N 1.7 21  
 M Z 1.9 20  
 Ki iP 13 46 05  
 eS 13 54 47  
 microns sec  
 P N 0.2 7  
 P Z 0.4 7  
 S E 0.3 9  
 S N 0.2 8  
 M E 1.6 15  
 M N 1.2 17  
 M Z 2.5 17

D = 7200 km = 65°

- ✓ Sk iP 13 46 13
  - ✓ Gb iP 13 46 30
  - ✓ Ka iP 13 46 53
- Utah-Idaho border, U.S.A.  
 (h = 40 km).  
 Magn. = 5.7 (Up, Ki).

" 30 Up i(PKP) 17 37 26  
 iPKS 17 41 16  
 microns sec  
 PKS N 0.4 4  
 M N 0.9 18  
 Ki iPKP 17 37 04  
 ePKS 17 40 29  
 eSS 17 57 03  
 microns sec  
 PKS E 0.2 7  
 PKS N 0.3 8  
 M E 0.8 17  
 M N 0.3 16  
 M Z 1.5 17  
 ✓ Sk i(PKP) 17 37 05  
 ✓ Ka iPKP 17 37 23  
 Tonga Islands (h = 30 km).

" 31 Up i(P) 06 43 44  
 Sk i(P) 06 43 40

" 31 Up eL 11 38  
 microns sec  
 M N 0.9 18  
 M Z 0.9 18  
 Ki eL 11 30  
 microns sec  
 M E 0.7 20  
 M N 0.7 19

1962  
 Aug 31 Ki M Z 1.2 19  
 cont. Fiji Islands region  
 (h = 60 km).

" 31 Up iP 16 36 35  
 microns sec  
 P Z' 0.1 1.2  
 Ki iP 16 35 41 C  
 i 16 35 53  
 microns sec  
 P Z' 0.3 1.2  
 M E 0.6 16  
 M N 0.4 16  
 M Z 0.9 14  
 Sk iP 16 36 18  
 Gb iP 16 36 55  
 Ka iP 16 36 59  
 Near east coast of  
 Kamchatka (h = 60 km).

" 31 Up iP 17 13 42 C  
 i 17 13 54  
 iPcP 17 14 14  
 ePa 17 17 44  
 eS 17 22 38  
 iP'P' 17 41 53  
 microns sec  
 P N 1.1 2  
 P Z 1.5 1  
 P Z' 0.4 0.6  
 S E 0.4 5  
 S N 0.9 11  
 M E 7.7 21  
 M N 8.6 21  
 M Z 10 20  
 D = 7550 km = 68°

Ki iP 17 12 49 C  
 eS 17 21 03  
 eP'P' 17 42 10  
 i 17 42 18  
 microns sec

P N 0.6 10  
 P Z 1.2 11  
 P Z' 1.2 1.5  
 S E 1.0 10  
 S N 0.9 12  
 M E 9.0 19  
 M N 5.7 18  
 M Z 17 19  
 D = 6650 km = 60°

✓ Sk iP 17 13 23 C  
 iP'P' 17 42 00  
 ✓ Gb iP 17 13 58 C  
 i 17 14 42



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962

Aug 31 Ka iP 17 14 04 C  
 cont. i 17 14 38  
 Rat Islands, Aleutian  
 Islands (h = 25 km).  
 Magn. = 6.3 (Up, Ki).

" 31 Up iP 18 07 07 C  
 i 18 07 11  
 i 18 07 22  
 microns sec  
 P Z' 0.2 0.5  
 Ki iP 18 06 14 C  
 microns sec  
 P Z' 0.7 0.8  
 Sk iP 18 06 46  
 Gb iP 18 07 21 C  
 Ka iP 18 07 28 C  
 Rat Islands, Aleutian  
 Islands (h = 40 km).

" 31 Up iP 21 34 12  
 Ki iP 21 33 19  
 Rat Islands, Aleutian  
 Islands (h = 30 km).

Markus Båth  
 December 31, 1962

1962  
 Sept. copied  
 HFS

PRELIMINARY

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
 UMEÅ and KARLSKRONA

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

NOTE. After an interruption from August 25 to September 9, 1962, a new seismograph vault was inaugurated at Umeå. The new vault is located about 170 meters from the old one (coordinates for the new vault are given above).

SEPTEMBER 1 - 30, 1962

1962	Sept	1	Ki	eL	01 06
					microns sec
			M	E	0.3 17
			M	N	0.3 15
			M	Z	0.4 15
			Gulf of Aden.		
"		1	Up	iP	03 57 05 C
				i(pP)	03 57 21
				i	03 57 41
				iPa	04 01 09
				iS	04 06 01
					microns sec
			P	N	0.5 1
			P	Z	0.8 1
			P	Z'	0.5 0.5
			S	E	0.2 4
			S	N	1.0 10
			M	E	5.7 20
			M	N	6.0 21
			M	Z	7.3 19
			D = 7500 km = 67 $\frac{1}{2}$ °.		
			Ki	iP	03 56 12 C
				eS	04 04 16
					microns sec
			P	N	0.3 5
			P	Z	0.6 6
			P	Z'	0.4 1.2

1962	Sept	1	Ki	S	E	1.0	10
					N	0.8	9
				M	E	6.0	16
				M	N	5.8	17
				M	Z	13	18
				D = 6600 km = 59 $\frac{1}{2}$ °.			
				Sk	iP	03 56 45 C	
				Gb	iP	03 57 21 C	
					i(pP)	03 57 41	
				Ka	iP	03 57 27 C	
				Rat Islands, Aleutian Islands (h = 25 km).			
				Magn. = 6.3 (Up, Ki). At Ki, S is 6 sec later on N than on E, given above.			
"		1	Up	iP		04 09 21 C	
				i(pP)		04 09 37	
						microns sec	
				P	Z'	0.2 0.5	
			Ki	iP		04 08 30	
						microns sec	
				P	Z'	0.1 0.9	
			Sk	iP		04 09 02	
			Gb	eP		04 09 36	
			Ka	iP		04 09 42	
			Rat Islands, Aleutian Islands (h = 30 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962 Sept 1 Up iP 04 52 40 C  
i 04 52 48  
microns sec  
P N 0.5 1  
P Z 0.9 1  
P Z' 0.5 0.7  
Ki iP 04 51 47 C  
i 04 52 16  
microns sec  
P Z' 0.5 0.7  
Sk iP 04 52 19 C  
Gb iP 04 52 55 C  
Ka iP 04 53 01 C  
Rat Islands, Aleutian Islands (h = 40 km).

" 1 Up iP 05 10 33  
microns sec  
P Z' 0.1 0.8  
Ki iP 05 09 40  
microns sec  
P Z' 0.1 1.0  
Sk iP 05 10 12  
Gb iP 05 10 48 C  
Ka iP 05 10 49  
Rat Islands, Aleutian Islands.

" 1 Up iP 05 10 57  
iSKP 05 13 59  
i 05 14 07  
iPKS 05 14 21  
ipPKS 05 15 19  
microns sec  
PKP Z' 0.1 0.5  
SKP E 0.1 3  
SKP N 0.4 2  
SKP Z 1.1 2  
SKP Z' 0.3 0.7  
PKS E 0.5 5  
PKS N 0.8 3  
(D = 14650 km = 132°).  
Ki iP 05 10 43 C  
i(PKKP) 05 20 30  
microns sec  
PKP Z' 0.4 0.6  
Sk iP 05 10 54 C  
iSKP 05 13 53  
Gb iP 05 11 02  
iSKP 05 14 09  
Ka iP 05 11 02  
iSKP 05 14 09  
New Hebrides Islands (h = 240 km). SKP is very large at Up, Sk, Gb, Ka, but not noticeable at Ki.

1962 Sept 1 Up iP 07 53 07  
i(pP) 07 53 21  
Ki iP 07 52 14  
Gb iP 07 53 22  
Rat Islands, Aleutian Islands (h = 30 km).

" 1 Up iP 08 02 05 C  
iS 08 11 02  
microns sec  
P Z' 0.3 0.5  
S E 0.3 6  
S N 0.2 6  
M E 3.2 21  
M N 5.1 21  
M Z 4.8 20  
D = 7550 km = 68°.  
Ki iP 08 01 13 C  
eS 08 09 14

microns sec  
P N 0.2 5  
P Z 0.5 4  
P Z' 0.4 1.3  
S E 0.6 8  
S N 0.5 7  
M E 4.3 19  
M N 3.1 18  
M Z 9.9 19  
D = 6650 km = 60°.  
Sk iP 08 01 45 C  
Gb iP 08 02 21 C  
Ka iP 08 02 27 C  
Rat Islands, Aleutian Islands (h = 40 km).  
Magn. = 6.1 (Up, Ki). At Ki, S is 8 sec later on N than on E, given above.

" 1 Up i(P) 08 46 37

" 1 Up iP 08 58 06  
microns sec  
P Z' 0.1 0.5  
Ki iP 08 57 13  
Gb iP 08 58 22  
Rat Islands, Aleutian Islands (h = 30 km).

" 1 Ki iPg 11 00 16  
Sk iSg 11 03 01  
Explosion of 60 ton dynamite in the Kiruna iron ore mines.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 1 Ki ePg 11 41 47  
iSg 11 41 50  
Sk eSg 11 44 47  
Probably explosion in the  
Kiruna area!

" 1 Up iPg 11 55 10  
i 11 55 38  
iSn 11 56 12  
iSg 11 56 59  
i 11 57 10  
microns sec  
Sg Z' 0.2 0.6  
D = 930 km = 8.4°.  
Ki iPg 11 54 06  
iS<sup>x</sup> 11 55 03  
iSg 11 55 14  
microns sec  
Sg Z' 0.1 0.7  
D = 580 km = 5.2°.  
Sk iPg 11 53 47 D  
iS<sup>x</sup> 11 54 25  
iSg 11 54 40  
D = 460 km = 4.1°.  
Gb eSn 11 56 37  
iS<sup>x</sup> 11 57 18  
iSg 11 57 39  
i 11 57 56  
D = 1070 km = 9.6°.  
Ka e(Pn) 11 55 26  
i 11 55 35  
eSn 11 57 18  
Norwegian Sea, 67.1°N,  
7.0°E. Origin time =  
11 52 23.

" 1 Up iP 13 22 21

" 1 Up iP 15 09 34 C  
i 15 09 40  
iPP 15 11 25  
iS 15 16 25  
microns sec  
P Z' 0.2 1.0  
PP E 0.3 3  
S E 0.4 4  
S N 0.2 4  
S Z 0.3 3  
M E 2.1 16  
M N 1.9 16  
M Z 1.7 18  
D = 5200 km = 47°.

1962  
Sept cont. 1 Ki iP 15 09 56 C  
iPP 15 11 52  
eS 15 17 06  
eSS 15 20 40

microns sec  
P Z' 0.1 1.3  
PP E 0.3 5  
PP N 0.3 6  
PP Z 0.4 5  
S E 0.3 5  
S N 0.2 5  
M E 5.6 15  
M N 2.5 14  
M Z 8.6 14  
D = 5550 km = 50°.

Sk iP 15 10 03 C  
i 15 10 09  
Gb iP 15 09 46 C  
i 15 09 54  
iPP 15 11 43  
Ka iP 15 09 28  
iPP 15 11 18

Near coast of West Pakistan  
(h = 50 km).  
Magn. = 5.9 (Up, Ki).

" 1 Up i(P) 16 55 08

" 1 Up iP 19 27 05 C  
iS 19 32 12  
i 19 32 26

microns sec  
P E 8.9 10  
P N 5.4 6  
P Z 6.5 6  
P Z' 0.4 0.6  
S N 2.7 4  
M E 230 18  
M N 250 17  
M Z 330 18  
D = 3500 km = 31½°.

Ki iP 19 27 44 C  
iPP 19 29 07  
iS 19 33 13

microns sec  
P E 12 7  
P N 8.9 7  
P Z 26 9  
P Z' 2.4 1.0  
PP Z 14 6  
S E 17 11  
S N 27 11  
S Z 26 7



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962									1962									
Sept	2	Sk	iP	07 19 02					Sept	2	Ki	iP	19 54 53					
cont.					Northwest Iran (h = 30 km).				cont.					microns sec				
"	2	Up	eL	08 26								M	E	0.7	17			
					microns sec								M	N	0.5	15		
					M	E	1.0	14					M	Z	1.0	15		
					M	N	0.8	14				Sk	eP		19 55 00			
					M	Z	1.2	13				Gb	eP		19 56 04			
		Ki	eL	08 26										Jan Mayen Island region (h = 30 km).				
					microns sec				"	2	Up	iPKP2	20 36 59					
					M	E	0.5	14				Ki	iPKP	20 36 27				
					M	N	0.3	13				Sk	ePKP	20 36 39				
					M	Z	0.9	14					Off coast of North Island, New Zealand (h = 30 km).					
"	2	Ki	iP	08 34 29					"	2	Up	iP	21 09 12					
					microns sec							Ki	eP	21 08 34				
					M	E	0.3	15				Sk	eP	21 09 07				
					M	N	0.3	16					Near east coast of Honshu, Japan (h = 30 km).					
		Sk	iP	08 35 01														
					Near east coast of Honshu, Japan (h = 30 km).													
"	2	Up	i(P)	11 08 04					"	3	Ki	iP	00 09 56 C					
"	2	Up	i(P)	11 48 00					"	3	Up	i(P)	02 03 51					
			i	11 48 07									Banda Sea (h = 470 km).					
"	2	Ki	iP	13 28 24					"	3	Up	eL	05 46					
			Iran.										microns sec					
"	2	Up	i(P)	14 02 05								M	E	0.6	16			
												M	N	0.8	16			
"	2	Up		-								M	Z	0.7	15			
					microns sec						Ki	eL	05 43					
					M	E	0.7	18					microns sec					
					M	N	0.8	19				M	E	0.2	15			
					M	Z	0.6	18				M	N	0.2	14			
		Ki	eP	15 35 52								M	Z	0.4	15			
			eS	15 47 41					"	3	Up	iP	06 24 21					
					microns sec													
					S	N	0.2	9										
					M	E	1.2	23										
					M	N	0.5	20										
					M	Z	2.1	22										
					D = 11450 km = 103°.													
					Soemba Island region (h = 30 km).													
"	2	Up	iP	19 56 01					"	3	Up	iP	17 02 18					
					microns sec							Ki	iP	17 01 42				
					M	E	0.3	18				Sk	iP	17 02 14				
					M	N	0.6	16					Near east coast of Honshu, Japan (h = 30 km).					
"	3	Up	iP	19 38 17 C					"	3	Up	iP	19 38 17 C					
"	3	Ka	iP	20 48 55					"	3	Ka	iP	20 48 55					
					Near east coast of Honshu, Japan (h = 50 km).													



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept cont. 4 / Sk eP 23 05 31  
i 23 05 48  
/ Gb eP 23 05 02  
i 23 05 22  
/ Ka iP 23 04 40  
Turkey-Armenia, U.S.S.R.,  
border (h = 30 km).  
Magn. = 5.8 (Ki).

" 5 Up iP 08 46 18  
Ki iP 08 45 25  
Sk eP 08 46 01  
Near east coast of  
Kamchatka (h = 100 km).

" 5 Up iP 15 02 11

" 6 Ki iP 11 24 27  
i 11 24 38  
ePS 11 37 26  
microns sec  
M E 0.2 16  
M N 0.3 18  
M Z 0.4 16  
/ Sk eP 11 24 58  
Ceram Sea (h = 30 km).

" 6 Ki iP 15 21 31 D  
Sk iP 15 21 41  
Solomon Islands region  
(h = 100 km).

" 6 Up -  
microns sec  
M E 0.5 17  
M N 0.5 16  
Ki iP 17 49 44 C  
microns sec  
M E 1.0 16  
M N 1.2 19  
M Z 1.1 18  
Sk eP 17 50 15  
Near east coast of Honshu,  
Japan (h = 30 km).

" 6 Sk ePKP 18 25 55  
Kermadec Islands region  
(h = 80 km).

" 7 Ki eS 12 31 30  
microns sec  
M E 0.7 18

1962  
Sept cont. 7 Ki M N 0.7 19  
M Z 0.5 17  
Near southeast coast of  
Shikoku, Japan (h = 30 km).

" 7 Up iP 15 38 55

" 7 Up iP 23 14 04

" 7 Ki iP 23 56 19

" 7 Up iP 23 56 41 D  
i 23 56 48  
microns sec  
PKP Z' 0.2 0.8  
Sk iP 23 56 35 D  
Gb iP 23 56 49  
Ka ePKP 23 56 49  
i 23 57 03  
Kermadec Islands region  
(h = 50 km).

" 8 Up iP 10 22 27 C  
iPP 10 22 44  
iS 10 26 05  
i 10 27 08  
iLi 10 27 39  
iLg1 10 28 32  
eLg2 10 28 42  
microns sec  
M E 0.9 10  
M N 3.4 10  
M Z 3.1 10  
D = 2150 km = 19 $\frac{1}{2}$ <sup>0</sup>.  
Ki iP 10 20 56  
iS 10 23 11  
iSS 10 23 29  
iSSS 10 23 46  
microns sec  
P Z' 0.2 1.1  
S Z' 0.2 1.1  
M E 1.4 9  
M N 1.2 9  
M Z 1.9 9  
D = 1350 km = 12<sup>0</sup>.  
Sk iP 10 22 07  
iS 10 25 17  
iSS 10 25 30  
Gb iP 10 23 07 C  
Ka iP 10 23 10  
Novaya Zemlya. Atmospheric  
nuclear explosion.



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 8 Ki iP 13 14 51  
Sk eP 13 14 28  
Leeward Islands region  
(h = 30 km)†

" 9 Ki iP 01 47 07 C  
microns sec  
P Z' 0.1 1.1  
Near coast of Panay,  
Philippine Islands  
(h = 60 km).

" 9 Up iP 19 22 24  
Ki iP 19 21 27  
Sk iP 19 21 55  
Gb iP 19 22 37  
Um iP 19 21 56  
Ka iP 19 22 49  
Alaska (h = 60 km).

" 10 Sk eP 02 47 06

" 10 Up iP 09 41 53  
i 09 41 58  
iS 09 46 21  
i 09 46 39  
microns sec  
P N 0.3 4  
P Z' 0.3 0.5  
S N 0.3 3  
M E 3.1 18  
M N 4.8 17  
M Z 6.7 19  
D = 2900 km = 26°.

✓ Ki iP 09 43 00  
e 09 48 37  
e 09 51 14  
eLg1 09 53 14  
microns sec  
P Z' 0.4 1.0  
M E 5.5 14  
M N 3.6 13  
M Z 6.1 13

✓ Sk iP 09 42 32 C  
✓ Gb iP 09 41 45  
✓ Ka iP 09 41 21  
Dodecanese Islands  
(h = 30 km).  
Magn. = 5.6 (Up, Ki).

1962  
Sept 10 Up iP 16 02 08  
i 16 02 33  
iSKP 16 04 54  
microns sec  
PKP Z' 0.4 0.5  
SKP Z' 0.2 0.7  
Ki iP (PKP) 16 01 49  
iPKP 16 02 01  
iSKP 16 04 30  
iPKS 16 05 28  
microns sec  
PKP Z' 0.7 0.6  
SKP N 0.5 5  
SKP Z 2.3 5  
SKP Z' 2.0 1.4  
PKS E 1.0 9  
PKS N 1.0 7

✓ Sk iP (PKP) 16 02 01  
iPKP 16 02 11  
iSKP 16 04 47

✓ Gb iP 16 02 18  
iSKP 16 05 03

✓ Ka iP 16 02 20  
iSKP 16 05 03  
Fiji Islands (h = 640 km).  
Remarkable multiple PKP at  
Ki and Sk.

" 10 Up iP 16 38 25  
Ki iP 16 37 50 C  
Sk iP 16 38 13

" 10 Ki eP 17 20 32  
Rat Islands, Aleutian  
Islands (h = 60 km).

" 10 Sk iP 22 57 13 C  
Sikang Province, China  
(h = 30 km).

" 11 Up iP 00 23 20  
microns sec  
P Z' 0.1 1.0  
M N 2.4 23  
Ki iP 00 23 52  
microns sec  
M E 0.8 14  
M N 0.7 13  
M Z 1.7 14  
Gh iP 00 23 23  
Um iP 00 23 31  
Ka iP 00 22 56  
Eastern Turkey (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	Sept	11	Up	iP	07 54 41	
				i	07 54 47	
					microns sec	
				P	Z' 0.1 0.5	
			Ki	iP	07 54 25	
			Sk	iP	07 54 54	
"		11	Ki	eP	11 22 06	
					microns sec	
				M	E 0.7 18	
				M	N 0.4 16	
				M	Z 1.1 18	
			Iran.			
"		11	Up	iP	18 03 37	
				i	18 03 49	
			Ki	iP	18 03 02	
			Um	iP	18 03 14	
			Bonin Islands region (h = 30 km).			
"		11	Ki	iP	19 28 24	
"		11	Ki	eL	22 36	
					microns sec	
				M	E 0.3 15	
				M	N 0.2 14	
				M	Z 1.0 14	
			Formosa (h = 30 km).			
"		12	Up	iP	05 01 32	
			Ki	iP	05 02 18	
			Sk	iP	05 01 45	
			Um	iP	05 01 51	
				i	05 01 59	
			Ascension Island region (h = 30 km).			
"		12	Up	iPg	11 09 47	
				iSg	11 09 49	
					microns sec	
				Sg	Z' 0.1 0.5	
			Explosion?			
"		12	Up	i(F)	19 01 07	
				i	19 01 44	
"		12	Up	iP	21 04 33 D	
				iPP	21 06 00	
				iS	21 10 35	
				i	21 12 44	

1962	Sept	12	Up			microns sec
				P	E 0.5	1
				P	Z 1.5	2
				P	Z' 0.5	0.5
				PP	E 1.9	3
				PP	N 0.6	2
				PP	Z 3.2	4
				S	E 2.3	5
				S	Z 3.7	7
				M	E 25	15
				M	N 41	17
				M	Z 55	19
				D = 4450 km = 40°.		
				iP	21 04 44	
				iPP	21 06 18	
				iS	21 10 56	
				iSS	21 13 41	
					microns sec	
				P	E 1.5	4
				P	N 0.3	4
				P	Z 1.6	4
				P	Z' 1.8	1.5
				PP	E 3.6	9
				PP	N 1.1	8
				PP	Z 4.1	9
				PP	Z' 1.7	1.5
				S	E 5.5	10
				S	N 1.5	8
				S	Z 3.5	8
				M	E 19	9
				M	N 21	9
				M	Z 16	10
				D = 4600 km = 41½°.		
				Sk	iP	21 05 00
					iPP	21 06 38
				Gb	iP	21 04 52
					iPP	21 06 29
				Um	iP	21 04 33
					iPP	21 06 02
					iS	21 10 34
				Ka	iP	21 04 35
				Hindu Kush (h = 50 km). Magn. = 6.7 (Up, Ki).		
"		13	Up	iP	00 10 05	
					microns sec	
				P	Z' 0.1 0.7	
			Ki	iP	00 10 49	
			Sk	iP	00 10 18	
			Um	iP	00 10 21	
				i	00 10 30	
			Ka	iP	00 09 39	
			Ascension Island region (h = 30 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Sept	Day	Station	Time	Sept	Day	Station	Time
13	Ki	i(Sg)	07 44 23	15	Up	iP	08 06 38 C
"	13	Ki	iP	"		iS	08 10 18
			08 17 55			i	08 11 29
			Kurile Islands (h = 30 km).			iLg1	08 12 40
"	13	Sk	eP	"		iLg2	08 12 57
			Hindu Kush.				microns sec
"	13	Ki	iP			M	E 1.6 10
			14 46 44			M	N 5.7 10
			microns sec			M	Z 5.6 10
			P Z' 0.1 1.3				D = 2100 km = 19°.
		Sk	iP		Ki	iP	08 05 07
			14 46 22			iPP	08 05 18
			North of Trinidad			iS	08 07 23
			(h = 70 km).			iSS	08 07 39
"	13	Up	iP			eSSS	08 07 53
			19 35 33			iLi	08 08 25
"	14	Up	-				microns sec
						M	E 2.3 9
			microns sec			M	N 2.0 10
		M	E 1.0 17			M	Z 4.9 10
		M	N 0.6 16				D = 1350 km = 12°.
		Ki	eP		Sk	iP	08 06 17
			00 39 13			iPP	08 06 35
			microns sec		Um	eS	08 08 37
		M	E 0.9 13			eLi	08 09 26
		Sk	eP			eLg2	08 10 27
			00 39 05				Novaya Zemlya. Atmospheric
			Western Turkey (h = 70 km).				nuclear explosion.
"	14	Up	iP	"	15	Gb	iP
			14 30 21				10 30 26
			i	"	15	Up	iP
			14 30 29				23 01 38 C
			microns sec				i(pP)
			P Z' 0.1 0.7				23 01 54
		Ki	eP				iS
			14 30 21				23 10 28
"	14	Up	iPKP				eP'P'
			17 42 01 D				23 29 50
			microns sec				microns sec
			PKP Z' 0.1 0.9			P	E 0.3 2
		Gb	iPKP			P	N 1.2 2
			17 42 09			P	Z 1.7 2
		Ka	iPKP			P	Z' 2.2 1.7
			17 42 11			S	E 4.1 9
			South of Fiji Islands			S	N 5.9 10
			(h = 450 km).			S	Z 2.8 10
"	14	Up	iPKP			M	E 7.9 19
			18 36 30			M	N 20 19
			i			M	Z 22 19
			18 36 39				D = 7450 km = 67°.
		Ki	ePKP				Ki
			18 36 23				iP
		Sk	ePKP				23 00 49
			18 36 25				i
		Gb	iPKP				23 01 03
			18 36 35				iS
		Um	i(PKP)				23 08 56
			18 36 15				
			Fiji Islands (h = 350 km).				
"	15	Ki	iP				
			01 06 53				
			Mariana Islands (h = 50 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 15 Ki  
cont.

		microns	sec
P	Z	2.7	6
P	Z'	1.1	1.5
S	E	5.6	8
S	N	3.2	8
S	Z	5.4	10
M	E	13	17
M	N	9.8	18
M	Z	24	18

D = 6650 km = 60°.

~~Sk iP 23 01 24~~  
~~Gb iP 23 01 59~~  
~~i(pP) 23 02 14~~  
~~Um iP 23 01 11 C~~  
~~i(pP) 23 01 26~~  
~~iPP 23 03 39~~  
~~eS 23 09 35~~  
~~eP'P' 23 30 08~~  
~~Ka iP 23 02 02~~

Kurile Islands (h = 30 km).  
Magn. = 6.7 (Up, Ki).

~~" 16 Up iP 03 18 10~~  
~~Ki iP 03 17 54~~  
~~Sk iP 03 17 52~~  
~~Um iP 03 18 04~~  
Jalisco, Mexico (h = 100 km).

~~" 16 Up iP 05 48 14~~  
Kern County, California  
(h = 10 km).

" 16 Up iP 08 54 20  
i 08 54 37  
i 08 55 45  
Ka i(P) 08 53 47  
i 08 54 22  
Local?

" 16 Up iP 11 03 35 C  
eS 11 07 13  
iLg2 11 09 51

		microns	sec
M	E	1.8	11
M	N	6.1	10
M	Z	6.1	11

D = 2100 km = 19°.

Ki iP 11 02 04 C  
iPP 11 02 15  
iS 11 04 22  
iSS 11 04 37  
iSSS 11 04 52  
iLi 11 05 22

1962  
Sept 16 Ki  
cont.

		microns	sec
M	E	2.6	9
M	N	2.7	11
M	Z	6.3	10

D = 1350 km = 12°.

Sk iP 11 03 15  
iPP 11 03 33  
Um eLi 11 06 34

Novaya Zemlya. Atmospheric nuclear explosion.

" 16 Up iP 13 10 24  
Rat Islands, Aleutian Islands (h = 30 km).

" 16 Up iP 19 17 33  
microns sec

		microns	sec
M	E	0.5	18
M	N	2.6	21
M	Z	1.8	19

Ki iP 19 17 31  
microns sec

		microns	sec
P	Z'	0.1	1.2
M	E	1.0	16
M	N	2.3	19
M	Z	2.2	18

Sk eP 19 17 48  
Um iP 19 17 28

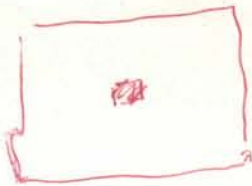
Near coast of Burma  
(h = 30 km).

" 16 Ki iP 22 56 44  
Near east coast of Formosa  
(h = 30 km).

" 17 Ki iP 01 18 40  
Alaska (h = 60 km).

" 17 Up iPg 15 33 50  
iSg 15 34 06  
iL 15 34 14  
D = 130 km = 1.2°.  
Sk iL 15 36 33  
Probably explosion in the Baltic.

" 17 Up iPg 15 34 53  
iSg 15 35 09  
iL 15 35 16  
D = 130 km = 1.2°.  
Probably explosion in the Baltic.



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 17 Up iPg 15 35 31 C  
iSg 15 35 46  
iL 15 35 54  
D = 130 km = 1.2°.  
Sk eL 15 38 05  
Probably explosion in the  
Baltic.

" 17 Up iPg 15 40 31  
iSg 15 40 48  
iL 15 40 54  
D = 130 km = 1.2°.  
Sk eL 15 43 05  
Probably explosion in the  
Baltic.

" 17 Ki iP 15 55 08  
Alaska (h = 50 km).

" 17 Up iP 16 43 07  
Ki iP 16 42 44  
Off east coast of  
Formosa (h = 30 km).

" 17 Up iPKP 18 13 56  
iSKP 18 17 05  
microns sec  
PKP Z' 0.1 0.5  
SKP Z' 0.1 1.0  
Ki ePKP 18 13 36  
i 18 13 50  
ipPKP 18 16 19  
Sk iPKP 18 13 49  
i 18 13 59  
ipPKP 18 16 36  
Um iPKP 18 13 44  
ipPKP 18 16 24  
Ka iPKP 18 14 06  
ipPKP 18 16 37  
Fiji Islands (h = 600 km).

" 17 Up iP 19 49 05  
Ki iP 19 50 25  
Sk iP 19 49 51  
Um iP 19 49 47  
Ka iP 19 48 24  
Southern Yugoslavia  
(h = 30 km).

" 18 Up iP 00 41 55  
i 00 42 01  
iPP 00 45 30

1962  
Sept 18 cont. Up iS 00 52 37  
microns sec  
P E 0.4 4  
P Z 0.8 3  
P Z' 1.0 2.0  
PP E 0.6 6  
PP Z 0.6 5  
PP Z' 0.7 2.0  
S E 2.6 8  
S N 5.5 7  
M E 11 21  
M N 17 24  
M Z 32 23  
D = 9850 km = 88.1°.

Ki iP 00 41 53  
i 00 42 40  
eS 00 52 33  
microns sec  
P E 0.9 6  
P Z 2.3 6  
P Z' 1.4 1.8  
S E 7.9 10  
S N 8.4 8  
M E 38 25  
M N 18 22  
M Z 48 23  
D = 9800 km = 88.0°.

Sk iP 00 41 39  
Um iP 00 41 57  
eS 00 51 42  
i 00 52 44  
Ka iP 00 41 57  
South of Panama (h = 30 km).  
Magn. = 6.8 (Up, Ki).

" 18 Ki eP 05 26 25  
South of Panama (h = 40 km).

" 18 Up iP 05 30 37  
i 05 30 46  
Ki eP 05 30 49  
Sk iP 05 31 04  
Um iP 05 30 37  
Ka eP 05 30 40  
Hindu Kush.

" 18 Up iP 06 24 08  
i 06 24 20  
Ki iP 06 23 43  
i 06 24 04  
Sk eP 06 24 04  
Um iP 06 23 49  
eS 06 34 55

Molucca Passage (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 18 Up iP 08 33 31  
iS 08 37 14  
iLg2 08 39 54  
microns sec  
M E 1.0 11  
M N 3.3 10  
M Z 3.4 10  
D = 2150 km =  $19\frac{1}{2}^\circ$ .  
Ki iP 08 32 05 C  
iPP 08 32 16  
iS 08 34 19  
iSS 08 34 37  
iSSS 08 34 52  
eLi 08 35 17  
eLg1 08 35 31  
e 08 36 31  
microns sec  
M E 1.4 10  
M N 1.3 10  
M Z 2.2 10  
D = 1400 km =  $12\frac{1}{2}^\circ$ .  
Sk iP 08 33 16 C  
iPP 08 33 33  
Novaya Zemlya. Atmospheric  
nuclear explosion.  
" 18 Up iP 12 29 58  
Ka iP 12 30 08  
Northern Burma (h = 80 km).  
" 18 Up iSKP 20 34 23  
Ki iPKP 20 30 46  
Um iSKP 20 34 12  
New Hebrides Islands  
(h = 80 km).  
" 18 Ki eL 22 47  
microns sec  
M E 0.5 19  
M N 0.8 20  
M Z 1.7 20  
Fiji Islands (h = 530 km).  
" 18 Up iP 23 29 35  
Sk iP 23 29 28  
Um iP 23 29 23  
" 19 Up iP 00 17 00  
Ki iP 00 16 20  
Sk eP 00 16 54  
Um iP 00 16 36  
Sea of Japan (h = 440 km).

1962  
Sept 19 Up iP 01 33 31  
Ki eP 01 32 38  
i 01 32 54  
Sk iP 01 33 11  
Um iP 01 33 06  
Andreanof Islands, Aleutian  
Islands (h = 30 km).  
" 19 Ki iP 01 55 03  
Sk eP 01 54 51  
Um iP 01 55 08  
South of Panama (h = 30 km).  
" 19 Up iP 05 17 28 D  
i 05 17 57  
ipP 05 19 10  
microns sec  
P Z' 0.1 0.5  
Ki iP 05 16 42 D  
microns sec  
P Z' 0.1 1.0  
Sk eP 05 17 17  
Um iP 05 17 03 D  
ipP 05 18 43  
Ka iP 05 17 49  
Near east coast of Sakhalin  
Island. h = 495 km (Up, Um).  
" 19 Up iP 07 35 48  
Ki iP 07 36 27  
microns sec  
M E 0.5 16  
M N 0.4 13  
M Z 0.5 13  
Sk iP 07 36 23  
Um iP 07 36 03  
Western Iran (h = 70 km).  
" 19 Ki iP 08 01 29  
Um iP 08 01 38  
Mariana Islands region  
(h = 60 km).  
" 19 Up iP 11 05 25 C  
iS 11 09 01  
i 11 09 38  
iLi 11 10 42  
iLg1 11 11 22  
iLg2 11 11 36  
microns sec  
P N 0.3 5  
P Z 0.3 5

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 19 Up S N 0.6 13  
cont. M E 3.4 11  
M N 9.9 10  
M Z 11 10  
D = 2150 km =  $19\frac{1}{2}^\circ$ .  
Ki iP 11 03 54 C  
iS 11 06 08  
iSS 11 06 27  
iSSS 11 06 41  
iLg1 11 07 13  
iRg 11 08 28  
microns sec  
P E 0.2 11  
P N 0.1 13  
P Z 0.5 13  
P Z' 0.1 1.4  
S Z 1.0 14  
S Z' 0.1 1.5  
M E 4.5 9  
M N 5.3 11  
M Z 10.0 11  
D = 1350 km =  $12^\circ$ .  
Sk iP 11 05 04 C  
i 11 05 08  
iPP 11 05 20  
iS 11 08 16  
iSS 11 08 32  
i 11 09 10  
iLi 11 09 29  
iLg1 11 10 18  
D = 1950 km =  $17\frac{1}{2}^\circ$ .  
Um iP 11 04 33 C  
iS 11 07 21  
iSS 11 07 48  
Novaya Zemlya. Atmospheric  
nuclear explosion.  
" 19 Ki i(Pn) 16 16 18  
iP<sup>x</sup> 16 16 27  
iSn 16 17 06  
iSg 16 17 22  
D = 380 km =  $3.4^\circ$ .  
Sk iSg 16 20 06  
Um iSn 16 18 18  
iSg 16 18 55  
D = 700 km =  $6.3^\circ$ .  
Border region between  
U.S.S.R. and Finland,  
 $69^\circ\text{N}$ ,  $29^\circ\text{E}$ . Origin time =  
16 15 28.

1962  
Sept 19 Ki eP 16 24 23  
eT 16 29 39  
i 16 30 15  
Sk iP 16 24 54  
iS 16 26 36  
D = 980 km =  $8.8^\circ$ .  
Um iP 16 25 13  
East of Jan Mayen,  $72^\circ\text{N}$ ,  
 $6^\circ\text{E}$ . Origin time =  
16 22 42. Solution obtained  
by combination with  
Finnish data.  
" 20 Up iP 17 05 23  
Um iP 17 05 08  
" 20 Ki i(P) 18 15 45  
" 21 Up i(P) 01 42 21  
" 21 Ki iP 02 35 37  
Near east coast of  
Kamchatka (h = 150 km).  
" 21 Up iP 08 05 40 C  
iS 08 09 18  
i 08 10 34  
microns sec  
M E 1.4 11  
M N 4.1 11  
M Z 3.7 10  
D = 2150 km =  $19\frac{1}{2}^\circ$ .  
Ki iP 08 04 07  
iS 08 06 23  
iSS 08 06 41  
iLg1 08 07 35  
microns sec  
M E 1.5 9  
M N 1.4 10  
M Z 3.2 10  
D = 1350 km =  $12^\circ$ .  
Sk iP 08 05 21 C  
Um i 08 08 03  
Novaya Zemlya. Origin  
time = 08 01 13.  
Atmospheric nuclear  
explosion.  
" 21 Ki iPKP 09 02 14  
Gb iPKP 09 02 31  
Ka iPKP 09 02 35  
Tonga Islands region  
(h = 620 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 21 Ki ePKP 22 58 26  
Um iPKP 22 58 21  
Drake Passage (h = 50 km).

" 22 Up iP 07 01 52 D  
i 07 02 07  
iS 07 10 17  
iScS 07 11 42  
microns sec  
P Z' 0.2 0.5  
S E 0.8 9  
S N 1.0 3  
M E 5.4 19  
M N 15 18  
M Z 6.9 18  
D = 6900 km = 62°.

✓ Ki iP 07 01 43  
iPa 07 05 23  
iS 07 09 59  
microns sec  
P Z' 0.3 1.0  
S E 2.2 8  
S N 1.7 10  
M E 9.8 14  
M N 16 18  
M Z 11 14  
D = 6800 km = 61°.

✓ Sk iP 07 02 07  
iS 07 10 47  
✓ Gb iP 07 02 13  
✓ Um iP 07 01 43  
iS 07 10 02  
Northern Burma (h = 30 km).  
Magn. = 6.4 (Up, Ki).

" 22 Up iP 08 14 02 C  
i 08 14 08  
i 08 14 12  
microns sec  
P Z' 0.1 0.5  
Ki iP 08 14 13  
microns sec  
P Z' 0.1 1.0  
Sk iP 08 14 29  
i 08 14 39  
Gb iP 08 14 23  
i 08 14 34  
Ka iP 08 14 04  
Hindu Kush (h = 30 km).

" 22 Up iP 09 04 00  
Ki iP 09 03 50 C

1962  
Sept 22 Sk iP 09 04 14  
cont. Um iP 09 03 51 C

" 22 Gb iP 13 45 52 C

" 22 Up iP 15 28 12 C  
Ki iP 15 27 42  
Sk iP 15 27 55  
Um iP 15 27 49

" 23 Up i(P) 09 32 14

" 23 Ki iP 12 00 47  
Um iP 12 00 38  
North Atlantic Ocean  
(h = 30 km).

" 23 ✓ Up iP 12 13 11  
✓ Ki iP 12 13 29  
i 12 13 35  
microns sec  
P Z' 0.1 1.0  
✓ Sk iP 12 12 58  
i 12 13 06  
✓ Um iP 12 13 22  
eS 12 22 17  
North Atlantic Ocean  
(h = 30 km).

" 23 Up iP 12 35 54  
Off east coast of Ryukyu  
Islands (h = 160 km).

" 23 ✓ Up iP 16 00 45.  
✓ Ki iP 15 59 50  
microns sec  
P Z' 0.1 1.0  
✓ Sk iP 16 00 17  
✓ Gb iP 16 00 57  
✓ Um iP 16 00 18  
i 16 00 33  
✓ Ka iP 16 01 09  
Kenai Peninsula, Alaska  
(h = 90 km).

" 23 Up iP 20 46 47  
i 20 46 57  
Ki iP 20 47 57  
Sk eP 20 47 25  
Gb iP 20 46 34  
Um iP 20 47 21  
Ka eP 20 46 14  
Off west coast of Crete  
(h = 30 km).



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962		1962	
Sept	24	Up	iP 03 34 11
			i 03 34 20
			iLg1 03 47 21
			microns sec
		M	Z 0.9 12
		Ki	eP 03 34 01
			microns sec
		M	N 0.6 13
		Ka	iP 03 34 32
			Kazakh, U.S.S.R.
			(h = 30 km).
"	24	Up	iP 05 41 31
		Ki	iP 05 41 09
		Sk	iP 05 41 46
		Um	iP 05 41 17
			Off east coast of
			Mindanao (h = 30 km).
"	24	Um	iP 09 34 19
			i 09 34 33
			Central Honshu, Japan
			(h = 80 km).
"	24	Up	iP 14 49 26
			i 14 49 33
			microns sec
		P	Z 0.5 2
		P	Z' 0.3 0.5
		M	E 1.9 17
		M	N 2.4 15
		M	Z 3.0 16
		Ki	iP 14 48 42
			microns sec
		P	Z' 0.3 1.0
		M	E 3.3 20
		M	N 2.1 18
		M	Z 5.0 19
		Sk	iP 14 49 18
		Gb	iP 14 49 48
		Um	iP 14 49 01
			iS 14 57 36
		Ka	iP 14 49 47
			Near east coast of
			Hokkaido, Japan (h = 30 km).
			Magn. = 6.4 (Up, Ki).
"	24	Up	iP 14 56 40
			i 14 56 48
		Ki	iP 14 55 57
		Ka	iP 14 57 02
			Near east coast of
			Hokkaido, Japan (h = 30 km).
Sept	24	Ka	iP 15 22 32
			Hindu Kush (h = 220 km).
"	25	Up	iP 02 48 41
			Near south coast of
			Yamaguchi Prefecture,
			Japan (h = 30 km).
"	25	Up	iP 04 59 42
			i 04 59 56
		Um	iP 05 00 09
			i 05 00 17
			Central Tanganyika
			(h = 30 km).
"	25	Um	iP 10 33 33
			South of Honshu, Japan
			(h = 330 km).
"	25	Up	eP 13 06 56
			iS 13 10 41
			microns sec
		M	E 4.0 10
		M	N 11 10
		M	Z 13 11
		Ki	iS 13 07 47
			iSS 13 08 03
			iSSS 13 08 19
			microns sec
		S	Z' 0.2 1.5
		M	E 5.1 11
		M	N 5.8 11
		M	Z 12 10
		Sk	iS 13 10 02
			i 13 10 09
		Um	iS 13 09 03
			iLg2 13 11 06
		Ka	iP 13 07 45 C
			i(S) 13 11 36
			Novaya Zemlya. Atmospheric
			nuclear explosion.
"	25	Up	i(P) 20 36 02
"	26	Up	iP 03 04 25
		Ki	iP 03 03 38
		Um	iP 03 04 11
			Kurile Islands (h = 50 km).
"	26	Up	iPKP 13 04 25
			i 13 04 38
			microns sec
		PKP	Z' 0.1 0.5

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 26/ Ki ePKP 13 04 06  
cont. / Sk ePKP 13 04 19  
/ Gb iPKP 13 04 34  
/ Um iPKP 13 04 14  
/ Ka iPKP 13 04 36  
Kermadec Islands region  
(h = 30 km).

" 26 Up iP 13 08 16  
Sk eP 13 08 55

" 26 Up iP 13 37 11  
Ki iP 13 36 42  
Sk iP 13 37 08  
Mariana Islands region  
(h = 200 km).

" 26 Up iP 21 37 36

" 26 Sk e(P) 21 53 22

" 27 Ki iP 00 30 40  
i 00 31 20  
i 00 31 41  
e(T) 00 33 45  
i 00 34 17  
Um i(P) 00 33 11

" 27 Up iP 08 07 45 C  
iS 08 11 23  
i 08 11 59  
i 08 12 28  
eLi 08 13 05  
iLg1 08 13 40  
iL(3.22) 08 14 30  
microns sec  
M E 3.8 10  
M N 11 10  
M Z 13 11  
D = 2150 km = 19 $\frac{1}{2}$ °.  
Ki eP 08 06 11  
iPP 08 06 24  
iS 08 08 29  
iSS 08 08 44  
iLi 08 09 08  
iLg1 08 09 33  
i 08 10 24  
microns sec  
S Z 0.1 1.1  
M E 6.4 12  
M N 6.5 12  
M Z 11 11  
D = 1350 km = 12°.

1962  
Sept 27 Sk iP 08 07 26  
cont. iS 08 10 51  
i 08 11 31  
iLi 08 12 02  
Um i(PP) 08 07 16  
iS 08 09 49  
iLi 08 10 44  
Ka iP 08 08 18  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 27 / Up iP 09 29 24 C  
/ Ki iP 09 28 29  
/ Sk iP 09 29 15  
/ Um iP 09 29 00  
Hokkaido, Japan (h = 50 km).

" 27 Sk eP 09 47 42

" 27 Up iSg 12 33 37  
Ki i(Sn) 12 31 23  
i(Sg) 12 31 39  
Sk iPn 12 30 25  
iSn 12 31 05  
iSg 12 31 19  
D = 360 km = 3 $\frac{1}{2}$ °.  
Um i 12 31 51  
iSg 12 32 07  
Off west coast of Norway,  
66.8°N, 11.7°E. Origin  
time = 12 29 33.

" 27 / Up iP 13 09 14  
Southern Sumatra  
(h = 140 km).

" 27 / Up iP 13 20 05  
i 13 20 17  
microns sec  
P Z 0.1 0.7  
/ Ki iP 13 19 44  
i 13 19 56  
/ Sk iP 13 20 21  
/ Um iP 13 19 51  
i 13 20 03  
Near northern coast of  
Luzon (h = 30 km).

" 27 Up iP 15 00 29 C

" 28 Up iP 05 44 55  
Um iP 05 44 29  
Alaska (h = 90 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962	Sept 28	Up	iP	14 06 00	
"	28	Up	iPn	17 23 19	
			iP <sup>x</sup>	17 23 28	
			i	17 23 51	
			iSn	17 24 13	
			iS <sup>x</sup>	17 24 28	
		Ki	iPn	17 22 53	D
			i	17 23 19	
			iS <sup>x</sup>	17 23 37	
			iSg	17 23 43	
				microns sec	
			Sg	Z' 0.4 0.5	
		Sk	iPg	17 23 07	C
			i	17 23 33	
			iSn	17 23 45	
			iSg	17 23 58	
		Gb	e	17 26 08	
			iSg	17 26 14	
		Um	iPg	17 22 15	C
			iSg	17 22 25	
				D = 80 km = 0.7°.	
		Ka	ePn	17 24 08	
			eSn	17 25 37	
			iSg	17 26 30	
				North Sweden, 64.5°N,	
				20.5°E. (macroseismic	
				epicenter). Origin time=	
				17 22 01. The agreement	
				between macroseismic and	
				microseismic observations	
				is not quite satisfactory.	
"	28	Up	iP	19 08 43	
			ipP	19 09 09	
			iSKS	19 18 55	
			iS	19 19 15	
				microns sec	
			P	Z' 0.1 0.8	
		Ki	iP	19 08 46	
			ipP	19 09 11	
			iSKS	19 19 04	
			iS	19 19 14	
			i	19 19 46	
				microns sec	
			P	Z' 0.4 1.5	
			SKS	E 0.7 5	
			S	N 0.9 7	
		Sk	iP	19 08 30	
		Gb	iP	19 08 28	
		Um	iP	19 08 48	C
			eS	19 19 17	

1962	Sept 28	Um	e	19 20 15	
cont.		Ka	iP	19 08 39	
			ipP	19 09 05	
				Western Colombia. h = 100 km	
				(Up, Ki, Ka).	
				Magn. = 6.1 (Up, Ki).	
"	29	Up	iP	06 25 51	C
				microns sec	
			P	Z' 0.1 0.5	
		Ki	eP	06 27 06	
		Sk	iP	06 26 34	
			i	06 26 44	
		Um	iP	06 26 32	
			i	06 26 40	
		Ka	iP	06 25 18	
				Greece-Albania border	
				region (h = 30 km).	
"	29	Up	iP	07 01 40	
		Ki	iP	07 02 10	
		Sk	iP	07 02 12	
		Um	eP	07 01 51	
				Southern Iran (h = 50 km).	
"	29	Up	iP	15 31 16	
			iPKP	15 35 13	
			i	15 35 44	
			e	15 44 53	
			iPKKP	15 46 35	
			e	15 47 48	
			i	15 48 41	
				(D = 12350 km = 111°).	
		Ki	iPKP	15 35 19	
			iPP	15 36 14	
			iSKS	15 41 13	
			iSP	15 45 10	
			ipS	15 46 02	
			iPKKP	15 46 11	
			e	15 46 44	
				microns sec	
			PKP	Z' 0.1 0.9	
			PP	E 0.7 5	
			PP	Z 0.8 6	
			PP	Z' 0.2 1.5	
			SKS	E 0.7 5	
				(D = 12650 km = 114°).	
		Sk	iP	15 31 14	
			ePKP	15 35 13	
			i	15 36 26	
			ePKKP	15 46 25	

Up = Uppsala, Ki = Kiruna, Sk = Skalslugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Sept 29 Um iPKP 15 35 16  
cont. ePP 15 36 00  
eSKS 15 41 06  
i 15 44 41  
iSP 15 45 05  
i 15 48 28  
Ka iPKP 15 35 12  
Santiago Del Estero  
Province, Argentina  
(h = 580 km).  
Magn. = 6.4 (Ki).

" 29 Up eP 19 31 04  
Um iP 19 30 12

" 29 Um iPKP 21 01 12  
New Hebrides Islands  
(h = 200 km).

" 30 Up eSg 05 07 23  
Ki iPn 05 03 09  
iSn 05 04 08  
iSg 05 04 29  
D = 510 km = 4.6°.  
Sk eSg 05 06 55  
Um eSn 05 04 46  
iSg 05 05 23  
D = 690 km = 6.2°.  
Northwest Russia, 67.5°N,  
32.4°E. Origin time =  
05 01 57.

" 30 Up iP 06 12 34  
Ki iP 06 12 39  
Um iP 06 12 29  
Tadzhik, U.S.S.R.  
(h = 30 km).

" 30 Up iP 06 57 17 D  
Ki iP 06 56 51  
Um iP 06 57 03  
Mariana Islands (h = 90 km).

" 30 Um iPKP 11 06 44  
New Britain region  
(h = 30 km).

" 30 Up iP 14 37 15 C  
Um iP 14 36 57

1962  
Sept 30 Up iP 22 09 33/C  
microns sec  
P Z' 0.1 1.0  
Ki iP 22 09 12  
microns sec  
P Z' 0.1 1.0  
M E 1.1 17  
M N 0.9 17  
Sk eP 22 09 39  
Um iP 22 09 19 C  
iS 22 19 08  
Ka iP 22 09 47  
Near north coast of Luzon,  
Philippine Islands (h = 50 km).

Markus Bath  
January 24, 1963

1962

Oct.

*Copied 4/15*

PRELIMINARY

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

OCTOBER 1 - 31, 1962  
.....

1962	Oct	1	Um	iP	03 23 32	
"	1	✓	Up	iPKP	04 17 54	
				i	04 18 01	
		✓	Ki	iPKP	04 17 28	
		✓	Sk	iPKP	04 17 48	
		✓	Um	iPKP	04 17 41	
			Fiji Islands (h = 550 km).			
"	1		Um	i(P)	05 37 19	
"	1		Ki	i(P)	06 05 26	
"	1		Up	iP	08 02 49 C	
			Ki	iP	08 02 52	
					microns sec	
			P	Z'	0.1 1.0	
			Sk	iP	08 03 03 C	
			Um	iP	08 02 48	
			Nicobar Islands region (h = 30 km).			
"	1	✓	Up	iP	10 04 11	
				ipP	10 04 39	
					microns sec	
			P	Z'	0.1 0.5	
		✓	Ki	iP	10 03 23	
					microns sec	
			P	Z'	0.2 1.1	
		✓	Sk	iP	10 03 58	
		✓	Um	iP	10 03 45	
				i	10 04 23	
		✓	Ka	iP	10 04 36	
			Kurile Islands (h = 130 km).			

1962	Oct	1	Ki	ePKP	10 16 17	
			New Hebrides Islands (h = 30 km).			
"	1	✓	Up	iP	12 21 39 C	
				iPP	12 23 15	
				iS	12 27 43	
					microns sec	
			P	Z'	0.5 0.7	
			PP	E	0.3 2	
			PP	Z'	0.2 0.7	
			S	E	0.2 4	
			S	N	0.3 5	
			M	E	1.4 15	
			M	N	2.1 15	
			M	Z	2.7 17	
			D = 4500 km = 40 <sup>10</sup> .			
			Ki	iP	12 22 14 C	
		✓		iPP	12 23 53	
				i	12 24 04	
				eS	12 28 51	
				iScS	12 32 09	
					microns sec	
			P	E	0.6 4	
			P	N	0.4 7	
			P	Z	0.7 3	
			P	Z'	1.2 1.4	
			PP	E	1.1 4	
			PP	N	0.8 3	
			PP	Z	1.3 3	
			PP	Z'	0.9 1.8	
			S	E	0.5 9	
			S	N	0.7 10	
			M	E	3.5 13	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962									
Oct	1	Ki	M	N	2.9	14			
cont.			M	Z	5.3	13			
			D = 4950 km = $44\frac{1}{2}^{\circ}$ .						
		Gb	iP		12 21	50 C			
			i		12 21	54			
			iPP		12 23	31			
		Um	iP		12 21	51 C			
			i		12 21	54			
			iPP		12 23	29			
			eS		12 28	06			
			eSS		12 31	04			
			D = 4650 km = $42^{\circ}$ .						
		Ka	iP		12 21	30 C			
		Southern Iran (h = 15 km).							
		Magn. = 6.5 (Up, Ki).							
"	1	Up	iP		13 00	39			
			i		13 00	43			
		Ki	iP		12 59	49			
		Um	iP		13 00	13			
		Off south coast of Kamchatka (h = 80 km).							
"	1	Gb	iPKP		21 01	50			
		Fiji Islands region (h = 140 km).							
"	2	Ki	e(Sg)		04 58	48			
"	2	Ki	e(Sg)		06 11	04			
"	2	Gb	i(P)		16 40	40			
		Ka	iP		16 40	07			
"	3	Ki	iP		01 24	07			
		Azores region (h = 30 km).							
"	3	Up	iP		01 26	15			
			microns sec						
		M	E	1.0	17				
		M	N	0.6	15				
		M	Z	1.4	18				
		Ki	iP		01 26	42			
			microns sec						
		M	E	1.5	20				
		M	Z	1.7	18				
		Sk	iP		01 26	02			
		Um	iP		01 26	31			
		Ka	iP		01 26	05 D			
		Azores region (h = 30 km).							
"	3	Sk	iP		07 27	16			
			i		07 27	23			
1962	Oct	3	Ki	i(P)		18 52	30		
"	"	3	Up	iPKP		19 07	46 D		
			Ki	iPKP		19 08	10		
		Sandwich Islands (h = 30 km).							
"	"	3	Up	iP		20 25	41		
			Sk	iP		20 25	36		
			Um	iP		20 25	20		
"	"	4	Up	iP		03 11	08		
"	"	4	Ki	iP		04 49	24		
			Um	iP		04 49	14		
		Azores region (h = 30 km).							
"	"	4	Ki	iP		04 55	07		
"	"	4	Up	iP		07 29	32		
			Ki	iP		07 30	25		
			Um	iP		07 29	52		
			Ka	iP		07 29	08		
			i		07 29	35			
		Black Sea (h = 30 km).							
"	"	4	Gb	iPKP		09 56	21		
		Fiji Islands region (h = 60 km).							
"	"	4	Um	i(P)		12 28	56		
"	"	4	Ki	iP		13 30	50		
			Gb	iP		13 29	52		
			Um	iP		13 30	39		
			Ka	iP		13 30	06		
		Azores region (h = 30 km).							
"	"	4	Up	iPg		14 01	16 C		
			iSg		14 02	01			
			i		14 02	12			
			i		14 02	23			
		D = 380 km = $3.4^{\circ}$ .							
		Ki	eSg		14 04	55			
		Sk	e		14 03	32			
			iSg		14 03	59			
		Um	e(Sn)		14 02	28			
			iSg		14 02	49			
		Ka	iSg		14 03	20			
		Coast of Esthonia, $59.5^{\circ}$ N, $24.3^{\circ}$ E. Origin time = 14 00 09. Probably explosion.							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct 4 Up iSg 15 49 05  
i 15 49 14  
i 15 49 23  
Sk eSg 15 51 05  
Um i 15 49 33  
iSg 15 49 52  
Ka iSg 15 50 24  
Coast of Esthonia, 59.5°N,  
24.3°E. Origin time =  
14 47 13. Probably  
explosion.

" 4 Gb iP 17 31 43 C

" 4 Um iP 18 58 13

" 4 Up iP 19 51 01  
i 19 51 06  
iS 19 54 58

microns sec

S E 0.4 3

S N 1.0 5

M E 1.8 10

M N 2.4 10

M Z 2.7 11

D = 2450 km = 22°.

✓ Ki eP 19 52 13

i 19 52 20

microns sec

M E 2.1 14

M N 2.0 14

M Z 2.8 14

✓ Sk iP 19 51 42

i 19 51 48

✓ Gb iP 19 50 49

i 19 50 54

✓ Um iP 19 51 39

eS 19 56 03

ePcS 19 58 52

✓ Ka iP 19 50 32

i 19 50 39

Greece (h = 40 km).

" 4 Gb iP 23 00 05

Ka iP 23 00 22 D

Central Colombia (h = 70 km).

" 4 Um eP 23 17 17

" 5 Up iP 04 21 30

Ki iP 04 22 06

Um iP 04 21 49

Azores region (h = 30 km).

1962

Oct 5 Um eP 08 46 36  
Azores region (h = 30 km).

" 5 Um iP 10 35 29 D  
Near east coast of Honshu,  
Japan (h = 200 km).

" 5 Um iP 10 52 10  
Mariana Islands (h = 130 km).

" 5 Up iPg 14 12 53  
iSg 14 12 55  
Probably local explosion.

" 5 Up iP 17 11 49

Ki iP 17 11 15

Sk iP 17 11 23

Gb iP 17 11 49

Um iP 17 11 34 C

Ka iP 17 11 57

iPP 17 14 54

Nevada. Underground  
nuclear explosion.

" 5 ✓ Up iP 20 09 28

iPP 20 10 41

✓ Ki iP 20 09 53

iPP 20 11 13

✓ Sk eP 20 10 01

i 20 10 02

✓ Gb iP 20 09 47

✓ Um iP 20 09 41

iPP 20 11 03

✓ Ka iP 20 09 27

iPP 20 10 38

Northeastern Iran.

" 5 Up iP 21 05 01 D

" 5 Up iP 22 25 22

Ka iP 22 25 28

Hindu Kush (h = 200 km).

" 6 ✓ Up iP 03 23 55

microns sec

M E 1.4 15

M Z 1.1 14

✓ Ki iP 03 24 24

✓ Sk iP 03 23 48

✓ Gb iP 03 23 27

✓ Um iP 03 24 14

i 03 24 20

eS 03 30 03

✓ Ka iP 03 23 41 C

Azores region (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct

6 Up iP 04 01 47  
 Ki iP 04 02 18  
 Gb iP 04 01 21  
 Um iP 04 02 07  
 Ka iP 04 01 36 C  
 Azores region (h = 30 km).

" 6 Up iP 04 42 37 C  
 i 04 46 01  
 i 04 46 04  
 iPKS 04 46 19  
 microns sec  
 PKS E 0.9 5  
 PKS N 3.5 7  
 M E 3.6 21  
 M N 9.0 22  
 M Z 7.2 22  
 (D = 14800 km = 133°).

Ki iP 04 42 22 C

microns sec  
 M E 7.4 23  
 M N 5.4 21  
 M Z 13 22

Sk iP 04 42 33  
 iP 04 46 07  
 Gb ePKP 04 42 52  
 ePKS 04 46 25  
 Um iP 04 42 29  
 ePP 04 44 39  
 i 04 45 44  
 Ka iP 04 42 44  
 iP 04 46 17

New Hebrides Islands  
 (h = 30 km).

Magn. = 6.6 (Up, Ki).

" 6 Up iP 05 35 30

" 6 Up iP 05 50 20

microns sec  
 P Z' 0.1 0.5  
 M E 1.7 18  
 M N 1.8 18  
 M Z 3.7 19

Ki iP 05 49 51 C

microns sec  
 M E 3.0 18  
 M N 1.7 17

Sk iP 05 50 21  
 Gb iP 05 50 39 C  
 Um iP 05 50 03  
 Ka iP 05 50 34

Ryukyu Islands (h = 120 km).

1962

Oct

6 Um iP 07 12 51

" 6 Up iP 08 10 21

" 6 Um iP 08 15 26  
 New Hebrides Islands  
 (h = 30 km).

" 6 Up iP 08 22 47  
 i 08 26 13

microns sec  
 M E 1.0 17  
 M N 2.0 20  
 M Z 1.2 19

Ki iP 08 22 32

Sk ePKP 08 22 46

Um iP 08 22 37

i 08 22 51

Ka iP 08 22 55

New Hebrides Islands  
 (h = 30 km).

" 6 Um iP 08 43 20

" 6 Up iP 11 19 36  
 iSKP 11 22 38

microns sec

PKP Z' 0.1 0.8

Ki iP 11 19 22

iPKKP 11 29 24

microns sec

PKP Z' 0.1 1.0

Sk iP 11 19 33

Gb iP 11 19 43

iSKP 11 22 52

Um iP 11 19 28 C

ipPKP 11 20 18

iP'P' 11 38 15

Ka iP 11 19 42

iSKP 11 22 51

New Hebrides Islands  
 (h = 210 km).

" 6 Up i(Sg) 12 03 44  
 Probably local explosion.

" 6 Um iP 12 18 50  
 New Hebrides Islands  
 (h = 15 km).

" 6 Up iP 17 46 25  
 Ki iP 17 45 37  
 Gb iP 17 46 46

Kurile Islands (h = 30 km).



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct 6 Up iPKP 18 20 19  
i 18 20 39  
Ki iPKP 18 20 05  
Um iPKP 18 20 11  
New Hebrides Islands  
(h = 30 km).

" 6 Up iPKP 23 50 38  
microns sec  
M E 0.8 21  
M N 1.1 19  
M Z 1.0 20  
Ki iPKP 23 50 24 D  
microns sec  
M E 2.4 21  
M Z 3.5 21  
Sk iPKP 23 50 35  
Um iPKP 23 50 30 D  
i 23 50 41  
New Hebrides Islands  
(h = 40 km).

" 7 Up iP 00 10 00

" 7 Ki iP 06 52 38 C  
Azores region (h = 30 km).

" 7 Up iPg 14 00 27  
i 14 00 30  
iSg 14 00 43

" 7 Up iPKP 16 19 10  
Sandwich Islands  
(h = 30 km).

" 7 Up eLR 16 43  
microns sec  
M N 1.2 10  
M Z 1.4 11  
Um e 16 39 44  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 7 Up iPKP 17 06 33  
New Hebrides Islands  
(h = 30 km).

" 8 Up iP 05 21 10  
Um iP 05 21 28 C  
Ka iP 05 20 54 C  
Azores region (h = 30 km).

1962

Oct 8 Up iP 14 30 48  
Ki iP 14 32 11  
Sk iP 14 31 37  
Gb eP 14 30 42  
Um i(P) 14 31 25 D  
i 14 31 30  
Ka iP 14 30 07  
Bulgaria.

" 8 Up iP 15 15 22  
Ki iP 15 16 45 D  
Sk iP 15 16 09  
Gb iP 15 15 20  
Um iP 15 16 02 D  
i 15 16 07  
Ka iP 15 14 45  
Bulgaria (h = 30 km).

" 8 Up iPg 15 46 51  
iSg 15 46 52  
Probably local explosion.

" 8 Up iP 22 08 07 D  
i 22 08 15  
eS 22 17 48  
i 22 18 04  
microns sec  
P E 0.7 5  
P Z' 0.1 0.6  
S N 1.3 5  
M E 19 18  
M N 42 18  
M Z 43 18  
D = 8450 km = 76°.

Ki iP 22 07 46 D  
iPa 22 12 12  
iS 22 17 04  
iPS 22 17 43  
microns sec  
P Z 3.8 5  
P Z' 1.3 2.0  
S E 2.1 7  
S N 3.3 7  
M E 27 12  
M N 12 13  
M Z 33 12  
D = 8000 km = 72°.

Sk iP 22 08 12  
i 22 08 31  
Gb iP 22 08 27  
i 22 08 35



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962				
Oct	12	Up	iP	09 20 06 D	Oct	13	Ki	microns sec
			P	Z' 0.1 0.5	cont.		P	Z' 0.2 0.5
		Ki	iP	09 19 36			S	N 1.4 10
		Sk	iP	09 20 07			M	E 2.1 13
		Um	iP	09 19 48 D			M	N 2.5 14
		Ryukyu Islands (h = 25 km).					M	Z 3.1 11
							D = 4000 km = 36°.	
"	12	Up	iPKP	17 12 23	✓	Sk	iP	10 30 39
		Near coast of northern Chile (h = 25 km).			✓	Gb	iP	10 30 15
					✓	Um	iP	10 30 15
"	12	Up	iPKP	19 23 22			i	10 31 25
		Ka	ePKP	19 23 21	✓	Ka	iP	10 29 52
		e		19 23 27	Northwestern Iran (h = 30 km).			
		Kermadec Islands region (h = 130 km).			Magn. = 5.7 (Up, Ki).			
"	12	Up	iPg	20 38 15	"	13	Ki	iP
		iSg		20 38 17			Local blast.	
		Probably local explosion.			"	14	Up	iPKP
		Sg	Z' 0.1 0.5				i	00 49 44
"	12	Up	iPKP	20 58 17 D				00 50 10
		Kermadec Islands region (h = 150 km).					microns sec	
							PKP	Z' 0.1 0.5
"	13	Up	i(P)	01 11 25	✓	Ki	iPKP	00 49 22
		Um	iP	01 11 14	✓	Sk	iPKP	00 49 40
"	13	Up	i(P)	04 26 09	✓	Gb	ePKP	00 49 52
"	13	Up	iP	08 45 16	✓	Um	iPKP	00 49 33
"	13	Um	iPKP	08 48 07			i	00 49 39
		Near north coast of North Island, New Zealand (h = 180 km).				Kermadec Islands region (h = 30 km).		
"	13	Up	iP	10 30 02	"	14	Up	i(P)
		i		10 31 14				01 51 41
		i		10 31 28	"	14	Ki	iP
		iS		10 35 14			Central Kamchatka (h = 120 km).	
		microns sec			"	14	Up	i(P)
		P	Z' 0.1 0.6				i	09 05 08
		M	E 1.3 14					09 05 13
		M	N 5.6 14		✓	14	Gb	iP
		M	Z 3.0 16				Near south coast of Kyushu, Japan (h = 30 km).	
		D = 3550 km = 32°.			"	14	Um	iP
✓	Ki	iP		10 30 40			Arctic Ocean (h = 40 km).	
		eS		10 36 20	"	15	Gb	iP
							08 27 16	
					"	15	Up	iPKP
							Sk	iPKP
							Um	iPKP
							i	14 19 45
						Kermadec Islands (h = 90 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct 15 Up iPKP 17 49 59  
i 17 50 10  
Sk ePKP 17 49 50  
i 17 50 02  
Kermadec Islands region  
(h = 40 km).

" 15 Um eP 22 09 17

" 15 Up iPKP 23 56 33  
i 23 56 54  
/ Ki iPKP 23 56 22 C  
microns sec  
PKP Z' 0.8 1.0  
/ Sk ePKP 23 56 29  
i 23 56 53  
/ Um i(PKP) 23 56 21 C  
iPKP 23 56 28

Near coast of South  
Island, New Zealand  
(h = 30 km).

" 16 Ki iPKP 03 08 35  
New Hebrides Islands  
(h = 30 km).

" 16 Ki iP 05 06 30 C  
Um iP 05 06 17  
Tadzhik, U.S.S.R.  
(h = 30 km).

" 16 Ki iPKP 05 40 25  
Um iPKP 05 40 31  
New Hebrides Islands  
(h = 30 km).

" 16 Ki iP 12 06 46  
Um iP 12 06 24  
Iran (h = 30 km).

" 16 Up iSg 17 58 26  
Ki iSg 17 57 47  
Sk iSg 17 57 53  
Um iPg 17 56 09  
iSg 17 56 19  
D = 80 km = 0.7°.  
North Sweden (64.5°N,  
20.5°E). Origin time =  
17 55 55. Aftershock of  
Sep. 28, 17 22 01.

1962

Oct 16 Up iP 18 13 34 D  
iS 18 22 26  
microns sec  
P Z' 0.1 1.0  
M E 1.0 21  
M N 3.0 21  
M Z 2.6 20  
D = 7550 km = 68°.  
/ Ki eP 18 12 41  
ePS 18 21 16  
microns sec  
M E 2.2 20  
M N 1.6 20  
M Z 2.8 20  
/ Gb iP 18 13 50  
/ Um iP 18 13 05  
i 18 13 23  
eSS 18 26 07

Near Islands, Aleutian  
Islands (h = 25 km).  
Magn. = 5.6 (Up, Ki).

" 17 Up iP 12 50 18 C  
microns sec

/ Ki P Z' 0.1 0.5

iP 12 49 41

microns sec

P Z' 0.1 1.0

/ Sk iP 12 50 14 C

/ Um iP 12 49 58

South of Honshu, Japan

(h = 340 km).

" 17 Up iP 15 39 51

" 18 Up iP 02 10 11 C

i 02 10 14

microns sec

P Z' 0.1 0.5

Ki iP 02 09 59

Sk iP 02 10 24

Um iP 02 10 00

China-India-Burma border

area (h = 80 km).

" 18 Up iP 08 51 33

/ iPcP 08 52 02

microns sec

P Z' 0.1 0.5

/ Ki iP 08 50 47

iPcP 08 51 28

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Oct 18 Ki                    microns sec  
cont.                    P            Z' 0.1 1.0  
                         /Sk    iP            08 51 22  
                         /Gb    iP            08 51 55  
                         /Um    iP            08 51 08  
                                    iPcP        08 51 45  
                         Kurile Islands (h = 140 km).

1962  
Oct 18 Up                    iP                    11 33 20 D  
                                            microns sec  
                                            P            Z' 0.1 0.5  
                         /Ki    iP            11 32 33  
                         /Sk    iP            11 33 09  
                         /Um    iP            11 32 53  
                         Kurile Islands (h = 130 km).

" 18 Up                    iP<sup>X</sup>                    10 36 37 D  
                                            iP<sub>g</sub>                    10 36 45 D  
                                            iS<sub>n</sub>                    10 37 14  
                                            iS<sub>g</sub>                    10 37 25  
                                            microns sec  
                         P<sup>X</sup>            Z' 0.1 0.5  
                         P<sub>g</sub>            Z' 0.2 0.5  
                         D = 350 km = 3.2°.  
                         Ki            e(P<sup>X</sup>)                    10 37 51  
                                            iS<sub>n</sub>                    10 39 08  
                                            iS<sup>X</sup>                    10 39 35  
                                            iS<sub>g</sub>                    10 39 54  
                                            microns sec  
                         S<sub>g</sub>            Z' 0.3 1.0  
                         D = 860 km = 7.7°.  
                         Sk            iP<sup>X</sup>                    10 36 32 C  
                                            iP<sub>g</sub>                    10 36 37  
                                            iS<sub>n</sub>                    10 37 03  
                                            iS<sub>g</sub>                    10 37 13  
                                            D = 310 km = 2.8°.  
                         Gb            iP<sub>g</sub>                    10 36 45 C  
                                            iS<sup>X</sup>                    10 37 21  
                                            iS<sub>g</sub>                    10 37 28  
                                            D = 360 km = 3.3°.  
                         Um            iP<sup>X</sup>                    10 37 08 C  
                                            i                    10 37 11  
                                            iP<sub>g</sub>                    10 37 18  
                                            iS<sub>n</sub>                    10 37 56  
                                            iS<sub>g</sub>                    10 38 23  
                                            D = 540 km = 4.9°.  
                         Ka            i(P<sup>X</sup>)                    10 37 08  
                                            i                    10 37 32  
                                            iS<sup>X</sup>                    10 38 13  
                                            iS<sub>g</sub>                    10 38 29  
                                            D = 570 km = 5.1°.

" 18 Up                    iP<sub>n</sub>                    11 51 02  
                                            iP<sup>X</sup>                    11 51 04  
                                            i!                    11 51 17  
                                            iS<sub>g</sub>                    11 51 36  
                                            microns sec  
                         P<sup>X</sup>            Z' 0.1 0.5  
                         S<sub>g</sub>            Z' 0.6 0.5  
                         D = 230 km = 2.1°.  
                         Ki            iP<sub>n</sub>                    11 52 24  
                                            iS<sub>n</sub>                    11 54 01  
                                            iS<sub>g</sub>                    11 54 53  
                                            (D = 900 km = 8.1°).  
                         Sk            iP<sub>n</sub>                    11 51 59  
                                            iS<sub>n</sub>                    11 53 12  
                                            iS<sub>g</sub>                    11 53 46  
                                            D = 670 km = 6.1°.  
                         Gb            iS<sub>n</sub>                    11 52 49  
                                            iS<sup>X</sup>                    11 53 14  
                                            iS<sub>g</sub>                    11 53 25  
                                            D = 600 km = 5.4°.  
                         Um            eP<sub>n</sub>                    11 51 33  
                                            iP<sup>X</sup>                    11 51 45  
                                            iS<sub>n</sub>                    11 52 29  
                                            iS<sub>g</sub>                    11 52 48  
                                            D = 490 km = 4.4°.  
                         Ka            iP<sub>n</sub>                    11 51 32  
                                            iP<sup>X</sup>                    11 51 44  
                                            iS<sup>X</sup>                    11 52 43  
                                            iS<sub>g</sub>                    11 52 54  
                                            D = 500 km = 4.5°.  
                         Central Baltic, 59.4°N,  
                         21.6°E. Origin time =  
                         11 50 25. Possibly  
                         explosion.

Norway-Sweden border area,  
60.9°N, 11.9°E. Origin  
time = 10 35 41. Felt.  
Limit of perceptibility =  
80 km on the Swedish side.  
First motions of P waves  
seem to indicate tenta-  
tively a SSE- NNW running  
fault strike, with a  
relative northward motion  
of the eastern side.

" 18 Up                    i(P)                    15 52 21  
" 18 Up                    e(P)                    19 06 09  
                                            i                    19 06 16  
" 18 Ki                    iP                    20 02 12  
                         Um            iP                    20 02 22  
                         Chiapas, Mexico (h = 180 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Oct 18	Up	iP	20 02 55 C	Oct 21	Gb	eP	02 15 26
	Ki	iP	20 02 42 C	cont.		ipP	02 15 41
			microns sec		Um	iP	02 14 47
		P	Z' 0.1 1.0			ipP	02 15 03
	Sk	iP	20 02 36			eS	02 22 20
	Um	iP	20 02 52 C			D = 6200 km = 56°.	
			Chiapas, Mexico.		Ka	iP	02 15 38
" 18	Ki	iP	21 33 37			ipP	02 15 53
			Tadzhik, U.S.S.R.				Vicinity Anchorage,
			(h = 190 km).				Alaska. h = 70 km (Up,
" 19	Um	iP	02 40 57	" 21	Ki	iP	05 48 17
" 19	Um	iPKP	04 31 36			iS	05 50 20
			San Juan Province,			iSS	05 50 40
			Argentina (h = 120 km).			i	05 52 15
" 19	Ki	iPKP	09 58 42			D = 1100 km = 11°.	
			Sandwich Islands				West of Spitsbergen,
			(h = 90 km).				77 1/4°N, 7 1/2°E. Origin
" 19	Up	iP	20 33 56 C				time = 05 45 35. Solution
			microns sec				obtained by combination
		P	Z' 0.1 0.7				with Finnish data.
" 19	Um	eS	21 45 19	" 21	Ka	i(PKS)	08 40 02
			Off west coast of				Fiji Islands region
			Jalisco, Mexico (h = 50 km).				(h = 470 km).
" 19	Ki	iP	23 56 11	" 22	Up	iP	04 06 29
			Banda Sea (h = 180 km).	" 22	Up	iPg	04 26 10
" 20	Um	iPKP	03 54 06			iSg	04 26 12
	Gb	iPKP	03 54 19				Probably local explosion.
			Fiji Islands region	" 22	Up	iP	07 39 33 C
			(h = 580 km).	" 22	Up	iP	09 10 42 C
" 20	Up	iP	05 44 11			iS	09 14 20
			Banda Sea (h = 170 km).			iLi	09 15 58
" 20	Ki	iP	12 35 56			iLg1	09 16 33
" 21	Up	iP	02 15 15			iLg2	09 16 46
		ipP	02 15 29				microns sec
	Ki	iP	02 14 18			M	E 2.9 10
		ipP	02 14 36			M	N 8.7 10
			microns sec			M	Z 10 10
	P	Z' 0.2 1.0				D = 2150 km = 19 1/2°.	
	Sk	iP	02 14 46		Ki	iP	09 09 10 C
	i		02 15 07			iS	09 11 28
						iSS	09 11 43
						iLi	09 12 22
							microns sec
						P	Z' 0.1 1.2

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct 22 Ki M E 4.8 10  
cont. M N 4.0 10  
M Z 6.0 9  
D = 1400 km =  $12\frac{1}{2}^{\circ}$ .  
Sk iP 09 10 21  
Gb iP 09 11 19  
Um iP 09 09 54 C  
i 09 09 59  
i 09 12 39  
iS 09 12 50  
iSS 09 13 12  
iSSS 09 13 30  
iLi 09 13 54  
D = 1750 km =  $15\frac{1}{2}^{\circ}$ .  
Ka iP 09 11 23 C  
Novaya Zemlya. Atmospheric  
nuclear explosion.

" 22 Up iP 14 49 20 D

" 22 Up iP 15 34 19

microns sec

M E 2.6 22

M N 6.4 21

M Z 5.8 22

✓ Ki iP 15 33 26

microns sec

M E 2.5 19

M N 2.3 19

M Z 3.1 19

✓ Um iP 15 33 49

ePa 15 37 55

Northern Kurile Islands  
(h = 20 km).

Magn. = 5.8 (Up, Ki).

" 22 Um iP 21 42 12

" 22 Up iP 22 30 12

i 22 30 22

Um iP 22 29 50

Honshu, Japan (h = 40 km).

" 23 Up iP 00 58 26

Ki iP 00 57 38

Um iP 00 58 01

Kurile Islands (h = 30 km).

" 23 Sk iP 09 14 04

Gb iP 09 14 02

Um iP 09 14 21

North-central Venezuela  
(h = 30 km).

1962

Oct 23 Up iP 12 50 17

" 23 Ki i(P) 13 00 22

" 23 Up iP 20 18 19

Ki iP 20 18 27

Um iP 20 18 17

Ka iP 20 18 23

Hindu Kush (h = 220 km).

" 24 Up iP 13 36 37 D

microns sec

P Z' 0.1 0.5

" 25 Up iP 05 52 32

" 25 Up iP 09 47 44

i 09 48 03

✓ Ki iP 09 47 28 C

i 09 47 49

microns sec

P Z' 0.2 1.3

✓ Um eP 09 47 44

Molucca Passage (h = 30 km).

" 25 Up iSg 10 02 26

Ka iPg 10 00 22

iSg 10 00 26

i 10 00 35

D = 30 km =  $0.3^{\circ}$ .

South Baltic,  $56^{\circ}$ N,  $16^{\circ}$ E.

Origin time = 10 00 16.

Possibly explosion.

" 25 Ki i(PKP) 20 26 30

i 20 26 43

Southwest of Macquarie

Islands (h = 30 km).

" 25 Ki iP 21 56 44

Iraq-Iran border

(h = 30 km).

" 26 Up i(P) 06 11 58

" 26 Ki i(Sg) 07 26 08

" 26 Up iP 11 24 16

" 26 Up iP 11 31 54 C

i 11 32 22

iS 11 36 36

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962		microns sec			
Oct 26	Up	P	Z'	0.1	0.5
cont.		D = 3000 km = 27°.			
✓	Ki	iP	11	32	53 C
✓	Sk	iP	11	32	32 C
		i	11	32	39
✓	Gb	iP	11	31	46
✓	Um	iP	11	32	21
		i	11	32	26
✓	Ka	iP	11	31	24 C
	Eastern Mediterranean Sea (h = 30 km).				
"	26	Ki	iPKP	16	17 38
		Sandwich Islands (h = 30 km).			
"	27	Up	i(P)	06	13 26
"	27	Up	eLR	07	47
		Novaya Zemlya. Atmospheric nuclear explosion.			
"	27	Gb	iP	13	45 12
"	27	Um	iP	14	05 28
		Near west coast of Nicaragua (h = 80 km).			
"	27	Um	iP	16	09 19
		Tadzhik, U.S.S.R. (h = 140 km).			
"	27	Ki	iP	16	29 32
		Rat Islands, Aleutian Islands (h = 60 km).			
"	28	Up	iP	12	18 37
		Ki	iP	12	18 24
		Off west coast of Luzon (h = 120 km).			
"	28	Sk	iPKP	14	21 03
		Um	iPKP	14	20 41
		Kermadec Islands region (h = 30 km).			
"	28	Ki	iP	15	13 32
		Northern Celebes (h = 60 km).			
"	28	Um	iP	19	26 39
1962					
Oct 28	✓	Up	iP	23	05 34
		microns sec			
		P	Z'	0.1	0.6
✓	Ki	iP	23	05	22
		microns sec			
		P	Z'	0.3	1.1
✓	Sk	iP	23	05	16
✓	Gb	iP	23	05	26
✓	Um	eP	23	05	32
	Chiapas, Mexico (h = 110 km).				
"	29	Ki	iP	00	32 31 C
✓	Sk	iP	00	32	19
✓	Gb	iP	00	32	23
✓	Um	iP	00	32	36
	Off south coast of Panama (h = 20 km).				
"	29	Up	iPg	06	14 30
			iSg	06	14 32
	Probably local explosion.				
"	29	Up	iP	07	28 18
		Ki	iP	07	28 43
		Um	iP	07	28 29
	Indian Ocean.				
"	29	Up	eLR	07	46
	Novaya Zemlya. Atmospheric nuclear explosion.				
"	29	Up	iP	07	50 38 C
"	29	Up	i(P)	13	29 11
"	30	Ki	iP	08	44 19
			ipP	08	44 39
	Off west coast of Nicaragua. h = 75 km (Ki).				
"	30	Up	iP	16	23 32
		Ki	iP	16	23 26
		Sk	iP	16	23 48
	Eastern India (h = 30 km).				
"	31	✓	Up	-	
				microns sec	
		M	E	1.6	21
		M	N	1.5	19
		M	Z	2.2	22
✓	Ki	iP	11	45	27
		eS	11	56	06



Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Oct 31 Ki microns sec  
cont. M E 1.8 20  
M N 1.6 20  
D = 9950 km =  $89\frac{1}{2}^{\circ}$ .  
✓ Sk iP 11 45 15  
South of Panama (h = 30 km).  
Magn. = 5.7 (Up, Ki).

" 31 Up iP 13 38 21  
Rat Islands, Aleutian  
Islands (h = 80 km).

" 31 Up iP 23 39 54 D  
microns sec  
P Z' 0.1 1.5

Markus Båth  
February 15, 1963

1962  
Nov.

*Copied*  
*[Signature]*

P R E L I M I N A R Y  
S E I S M O L O G I C A L B U L L E T I N  
U P P S A L A , K I R U N A , S K A L S T U G A N , G Ö T E B O R G ,  
U M E Å     a n d     K A R L S K R O N A

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

NOTE: Umeå was out of operation from October 29 to November 20, 1962.

N O V E M B E R     1     -     30,     1962  
.....

<p>1962 Nov 1 Up iP 05 51 19</p> <p>" 1 Up eLR 06 41 Novaya Zemlya. Atmospheric nuclear explosion.</p> <p>" 1 Up iP 13 54 07 iPP 13 55 31 Ki iP 13 54 16 Sk eP 13 54 34 iPP 13 56 14 Hindu Kush region (h = 130 km).</p> <p>" 1 Ki i(P) 14 19 37</p> <p>" 1 Up iP 15 34 25 Hindu Kush region (h = 120 km).</p> <p>" 1 Up iP 15 47 06 microns sec P Z' 0.1 1.0 M E 1.6 17 M N 3.2 21 M Z 4.3 22 Ki iP 15 46 48 C microns sec P Z' 0.1 1.0 M E 2.2 18</p>	<p>1962 Nov 1 Ki M N 1.7 17 cont. M Z 2.8 18 Off coast of western New Guinea (h = 60 km).</p> <p>" 1 Up iP 18 06 05 microns sec M Z 3.6 22 Ki iP 18 05 47 C microns sec P Z' 0.2 1.3 Off coast of western New Guinea (h = 40 km).</p> <p>" 1 Up iP 23 31 46 C ipP 23 32 11 microns sec P Z' 0.2 0.6 Ki iP 23 31 02 isP 23 31 44 microns sec P Z' 0.1 0.6 Sk iP 23 31 37 C Gb iP 23 32 08 Kurile Islands (h = 130 km).</p> <p>" 2 Ki e(P) 07 33 19</p> <p>" 2 Up iP 15 00 40 i 15 00 54</p>
---	--



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Nov 5 Up iSn 11 49 39  
cont. i 11 50 18  
i 11 50 25  
microns sec  
Pn Z' 0.1 0.5  
Sn N 1.0 1  
Sn Z' 0.4 0.5  
D = 840 km = 7.6°  
Ki iPn 11 47 34  
iSn 11 48 35  
iS\* 11 48 50  
microns sec  
Pn Z' 0.3 0.5  
Sn Z' 0.8 0.5  
M E 1.3 17  
M N 0.9 10  
M Z 2.2 16  
D = 570 km = 5.1°  
Sk iPn 11 47 12 D  
i 11 47 40  
i 11 47 48  
iSn 11 47 55  
D = 390 km = 3.5°  
Gb ePn 11 48 24  
i 11 48 51  
i 11 49 40  
iSn 11 50 00  
i 11 50 25  
i 11 50 44  
D = 920 km = 8.3°  
Ka iPn 11 48 52  
iSn 11 50 48  
i 11 51 52  
D = 1130 km = 10.2°

Off coast of Norway, 66 1/4°N,  
8°E. Origin time = 11 46 17.  
Agreement between the stations  
not quite satisfactory,  
probably depending on the  
complicated structure along  
the paths.

" 6 Up iP 00 17 28  
i(pP) 00 18 11  
iPP 00 19 08  
iS 00 23 35  
microns sec  
P Z' 0.1 0.5  
PP E 0.2 5  
M E 1.9 20  
M N 2.4 17  
M Z 1.9 20  
D = 4550 km = 41°  
Ki iP 00 18 03  
i(pP) 00 18 45  
iPP 00 19 49  
eS 00 24 34

1962

Nov 6 /Ki iSS 00 28 06  
cont. microns sec  
P Z' 0.3 1.3  
S E 0.9 6  
M E 2.4 12  
M N 1.7 10  
M Z 2.7 12  
D = 5000 km = 45°  
Sk iP 00 18 02 C  
iPcS 00 23 33  
Gb iP 00 17 40  
i(pP) 00 18 17  
Ka iP 00 17 20  
i(pP) 00 18 03  
Southern Iran.

" 6 /Up iP 03 47 54 D  
/Ki iP 03 47 12  
microns sec  
P Z' 0.4 1.5  
Sk iP 03 47 26 D  
Gb iP 03 47 56 D  
Washington-Oregon border,  
U.S.A. (h = 40 km).

" 6 Ki i(P) 04 53 04  
iSg 04 53 46  
Sk eSg 04 56 01

" 6 Ki i(P) 06 06 26  
eSg 06 07 25

" 6 Up iP 12 35 37

" 6 Up iP 14 58 13  
Gb iP 14 58 01

" 6 Up e(P) 15 29 44

" 6 Up i(P) 19 01 13 C

" 6 Ki iP 21 01 14 C  
Near west coast of Panay,  
Philippine Islands  
(h = 30 km).

" 7 Ki iP 13 05 05  
microns sec  
P Z' 0.2 1.5  
M E 0.7 13  
Azores (h = 30 km).

" 7 Ki iP 16 16 37 C  
Flores Sea (h = 160 km).

" 7 Up iP 20 14 22  
Ki iP 20 13 48

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Nov 7 Batan Islands, Philippine  
cont. Islands region (h = 60 km).

" 7 Up iP 22 09 33  
Ki eP 22 09 13  
Near west coast of central  
Luzon (h = 100 km).

" 7 Up iP 22 37 28 D  
i 22 37 41  
microns sec  
P Z' 0.1 1.0  
Ki iP 22 36 35 D  
Sk eP 22 37 08  
Rat Islands, Aleutian Islands  
(h = 40 km).

" 8 Up  
M E 0.9 23  
M N 0.8 20  
M Z 1.4 21  
Ki eSS 01 06 56  
microns sec  
M E 0.7 18  
M N 0.5 17  
M Z 1.0 17  
Southwest of Galapagos  
Islands (h = 30 km).

" 8 Ki iP 08 34 54

" 8 Sk iPKP 15 32 17  
Santa Cruz Islands  
(h = 230 km).

" 8 Up iPKP 17 37 32  
i 17 37 39  
microns sec  
PKP Z' 0.1 0.5  
Sk iPKP 17 37 27 C  
Kermadec Islands region  
(h = 70 km).

" 8 Up iP 18 58 49 D  
microns sec  
P Z' 0.1 0.5  
Ki iP 18 58 02 D  
Kurile Islands region  
(h = 150 km).

" 8 Up eP 21 26 47  
Ki iP 21 25 53  
Sk eP 21 26 34  
Near Islands, Aleutian  
Islands (h = 30 km).

1962

Nov 9 Up iP 01 17 30  
i 01 17 34  
microns sec  
P Z 0.5 3  
M E 0.6 17  
M N 0.5 18  
M Z 0.8 17  
Ki iP 01 18 16  
iPP 01 19 42  
eS 01 24 08  
eSS 01 26 46  
microns sec  
P Z' 0.2 0.8  
S E 0.3 5  
M E 1.1 15  
M N 0.7 15  
M Z 1.6 15  
D = 4200 km = 38.  
Sk iP 01 18 11  
Ka iP 01 17 27  
Iraq-Iran border region  
(h = 30 km). Magn. = 5.8  
(Up, Ki).

" 9 Up iP 02 18 14  
i 02 18 19  
i 02 18 30  
Ki iP 02 19 37  
Sk iP 02 19 06  
i 02 19 11  
Gb iP 02 18 17  
Ka eP 02 17 54  
i 02 18 05  
Rumania (h = 130 km).

" 9 Up -  
microns sec  
M N 0.4 15  
M Z 0.8 16  
Ki iP 05 33 52  
microns sec  
M E 1.1 15  
M N 0.8 14  
M Z 1.7 14  
Sk iP 05 34 14  
iS 05 35 58  
Arctic Ocean.

" 9 Ki e(P) 06 36 24

" 9 Ki iP 07 46 25

" 9 Up iP 09 33 01 C  
microns sec  
P Z' 0.2 1.0  
Ki iP 09 32 23 C

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Nov 9 Ki microns sec  
cont. P Z' 0.1 0.9  
✓ Sk iP 09 32 56 C  
✓ Gb iP 09 35 21 C  
Near east coast of Honshu,  
Japan (h = 30 km).

" 9 Up iP 14 03 04  
microns sec  
P Z' 0.1 0.5  
Ki iP 14 02 33  
Sk iP 14 03 01  
Bonin Islands region  
(h = 450 km).

" 9 Ki iP 18 16 08  
Azores (h = 30 km).

" 10 Up iP 01 39 44  
Ki iP 01 40 17  
Sk eP 01 40 18  
Ka iP 01 39 34  
Near south coast of Iran  
(h = 30 km).

" 10 Up iP 01 44 18 C  
iS 01 53 15  
microns sec  
P E 0.6 1  
P N 1.1 1  
P Z 2.4 1  
P Z' 0.8 1.0  
S E 0.5 2  
S N 0.7 2  
M E 2.0 21  
M N 4.3 23  
M Z 3.2 20  
D = 7700 km = 69 $\frac{1}{2}$ .  
✓ Ki iP 01 43 32 C  
iS 01 51 50  
i 01 53 17  
microns sec  
P N 0.6 2  
P Z 1.8 2  
P Z' 1.0 1.0  
S E 0.6 7  
M E 3.6 18  
M N 3.2 20  
M Z 4.1 18  
D = 6900 km = 62.  
✓ Sk iP 01 44 08 C  
i 01 44 15  
✓ Gb iP 01 44 39 C  
✓ Ka iP 01 44 37 C  
Kurile Islands (h = 60 km).  
Magn. = 6.8 (Up, Ki).

1962  
Nov 10 Ki e(Sg) 05 18 22  
" 10 Ki iP 11 15 24 C  
Near northern coast of  
Luzon (h = 30 km).

" 10 Up iP 19 43 20 C  
Ki iP 19 42 39 C  
Sk e(P) 19 43 26  
Near east coast of Honshu,  
Japan (h = 100 km).

" 10 Up iPKP 22 33 06 D  
i 22 33 11  
microns sec  
PKP Z' 0.1 0.5  
Sk iPKP 22 33 00 D  
Gb iPKP 22 33 13  
Kermadec Islands region  
(h = 220 km).

" 11 Up iP 11 40 11 C  
i 11 40 18  
iS 11 46 56  
iSSS 11 51 13  
e 11 53 05  
microns sec  
P Z' 0.2 1.0  
S E 0.1 3  
S N 0.4 6  
M E 2.2 16  
M N 4.8 15  
M Z 6.1 15  
D = 5150 km = 46 $\frac{1}{2}$ .  
✓ Ki eP 11 39 24  
i 11 39 32  
iPP 11 41 09  
eS 11 45 33  
i 11 48 09  
eSS 11 48 26  
eSSS 11 48 56  
eLg1 11 52 57  
microns sec  
P Z' 0.2 1.5  
PP Z' 0.3 1.9  
S E 0.8 4  
M E 2.4 16  
M N 2.2 13  
M Z 5.4 15  
D = 4550 km = 41.  
✓ Sk iP 11 40 07  
i 11 40 15  
✓ Gb iP 11 40 39  
i 11 40 45  
✓ Ka iP 11 40 34  
Lake Baikal region, U.S.S.R.  
(h = 30 km). Magn. = 5.8  
(Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Nov 11 Sk eP 15 08 01

" 11 Up iP 15 23 52  
i 15 23 53  
iS 15 30 30  
eSS 15 34 09

microns sec

P Z 0.3 4  
P Z' 0.1 0.7  
S E 0.3 8  
S N 1.4 10  
S Z 0.6 6  
M E 1.8 19  
M N 2.5 18  
M Z 1.9 15

D = 5050 km = 45<sup>0</sup>

Ki iP 15 24 43 D  
i 15 24 48  
eS 15 32 05  
i 15 37 50

microns sec

P Z' 0.3 1.5  
S N 0.6 7  
S Z 0.6 9  
M E 1.3 15  
M N 1.1 15  
M Z 2.3 15

D = 5800 km = 52<sup>0</sup>

Sk iP 15 24 27  
Gb iP 15 23 52 D

Red Sea (h = 30 km).  
Magn. = 5.8 (Up, Ki).

" 11 Up iPKP 16 28 55

microns sec

PKP Z' 0.1 1.0  
M E 1.9 22  
M N 4.1 22  
M Z 5.0 22

(D = 14200 km = 128<sup>0</sup>)

Ki iPKP 16 28 42 D  
iPKKP 16 38 47  
eSP 16 40 05

microns sec

PKP Z' 0.1 1.0  
PKKP Z' 0.1 1.1  
M E 1.5 18  
M N 1.9 20  
M Z 4.2 20

(D = 13550 km = 122<sup>0</sup>)

Sk iPKP 16 28 53 D  
i 16 29 06

Gb iPKP 16 29 03  
iPKS 16 32 25

Santa Cruz Islands  
(h = 80 km).

1962

Nov 11 Up iP 16 41 33  
i 16 41 40

Sk eP 16 41 44  
Gb eP 16 41 26

" 11 Up iPKP 22 33 21  
eSKP 22 36 37

microns sec

PKP Z' 0.3 1.5  
SKP E 0.5 5  
M E 1.7 18  
M N 1.9 16  
M Z 2.9 18

(D = 14650 km = 132<sup>0</sup>)

Ki iPKP 22 33 28 C  
iPKP 22 33 52  
iPP 22 35 49  
iSKP 22 36 53

microns sec

PKP Z 0.9 3  
PKP Z' 1.2 2.0  
PP E 0.7 5  
PP Z 1.4 3  
SKP E 2.3 5  
M E 1.5 18  
M N 1.3 18  
M Z 1.7 18

(D = 15000 km = 135<sup>0</sup>)

Sk iPKP 22 33 20 C  
Gb iPKP 22 33 14

Off coast of southern Chile.

" 12 Up iP 13 01 04 C

microns sec

P Z' 0.1 0.6  
M E 1.6 14  
M N 2.0 20  
M Z 2.0 13

Ki iP 13 00 35 C  
i 13 00 44

microns sec

P Z' 0.2 1.0  
M E 1.1 15  
M N 0.4 16  
M Z 1.4 12

Sk iP 13 01 04 C  
Gb iP 13 01 23 C

Ryukyu Islands (h = 40 km).

" 12 Up e(P) 19 06 04

" 12 Up iP 19 43 33  
iPcP 19 43 59

microns sec

P Z' 0.1 0.5  
Ki iP 19 42 41

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962			
Nov	12	Sk eP	19 43 15	Nov	14	Ka iPg	12 39 27 C
cont.		Andreasof Islands, Aleutian Islands (h = 60 km).				iSg	12 39 28
						Local explosion.	
"	13	Ki iP	03 13 54	"	14	Ka iPg	13 59 47 C
"	13	Ki iP	03 36 53			iSg	13 59 48
						Local explosion.	
"	13	Up iP	09 05 37	"	14	Ki e(P)	16 21 27
		Ki i(P)	09 04 55			North Atlantic Ocean	
		Sk iP	09 05 30			(h = 30 km).	
		Off coast of Hokkaido, Japan (h = 60 km).		"	14	Ki iP	21 21 52
"	13	Ka iPg	14 08 11 C	"	15	Up eL	16 56
		iSg	14 08 12			microns sec	
		Local explosion.				M	E 1.9 20
"	13	Ka iPg	14 59 40 C			M	N 1.9 19
		iSg	14 59 41			M	Z 3.0 19
		Local explosion.				Ki	eL 16 58
"	13	Up iP	20 22 16			microns sec	
						M	E 1.5 20
						Central Chile (h = 30 km).	
"	13	Ki iPKP	22 07 15	"	15	Ki iP	18 25 13
		Sandwich Islands (h = 30 km).		"	15	Up iP	19 02 04
"	13	Ki i(P)	23 54 39	"	15	Up eP	19 12 16
"	14	Sk iP	01 36 18			Ki eP	19 12 04
"	14	Up iPKP	07 43 25	"	15	Up iP	19 41 01
		Kermadec Islands (h = 30 km).		"	15	Up eP	22 31 54
"	14	Up iP	07 59 35			i	22 32 21
		microns sec		"	15	Gb iP	23 38 50
		P	Z' 0.1 0.7			Near coast of northern Peru (h = 50 km).	
		M	N 1.7 23	"	16	Up i(P)	00 18 55
		M	Z 1.8 22			i	00 19 42
		Ki iP	07 58 57			microns sec	
		microns sec				M	E 2.2 19
		M	E 2.9 20			M	N 2.0 20
		M	N 1.9 20			M	Z 3.4 21
		Sk eP	07 59 29			Ki	-
		Gb iP	07 59 55			microns sec	
		Ka eP	07 59 48			M	E 2.0 21
		Central Honshu, Japan (h = 60 km).		"	16	Up eSS	07 58 47
"	14	Ka iPg	09 24 21 C			microns sec	
		iSg	09 24 22			M	E 3.1 20
		Local explosion.				M	N 5.4 18
"	14	Ka iPg	10 18 07 C			M	Z 4.6 19
		iSg	10 18 08			Ki	-
		Local explosion.					



Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Nov 16 Ki microns sec  
cont. M E 4.1 18  
M N 4.0 20  
M Z 6.8 19  
Easter Island region  
(h = 40 km). Magn. = 6.4  
(Up, Ki).

" 16 Ka iPg 08 45 52 C  
iSg 08 45 53  
Local explosion.

" 16 Up iP 10 05 04 C  
Ki iP 10 04 35  
Mariana Islands (h = 210 km).

" 16 Ki iP 15 57 33

" 16 Up iP 21 21 20 C  
iS 21 30 32  
microns sec  
P Z 0.4 1  
P Z' 0.5 0.7  
S E 0.8 6  
M E 13 22  
M N 23 20  
M Z 15 20  
D = 7950 km =  $71\frac{1}{2}$ <sup>0</sup>  
✓Ki iP 21 21 20 C  
iS 21 30 36  
microns sec  
P Z 1.5 5  
P Z' 0.7 0.5  
S E 2.0 5  
S N 1.9 5  
M E 16 16  
M N 19 18  
M Z 19 19  
D = 7950 km =  $71\frac{1}{2}$ <sup>0</sup>  
✓Sk iP 21 21 37  
iPcP 21 21 54  
✓Gb iP 21 21 56 C  
i 21 21 43  
✓Ka iP 21 21 23 C  
i 21 21 31  
Andaman Islands (h = 30 km).  
Magn. = 6.7 (Up, Ki).

" 16 Up iP 22 56 57  
Ki iP 22 56 57  
Andaman Islands (h = 30 km).

" 17 Up iP 00 10 50

" 17 Gb i(PP) 00 18 35  
Bolivia (h = 210 km).

1962  
Nov 17 Up e(P) 03 17 30  
Ki e(P) 03 16 57

" 17 Up iP 11 20 07 D  
i 11 20 12  
✓Ki iP 11 19 53 D  
✓Sk eP 11 19 52  
Oaxaca, Mexico (h = 10 km).

" 17 Up iP 19 26 00

" 18 Up iP 06 56 42  
✓Ki iP 06 56 27 C  
microns sec  
P Z' 0.2 1.7  
Molucca Sea (h = 60 km).

" 19 Up i(P) 11 11 54

" 19 Up iP 14 42 49  
Ki iP 14 42 51  
Sk iP 14 42 36  
Colombia (h = 140 km).

" 19 Up iP 21 55 39  
Ki iP 21 54 45  
Sk eP 21 55 17  
Gb iP 21 55 53  
Unimak Island region  
(h = 30 km).

" 20 Ki e(P) 05 36 38

" 20 Ki i(P) 06 52 30

" 20 Up iP 07 04 14  
microns sec  
P Z' 0.1 0.7  
Ki iP 07 03 17  
Sk iP 07 03 58  
Gb iP 07 04 35  
Kamchatka (h = 30 km).

" 20 Up iP 07 42 48  
microns sec  
P Z' 0.3 1.4  
Ki iP 07 41 56  
microns sec  
P Z' 0.3 1.5  
M E 0.9 18  
M N 0.5 16  
✓Sk iP 07 42 34  
✓Gb eP 07 43 08  
Kamchatka (h = 30 km).

" 20 Ki i(P) 15 58 04

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962					
Nov	20	Up	iP	16 13 15	Nov	22	Up	iPg	11 43 05
		Ki	iP	16 12 31				iSg	11 43 21
				Hokkaido, Japan (h = 40 km).				microns sec	
"	20	Up	iP	20 53 26			Pg	Z' 0.2 0.5	
		Ki	iP	20 54 01			D = 130 km = 1.2.		
		Sk	eP	20 53 59		Sk	i(Sg)	11 45 39	
		Um	iP	20 53 38		Um	i(Sg)	11 45 20	
				Southern Iran (h = 30 km).		Ka	e(Sg)	11 44 06	
						Central Baltic. Origin time = 11 42 41. Explosion.			
"	21	Up	iP	00 36 34	"	22	Up	iPg	11 55 46
"	21	Ki	e(Sg)	13 57 12				iSg	11 56 01
"	21	Up	iP	15 16 06				iL	11 56 10
		Ki	iP	15 15 41 D				microns sec	
		Sk	eP	15 16 14			Pg	Z' 0.2 0.5	
				Ryukyu Islands (h = 30 km).			D = 130 km = 1.2.		
"	21	Ki	i(P)	17 49 38		Sk	e(Sg)	11 58 20	
"	21	Ki	i(P)	17 53 32		Um	i(Sg)	11 58 02	
"	21	Ki	iPKP	19 58 30		Ka	i(Sg)	11 56 46	
			iSKP	20 01 01	"	22	Up	iPg	12 53 05
			microns sec					iSg	12 53 21
		SKP	Z' 0.1 1.5					microns sec	
		Um	iSKP	20 01 12			Pg	Z' 0.1 0.5	
				Fiji Islands region			D = 130 km = 1.2.		
				(h = 630 km).		Sk	i(Sg)	12 55 40	
"	21	Ki	i(P)	23 31 56		Um	i(Sg)	12 55 21	
"	22	Ki	eP	00 57 42		Ka	e(Sg)	12 54 07	
"	22	Um	iP	03 20 21		Central Baltic. Origin time = 12 52 41. Explosion.			
				Near east coast of Hokkaido, Japan (h = 30 km).		A more consistent solution would be obtained in this and the three previous cases, if the phases denoted by (Sg) instead are assumed to be Lg <sup>1</sup> for Sk and Um and Li for Ka.			
"	22	Ki	i(P)	04 38 57	"	22	Ki	iP	14 30 24
"	22	Ki	i(P)	05 38 12			Um	iP	14 30 45
"	22	Ki	i(P)	07 37 30		Kurile Islands (h = 30 km).			
"	22	Up	iPg	11 40 39	"	22	Up	i(P)	15 41 20
			iSg	11 40 55	"	22	Up	iPKP	20 52 38
			microns sec					i	20 52 43
		Pg	Z' 0.1 0.5			Ki	iPKP	20 52 20	
		D = 130 km = 1.2.				Sk	iPKP	20 52 32	
		Sk	e	11 43 06		Um	iPKP	20 52 26 C	
			e(Sg)	11 43 14		Kermadec Islands region (h = 300 km).			
		Um	i(Sg)	11 42 58	"	23	Up	iS	00 56 02
		Ka	i(Sg)	11 41 40					
				Central Baltic. Origin time = 11 40 15. Explosion.					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Nov 23 Up ePS 00 57 41  
cont. microns sec  
M E 0.8 21  
M N 1.1 21  
M Z 1.0 21  
Ki -  
microns sec  
M E 1.8 20  
Um eSKS 00 55 04  
iPS 00 57 58  
i 00 58 17  
Near coast of southern Peru  
(h = 30 km).

" 23 Ki iP 07 58 17

" 23 Up iP 20 36 39

" 23 Up iPKP 23 23 59  
iSKP 23 26 46  
Ki ePKP 23 23 47  
iSKP 23 26 23  
Sk iPKP 23 23 52  
Gb iPKP 23 24 10  
Um iPKP 23 23 48  
i 23 23 54  
i 23 24 00  
iSKP 23 26 34  
Ka iPKP 23 24 12  
Fiji Islands (h = 610 km).

" 24 Up iPKP 10 52 41  
i 10 53 20  
microns sec  
PKP Z' 0.1 0.5  
Gb iPKP 10 52 51  
Ka iPKP 10 52 51  
Fiji Islands region  
(h = 500 km).

" 24 Up iP 16 02 58  
Ki iP 16 02 06  
Sk iPcP 16 03 22  
Kurile Islands (h = 90 km).

" 24 Ki iP 16 31 05  
Sk iP 16 30 34  
Gb iP 16 30 14  
Mid-Atlantic Ocean  
(h = 30 km).

" 25 Up iP 17 47 16  
Ki iP 17 47 04  
microns sec  
P Z' 0.1 1.1  
Sk iP 17 46 58  
Gb iP 17 47 08

1962  
Nov 25 Um iP 17 47 12  
cont. Near coast of Chiapas,  
Mexico (h = 100 km).

" 25 Um iP 19 12 42

" 25 Up iP 23 01 43 D  
Ki iP 22 59 59  
iS 23 01 20  
D = 800 km = 7.2°  
Sk iP 23 00 52  
Um iP 23 00 53  
i 23 01 01  
Svalbard (h = 30 km).

" 26 Up iP 01 48 37  
ipP 01 49 05

microns sec  
pP Z' 0.2 1.2  
Ki eP 01 49 14  
Gb eP 01 49 28  
Ka iP 01 49 11 C  
Hindu Kush (h = 110 km).

" 26 Up iP 05 37 20  
microns sec  
P Z' 0.1 0.9  
M E 8.8 20  
M N 5.1 16  
M Z 6.5 20  
Ki iP 05 37 17 C  
i 05 37 22

microns sec  
P Z' 0.3 1.0  
M E 5.0 18  
M N 3.6 16  
M Z 6.1 16  
Sk iP 05 37 41 C  
Um iP 05 37 12  
Sinkiang Province, China  
(h = 15 km). Magn. = 5.9  
(Up, Ki).

" 26 Up iP 13 39 40 D  
microns sec  
P Z' 0.1 0.8  
Ki iP 13 39 09  
Um iP 13 39 15  
Off coast of Hokkaido,  
Japan (h = 30 km).

" 26 Up iPKP 16 18 14  
Gb iPKP 16 18 24  
Ka iPKP 16 18 25  
Tonga Islands (h = 20 km).

" 26 Up i(P) 18 35 53

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Nov 26 Up iPg 20 10 32  
iSg 20 10 33  
Probably local explosion.

" 27 Up iP 07 04 29 C  
ipP 07 05 12  
iPP 07 07 21  
microns sec  
P Z' 0.2 0.7  
Ki iP 07 04 03  
ipP 07 04 48  
Sk iP 07 04 32 C  
Gb iP 07 04 49 C  
ipP 07 05 32  
Um iP 07 04 13 C  
i 07 04 28  
ipP 07 04 56  
Ka iP 07 04 38 C  
Ryukyu Islands. h = 170 km  
(Up, Ki, Gb, Um).

" 27 Up iP 12 19 36  
Ki iP 12 19 20  
Sk iP 12 19 38  
Ka iP 12 19 54  
Near west coast of Luzon  
(h = 40 km).

" 27 Up iP 17 03 52  
Ki iP 17 03 27  
Um iP 17 03 38  
Mariana Islands (h = 30 km).

" 28 Up iP 02 49 14  
i 02 49 26  
microns sec  
P Z' 0.1 1.0  
Ki iP 02 48 48  
microns sec  
P Z' 0.2 1.0  
Um iP 02 48 59  
i 02 49 10  
Mariana Islands (h = 30 km).

" 28 Um iP 05 15 31  
South Atlantic Ocean  
(h = 30 km).

" 28 Up iP 05 35 37

" 28 Um iP 06 05 19 D  
Volcano Islands (h = 80 km).

" 28 Um eP 12 07 12  
i 12 07 40

" 28 Up iP 15 37 32 D

1962  
Nov 28 cont. Up i 15 37 53  
microns sec  
P Z' 0.1 0.6  
Ki iP 15 37 33 D  
microns sec  
P Z' 0.1 0.6  
Sk eP 15 37 49  
Gb iP 15 37 48  
Um iP 15 37 29  
i 15 37 45  
Ka iP 15 37 33  
Andaman Islands (h = 50 km).

" 29 Up iP 02 29 50  
Ki iP 02 30 25  
Arabian Sea (h = 30 km).

" 29 Up iP 04 17 59  
i 04 18 01  
Sk iP 04 17 52  
Gb ePKP 04 18 08  
Um iP 04 17 50  
Kermadec Islands (h = 140 km).

" 29 Gb i(P) 07 36 36 C

" 29 Up iP 07 50 19  
i 07 50 31  
microns sec  
P Z' 0.2 0.8  
Gb iP 07 50 37  
Um iP 07 50 21

" 29 Gb iP 09 23 21  
Ka iP 09 23 23  
Tonga Islands (h = 30 km).

" 29 Um eP 13 13 34

" 29 Um i(P) 16 12 21

" 29 Up  
microns sec  
M E 1.2 21  
M N 2.0 20  
M Z 1.8 19  
Ki iP 19 25 39  
microns sec  
M E 2.6 20  
M N 1.3 18  
M Z 2.1 20  
Um ePKP 19 25 44  
New Hebrides Islands  
(h = 30 km). Magn. = 6.1  
(Up, Ki).

" 29 Um iP 19 32 32 D

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Nov 29 Um iP 22 59 14  
Hindu Kush (h = 180 km).

" 30 Up iP 16 12 22  
Ki iP 16 12 16  
Sk eP 16 12 41  
Um iP 16 12 14  
i 16 12 37  
Burma (h = 180 km).

" 30 Ki i(P) 16 45 21

" 30 Ki iP 17 06 34  
Molucca Passage (h = 60 km).

" 30 Up iP 20 57 08  
i 20 57 09  
Probably local explosion.

" 30 Up iP 22 04 16  
i 22 04 31  
i 22 07 30  
e 22 14 18  
iSKS 22 14 34

microns sec

M E 1.4 24

M N 1.4 22

M Z 2.2 22

✓ Ki eP 22 03 55

i 22 04 09

i 22 06 57

eS 22 14 11

microns sec

P Z 0.6 5

S E 0.3 5

S N 0.6 5

M E 2.4 21

M N 1.3 21

M Z 3.9 21

✓ Sk eP 22 03 50

i 22 04 05

✓ Gb eP 22 04 13

✓ Um eP 22 04 13

i 22 04 21

eSKS 22 14 23

eS 22 14 41

✓ Ka eP 22 04 21

Guerrero, Mexico  
(h = 50 km).

Markus Båth  
March 4, 1963

Uppsala

1962  
Dec.  
*Handwritten signature*

PRELIMINARY  
SEISMOLOGICAL BULLETIN  
UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,  
UMEÅ and KARLSKRONA

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

.....  
D E C E M B E R 1 - 31, 1962  
.....

1962  
Dec

1	Up	iP	02 01 16
		eS	02 10 18
			microns sec
	M	E	1.4 19
	M	N	1.6 20
	M	Z	1.2 24
	Ki	iP	02 00 22
			microns sec
	P	Z'	0.1 0.8
	M	E	2.1 18
	M	N	1.3 18
	M	Z	2.8 18
	Sk	iP	02 00 53
		iPcP	02 01 28
	Gb	iP	02 01 32
	Um	iP	02 00 49
		i	02 01 06

Fox Islands, Aleutian  
Islands (h = 40 km).  
Magn. = 5.6 (Up, Ki).

"

1	Up	iPKP	04 36 38 C
			microns sec
		PKP	Z' 0.3 0.5
	Ki	iPKP	04 36 12
		i	04 36 21
	Sk	iPKP	04 36 31 C
		i	04 36 35
	Gb	iPKP	04 36 47 C
		i	04 36 50
	Um	iPKP	04 36 26
		i	04 36 31
	Ka	iPKP	04 36 44 C

Kermadec Islands  
(h = 50 km).

1962

Dec	1	Ki	eP	09 27 44
"	2	Up	iP	14 47 51 D
			i	14 47 56
				Central China.
"	2	Up	iP	22 27 52
		Ki	iP	22 28 30
				Iran (h = 40 km).
"	2	Ki	iP	23 43 27
				Iran (h = 30 km).
"	3	Ki	iP	11 45 40
"	4	Up	iP	06 26 58
		Um	iP	06 26 36
				Off east coast of Honshu, Japan (h = 80 km).
"	4	Ka	i(P)	07 41 51
"	4	Ki	iP	07 47 15
"	4	Up	i(P)	14 08 53
				Local blast?
"	4	Up	i(P)	20 35 52
				Local blast?
"	5	Up	iP	00 29 22
			i	00 29 32
		Sk	iP	00 29 35
		Um	eP	00 29 07
				Central China.



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	8	Near west coast of central Luzon (h = 180 km).			
Dec cont.					
"	8	Ki iP	01 52 33		
		Central Alaska (h = 30 km).			
"	8	Up iP	09 09 34		
		i	09 10 10		
		iPP	09 10 38		
		Ki iP	09 10 07		
		i	09 11 12		
		Sk iP	09 10 07		
		Gb iP	09 09 46		
		Um iP	09 09 45		
		Ka ePP	09 10 20		
		Northern Iran (h = 30 km).			
"	8	Up iP	11 43 39		
		Sk iP	11 44 13		
		Ka iP	11 43 00		
"	8	Up iP	14 28 15		
		Sk iP	14 28 27		
		Tsinghai Province, China (h = 30 km).			
"	8	Up iPKS	18 41 29		
			microns sec		
		PKS N	1.3 5		
		M N	5.2 25		
		M Z	4.2 25		
		Ki i(PKP)	18 37 30		
		iPKP	18 37 54		
			microns sec		
		PKP Z'	0.5 1.5		
		M E	2.7 20		
		M N	1.9 20		
		M Z	3.5 20		
		Sk i(PKP)	18 37 42		
		iPKP	18 38 04		
		Gb iPKP	18 38 08		
		Um iPKP	18 37 56		
		i!	18 38 01		
		ePP	18 40 04		
		ePKS	18 40 59		
		Ka iPKP	18 38 13		
		Tonga Islands region (h = 30 km).			
		Magn. = 6.3 (Up, Ki).			
"	8	Up iP	21 40 38		
		i	21 40 44		
		iPKP	21 44 44		
		i	21 45 09		
		i	21 49 08		
		iS	21 51 48		

1962	8	Up	iPKKP	21 56 17	
Dec cont.				microns sec	
		S N	3.6 12		
		PKKP Z'	0.1 1.0		
		M E	9.6 20		
		M N	7.9 22		
		M Z	5.5 21		
		(D = 12100 km = 109°).			
		Ki iPKP	21 44 49		
		i	21 45 39		
		epPP	21 47 43		
		iSKS	21 50 36		
		i	21 51 44		
		iS	21 52 28		
		i	21 54 10		
		ipS	21 55 23		
		iPKKP	21 56 00		
		i	21 58 09		
			microns sec		
		PKP Z'	0.1 1.0		
		SKS E	3.1 7		
		S N	3.4 11		
		PKKP Z'	0.2 1.5		
		M E	19 25		
		M N	2.9 20		
		M Z	6.9 20		
		(D = 12550 km = 113°).			
		Sk eP	21 40 35		
		iPKP	21 44 32		
		i	21 45 07		
		Gb iP	21 40 22		
		i	21 40 28		
		ePKP	21 44 50		
		Um eP	21 40 51		
		iPKP	21 44 47		
		ePP	21 45 25		
		i	21 47 18		
		iSKS	21 50 30		
		i	21 53 42		
		iSP	21 53 57		
		iPS	21 55 18		
		iPKKP	21 55 52		
		i	21 56 06		
		eSS	22 00 06		
		i	22 03 31		
		(D = 12350 km = 111°).			
		Ka iPKP	21 44 49		
		ePKKP	21 56 31		
		Argentina (h = 620 km).			
		Magn. = 6.8 (Up, Ki).			
"	8	Up iP	23 06 08 C		
		ipP	23 06 21		
		iP'P'	23 34 10		
			microns sec		
		P Z'	0.3 0.5		



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Dec cont. 8 Up pP N 0.7 1  
pP Z 1.1 1  
pP Z' 0.4 0.5  
P'P' Z' 0.2 1.1  
M N 3.4 19  
Ki iP 23 05 14 C  
ipP 23 05 29  
eS 23 13 34  
microns sec  
P Z' 0.3 1.2  
pP Z' 0.5 1.0  
S N 1.7 10  
M E 2.0 17  
M N 1.9 20  
M Z 2.8 18  
D = 6800 km = 61°  
Sk iP 23 05 47  
ipP 23 06 00  
Gb iP 23 06 23 C  
ipP 23 06 37  
Um iP 23 05 41 C  
ipP 23 05 55  
Ka iP 23 06 36  
ipP 23 06 49  
Andreanof Islands, Aleutian  
Islands. h = 50 km (Up, Ki,  
Sk, Gb, Um, Ka).  
Magn. = 6.4 (Up, Ki).

" 8 Ki eP 23 24 06  
Sk eP 23 23 27  
i(S) 23 24 50

" 9 Up iP 10 28 43 D  
Kurile Islands region  
(h = 30 km).

" 9 Ki iSKP 14 38 11  
Gb iPKP 14 35 15  
Ka iPKP 14 35 19  
Tonga Islands region  
(h = 200 km).

" 9 Um iP 21 27 49  
Northern Honshu, Japan  
(h = 30 km).

" 10 Up iPKP 17 15 33  
i 17 15 48  
microns sec  
PKP Z' 0.5 1.6  
Ki iPKP 17 15 25  
Sk iPKP 17 15 24  
Gb ePKP 17 15 42  
Um ePKP 17 15 27  
Ka iPKP 17 15 41

1962  
Dec cont. 10 Kermadec Islands region  
(h = 90 km).

" 10 Up i(P) 18 46 39  
" 10 Ki iP 23 17 53 C  
Near south coast of central  
Java (h = 190 km).

" 11 Up iPKP 18 11 18  
microns sec  
PKP Z' 0.1 0.7  
Gb iPKP 18 11 28  
Ka iPKP 18 11 25  
Tonga Islands (h = 100 km).

" 12 Up iP 00 13 55  
Ki iP 00 13 21  
Sk iP 00 13 52  
Um iP 00 13 35 C  
Southern Honshu, Japan  
(h = 410 km).

" 12 Up iPP 10 28 26  
iSP 10 38 05  
microns sec  
M N 2.1 21  
M Z 1.9 20  
Ki iPP 10 27 36  
microns sec  
M E 3.9 28  
M N 1.5 24  
M Z 6.4 26  
Um iPP 10 28 05  
eSP 10 37 25  
e(PKKP) 10 38 03  
eSS 10 43 36  
New Britain (h = 90 km).

" 12 Ki iPKP 14 15 45  
Sandwich Islands region  
(h = 30 km).

" 12 Up iP 18 48 53

" 12 Up iP 23 08 43  
i 23 09 00  
microns sec  
P Z' 0.1 0.5  
Ki iP 23 08 44  
microns sec  
P Z' 0.3 1.0  
Sk iP 23 08 59  
i 23 09 16  
Gb iP 23 09 07  
i 23 09 24

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Dec cont. 12 ✓ Um iP 23 08 41  
i 23 08 58  
✓ Ka iP 23 08 50  
Sumatra (h = 140 km).

" 13 Up iP 00 36 50  
i 00 36 58  
microns sec  
P Z' 0.1 0.6  
Ki eP 00 36 56  
Sk eP 00 37 13  
Um iP 00 36 54  
Nicobar Islands (h = 30 km).

" 13 ✓ Up iP 04 31 02  
✓ Ki iP 04 30 05  
microns sec  
P Z' 0.2 0.7  
✓ Sk iP 04 30 34  
✓ Gb iP 04 31 15 D  
✓ Um iP 04 30 34  
✓ Ka iP 04 31 30  
South-central Alaska  
(h = 50 km).

" 13 ✓ Up iP 15 07 08  
i 15 07 18  
ipP 15 07 27  
✓ Ki iP 15 06 22  
microns sec  
P Z' 0.1 1.0  
✓ Sk iP 15 06 49  
i 15 06 55  
✓ Gb iP 15 07 30  
✓ Um iP 15 06 51  
✓ Ka iP 15 07 47  
Kenai Peninsula, Alaska  
(h = 70 km).

" 13 Gb i(P) 15 21 23

" 13 ✓ Up iP 22 50 55  
i 22 51 02  
iS 22 55 28  
microns sec  
M E 0.8 17  
M N 1.4 16  
M Z 1.3 16  
D = 2850 km = 25<sup>10</sup>/<sub>2</sub>.  
✓ Ki iP 22 52 01  
microns sec  
M E 1.2 18  
✓ Sk iP 22 51 34  
✓ Ka iP 22 50 32  
Dodecanese Islands  
(h = 40 km).

1962  
Dec 13 Ki iP 23 32 12  
Batan Islands (h = 150 km).

" 14 Up iP 03 28 25

" 14 Up i(P) 03 57 36

" 14 Ki i(Pg) 06 53 45  
i(Sg) 06 54 12

" 14 ✓ Up iP 17 00 28 D  
i 17 00 33  
✓ Ki iP 17 00 02

microns sec  
M N 0.9 15  
M Z 1.1 13  
✓ Um iP 17 00 09  
✓ Ka iP 17 00 51  
Outer Mongolia-U.S.S.R.  
border (h = 30 km).

" 14 Up iP 20 32 00 D

" 15 Up iPn 03 50 28  
i 03 50 34  
i 03 50 38  
i 03 51 32  
iSn 03 51 51  
i 03 52 07  
iSg 03 52 37

microns sec  
Sn E 0.8 1  
Sn Z' 0.7 0.5  
Sg E 3.0 1  
Sg N 0.5 1  
Sg Z 1.8 1  
D = 790 km = 7.1<sup>0</sup>.  
Ki iPn 03 49 21 D  
i 03 49 28  
i 03 49 40  
iSn 03 49 53  
iSg 03 50 03

microns sec  
Pn Z' 0.7 0.5  
Sg E 2.6 2  
Sg N 7.1 2  
Sg Z 5.4 3  
D = 280 km = 2.5<sup>0</sup>.

Sk iPn 03 49 37  
i 03 49 44  
iSg 03 50 35  
D = 380 km = 3.4<sup>0</sup>.  
Gb i(Pn) 03 51 06 D  
iSn 03 52 40  
i 03 52 56  
i 03 53 29

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

Year	Month	Day	Station	Type	Time	Location	Depth (km)	Magnitude
1962	Dec	15	Gb	iSg	03 53 41			
		cont.						
				D = 1010 km = 9.1°				
			Um	iPn	03 49 45 D			
				i	03 49 54			
				iSn	03 50 34			
				iSg	03 50 55			
				D = 440 km = 4.0°				
			Ka	iPn	03 51 19			
				i	03 51 29			
				iSn	03 53 19			
				i	03 54 29			
				D = 1190 km = 10.7°				
				Coast of Norway, 67.0° N, 14.3° E. Origin time = 03 48 41. First motions of P are compatible with a fault strike, roughly parallel to the coast, and with eastern (continental) side moving up relative to western (Atlantic) side.				
"	"	15	Ki	eP	11 12 48			
				i	11 12 50			
"	"	16	Ki	e(P)	06 00 33			
				e(Sg)	06 00 53			
"	"	16	Up	iP	06 41 49	Hindu Kush	150	
"	"	16	Ki	e(Sg)	07 23 03			
"	"	16	Up	iP	21 10 13			
"	"	16	Um	iP	22 16 19 C			
"	"	16	Ki	e(Sg)	22 29 15			
			Sk	e(Sg)	22 28 17			
			Um	i(Sg)	22 29 38			
				Probably off coast of Norway.				
"	"	17	Up	iP	10 53 09			
			Um	iP	10 52 32			
"	"	17	Up	iP	11 12 59			
				isP	11 15 22			
				iPP	11 16 59			
				microns sec				
				PP	Z' 0.6 1.6			
			Ki	iP	11 12 44			
				iPP	11 16 36			
				microns sec				
				P	Z' 0.3 1.5			
			Sk	iP	11 13 04			
1962	Dec	17	Um	iP	11 12 49			
		cont.						
				iPP	11 16 39			
				Celebes Sea (h = 390 km). Magn. = 6.3 (Up, Ki).				
"	"	17	Up	iP	17 35 27 C			
				i	17 35 46			
				microns sec				
				P	Z' 0.1 1.0			
			Ki	iP	17 35 05 C			
				microns sec				
				P	Z' 0.2 1.1			
				M	E 1.8 18			
				M	N 1.4 18			
				M	Z 2.8 20			
				Ningsia Province, China (h = 30 km). Magn. = 5.7 (Up, Ki).				
"	"	18	Up	iP	02 13 26			
				iPP	02 14 58			
			Ki	iP	02 13 31			
			Um	iP	02 13 22			
			Ka	iP	02 13 34			
				Kirghiz, U.S.S.R. (h = 80 km).				
"	"	18	Up	iP	03 07 00			
			Ki	iP	03 06 31 D			
				ipP	03 07 37			
				microns sec				
				P	Z' 0.1 0.5			
			Sk	iP	03 06 56			
			Gb	iP	03 07 17			
			Um	iP	03 06 43 D			
				ipP	03 07 50			
				Mariana Islands region h = 280 km (Ki, Um).				
"	"	18	Up	iP	04 01 17 C			
			Um	iP	04 01 09			
				India-Burma border region (h = 120 km).				
"	"	18	Up	iP	07 26 31			
			Ki	iP	07 27 34			
				South of Crete.				
"	"	18	Up	i(P)	07 57 12			
"	"	18	Up	iPKP	10 53 14 C			
				ipPKP	10 54 08			
				i	10 54 14			
				isPKP	10 54 31			
				microns sec				
				PKP	Z' 0.2 0.6			



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Dec 21 ✓ Up iP 08 53 45  
i 09 02 55  
iScS 09 03 57  
microns sec  
P Z' 0.5 1.0  
M E 20 18  
M N 21 18  
M Z 16 20  
✓ Ki iP 08 52 52  
eS 09 01 11  
microns sec  
P N 0.8 6  
P Z' 1.6 1.5  
S E 4.7 14  
M E 19 15  
M N 11 15  
M Z 20 16  
D = 6700 km = 60<sup>10</sup>/<sub>2</sub>  
✓ Sk iP 08 53 21  
✓ Gb iP 08 54 00  
✓ Um iP 08 53 18  
iS 09 01 51  
✓ Ka iP 08 54 08  
Fox Islands, Aleutian  
Islands (h = 30 km).  
Magn. = 6.6 (Up, Ki).

" 21 Um iP 08 59 18 D

" 21 Up iP 09 01 02  
Ki iP 09 00 09  
microns sec  
P Z' 0.2 1.4  
Um iP 09 00 36 C  
Fox Islands, Aleutian  
Islands (h = 30 km).

" 21 ✓ Up iP 09 11 38  
microns sec  
P Z 1.6 5  
P Z' 0.2 1.0  
✓ Ki iP 09 10 45  
iPcP 09 11 32  
microns sec  
P Z' 0.4 1.2  
✓ Sk iP 09 11 13  
✓ Gb iP 09 11 53  
✓ Um iP 09 11 11  
✓ Ka iP 09 12 00  
Fox Islands, Aleutian  
Islands (h = 30 km).  
Magn. = 6.2 (Up, Ki).

" 21 ✓ Up iP 09 20 59  
microns sec  
P N 0.7 2

1962  
Dec 21 Up P Z 1.3 3  
cont. P Z' 0.3 1.0  
✓ Ki iP 09 20 03  
i 09 20 06  
microns sec  
P Z' 1.2 1.5  
✓ Sk iP 09 20 36  
i 09 20 44  
✓ Gb iP 09 21 14  
✓ Um iP 09 20 33  
✓ Ka iP 09 21 20  
Fox Islands, Aleutian  
Islands (h = 30 km).  
Magn. = 6.6 (Up, Ki).

" 21 ✓ Up iP 09 44 17 D  
i 09 44 35  
microns sec  
P Z' 0.4 1.0  
✓ Ki iP 09 43 33 D  
i 09 43 50  
microns sec  
P Z' 0.3 1.0  
✓ Sk iP 09 44 08 D  
iPP 09 46 34  
✓ Gb iP 09 44 38 D  
✓ Um iP 09 43 53 D  
✓ Ka iP 09 44 36  
Near south coast of  
Hokkaido, Japan (h = 25 km).  
Magn. = 6.4 (Up, Ki).

" 21 Ki iP 14 50 46  
Fox Islands, Aleutian  
Islands (h = 15 km).

" 21 Ki iP 15 38 18 C  
microns sec  
P Z' 0.1 1.0  
Fox Islands, Aleutian  
Islands (h = 50 km).

" 21 Up iP 17 56 39  
i(S) 18 04 19  
Ki iP 17 57 18  
microns sec  
M E 1.8 20  
M N 1.0 16  
Sk eP 17 57 20  
Gulf of Aden (h = 25 km).

" 21 ✓ Up iP 18 33 09  
i 18 33 17  
✓ Ki iP 18 32 50 C  
Near west coast of central  
Luzon (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962	Dec	21	Up	iP	20 33 53	
"	"	21	Up	iP	20 46 44	
"	"	21	Ki	eSKS	21 51 47	
					microns sec	
			SKS	E	1.3 9	
			M	E	1.8 20	
			Near coast of central Ecuador (h = 30 km).			
"	22	Up	iPKS	01 15 02		
				microns sec		
			M	E	4.3 22	
			M	N	8.6 21	
			M	Z	6.8 21	
		Ki	ePKP	01 11 28		
			iPKS	01 14 54		
				microns sec		
			M	E	3.7 17	
			M	N	2.9 19	
			M	Z	7.7 19	
		Sk	ePKP	01 11 35		
		Gb	iPKP	01 11 46		
		Loyalty Islands region (h = 30 km). Magn. = 6.5 (Up, Ki).				
"	22	Up	iP	02 13 32 C		
				microns sec		
			M	E	3.4 18	
			M	N	2.7 18	
			M	Z	4.8 21	
		Ki	iP	02 13 27 C		
				microns sec		
			M	E	5.0 18	
			M	N	2.3 19	
			M	Z	3.5 20	
		Sk	iP	02 13 43 C		
		Um	iP	02 13 27		
			i	02 13 39		
		Near south coast of Java (h = 70 km).				
"	22	Up	iP	06 49 18		
		Near coast of Ecuador (h = 30 km).				
"	22	Up	ePg	11 07 29		
			iSn	11 07 55		
			iSg	11 08 12		
			D = 370 km = 3.3°			
		Ki	eS*	11 10 28		
			eSg*	11 10 51		
		Sk	eS*	11 10 06		
			eSg	11 10 25		

1962	Dec	22	Um	eS*	11 08 39	
	cont.			iSg	11 08 55	
				i	11 09 19	
		Baltic Sea, Finnish Gulf, 59.5° N, 24.1° E.				
		Origin time = 11 06 22.				
		Explosion?				
"	22	Up	iP	15 31 26		
			iPcP	15 31 53		
			eS	15 40 27		
			eScS	15 41 37		
			iP'P'	15 59 46		
			i	16 00 01		
				microns sec		
			P	N	0.6 2	
			P	Z	0.5 1	
			P	Z'	0.7 1.0	
			S	E	1.9 13	
			S	N	3.2 13	
			M	E	8.5 18	
			M	N	17 17	
			M	Z	11 19	
		D = 7550 km = 68°				
		Ki	iP	15 30 33		
			eS	15 38 47		
				microns sec		
			P	N	0.8 6	
			P	Z	2.4 11	
			P	Z'	1.1 1.0	
			S	E	1.5 10	
			S	N	2.0 10	
			M	E	15 18	
			M	N	8.7 15	
			M	Z	16 16	
		D = 6650 km = 60°				
		Sk	iP	15 31 03		
			iPcP	15 31 35		
		Gb	iP	15 31 41 C		
		Um	iP	15 31 00 C		
			iS	15 39 33		
		Ka	iP	15 31 45		
		Fox Islands, Aleutian Islands (h = 50 km). Magn. = 6.5 (Up, Ki).				
"	22	Ki	iP	15 38 41		
		Um	iP	15 39 08 D		
		(Aleutian Islands).				
"	23	Up	iP	00 48 13 C		
			i	00 48 17		
		Ki	eP	00 49 25		
		Sk	iP	00 48 58		
		Um	eP	00 48 54		
			i	00 49 00		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962					
Dec	23	Ka	iP	00 47 33	Dec	23	Ki	iP	19 02 41
cont.		Albania-Yugoslavia border region (h = 30 km).					Um	iP	19 03 09
							Fox Islands, Aleutian Islands (h = 30 km).		
"	23	Up	iP	06 35 31	"	23	Um	iP	19 12 10 C
			iPP	06 37 01					
		Ki	iP	06 35 36 D					
				microns sec					
			P	Z' 0.2 0.5	"	24	Up	iPKP	00 42 46 D
		Sk	ePP	06 37 37			Um	iPKP	00 42 54
		Um	iP	06 35 27 D			Sandwich Islands region (h = 30 km).		
		Hindu Kush (h = 200 km).							
"	23	Up	i(P)	08 24 33	"	24	Um	iP	03 53 32
							Near west coast of northern Honshu, Japan (h = 30 km).		
"	23	Ki	eP	08 31 22	"	24	Up	iP	10 48 50 C
		Fukien Province, China (h = 30 km).							microns sec
"	23	Gb	iP	10 18 44			M	N	2.8 9
"	23	Up	iP	10 34 20			M	Z	2.8 9
		Um	iP	10 34 08 C			Ki	iP	10 47 21
		Near east coast of Luzon (h = 50 km).					iPP	10 47 31	
"	23	Ki	iP	10 58 16			iS	10 49 32	
		Um	iP	10 58 42			D = 1400 km = 12 $\frac{10}{5}$ .		
		Fox Islands, Aleutian Islands (h = 50 km).				Sk	eP	10 48 27	
"	23	Up	eL	11 26			i	10 48 33	
				microns sec			Um	iP	10 47 42
		M	E	0.9 10			Novaya Zemlya. Atmospheric nuclear explosion.		
		M	N	2.0 10	"	24	Up	iP	11 16 21
		M	Z	2.3 10			i	11 19 55	
		Ki	eL	11 23			iS	11 20 11	
				microns sec			i(PcP)	11 20 34	
		M	N	0.9 11			iLi	11 21 35	
		Novaya Zemlya..Atmospheric nuclear explosion..					iLg2	11 22 55	
"	23	Um	iP	15 00 07 C					microns sec
"	23	Ki	iP	15 14 40			M	E	3.6 9
		Um	iP	15 15 07			M	N	7.4 9
		Fox Islands, Aleutian Islands (h = 30 km).					M	Z	7.8 10
"	23	Um	iPKP	15 54 31 D			D = 2250 km = 20 $\frac{10}{5}$ .		
			iPKP2	15 54 40			Ki	iP	11 14 51
		Off north coast of North Island, New Zealand (h = 30 km).					i	11 15 05	
							iS1	11 17 05	
							iS2	11 17 14	
							iSS	11 17 25	
							iSSS	11 17 43	
									microns sec
							P	Z'	0.1 1.0
							S2	Z'	0.2 1.3
							M	E	6.6 10
							M	N	6.4 11
							M	Z	12 11
							D = 1450 km = 13 $\frac{10}{5}$ .		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962				1962						
Dec	Day	Station	Time	Dec	Day	Station	Time			
1962 Dec cont.	24	Sk	eP	11 16 00	26	Up	iP	09 03 54		
			iS	11 19 31			i	09 04 07		
			iSS	11 19 53			iS	09 08 42		
			D = 2050 km = 18 $\frac{1}{2}$ °				microns sec			
			Gb	iP			11 16 57 C	P	Z'	0.1
		Um	iP	11 15 31 C		S	N	2.5	5	
			iPP	11 15 37		M	E	1.9	20	
			iS	11 18 22		M	N	3.0	15	
			iSS	11 18 34		D = 3000 km = 27°				
			iSSS	11 18 49		✓ Ki	iP	09 04 50		
		Ka	iLi	11 19 05		✓ Sk	iP	09 04 06		
			D = 1700 km = 15 $\frac{1}{2}$ °			✓ Gb	iP	09 03 22		
			iP	11 17 08		i	09 03 37			
			iPcP	11 20 42		iS	09 07 41			
			iSSS	11 22 52		Um	iP	09 04 25		
D = 2800 km = 25°		i	09 04 32							
Novaya Zemlya. Atmospheric nuclear explosion.				Ka	iP	09 03 40				
				Off coast of Portugal (h = 20 km). Magn. = 5.4 (Up).						
"	24	Ki	iP	12 24 12	"	26	Up	iP	22 35 48 C	
			iP	12 24 23				iS	22 44 22	
			iP	12 24 48				microns sec		
			i(P)	12 26 04 C				P	E	1.0
"	25	Up	iP	13 40 36	P	N	2.3	5		
			i	13 40 45	P	Z	2.5	3		
			microns sec		P	Z'	0.6	0.7		
			M	E	2.5	9	S	E	3.2	4
			M	N	3.9	10	S	N	1.0	3
		Ki	eP	13 39 06	M	E	13	17		
			iS	13 41 23	M	N	24	21		
			eP	13 40 14	M	Z	12	17		
			eS	13 43 44	D = 7100 km = 64°					
			Novaya Zemlya. Atmospheric nuclear explosion.				✓ Ki	iP	22 34 54 C	
"	25	Ki	iPn	14 35 43 D	iPa	22 38 17				
			iSn	14 36 31	iS	22 42 41				
			iSg	14 36 47	eScS	22 44 46				
			D = 420 km = 3.8°		microns sec					
		Um	iSg	14 38 15	P	Z'	1.2	1.0		
			Probably northwest Russia. Origin time = 14 34 42.				S	E	7.5	10
							M	E	17	17
"	25	Up	iP	18 38 36	M	N	19	20		
			Ki	iP	18 38 38	M	Z	44	21	
			Um	iP	18 38 33	D = 6200 km = 56°				
"	26	Ki	iP	05 38 39	✓ Sk	iP	22 35 29 C			
			Um	iP	05 39 05	i	22 35 41			
			Fox Islands, Aleutian Islands (h = 30 km).				✓ Gb	eP	22 36 07 C	
			Um	iP	22 35 20 C	✓ Um	iP	22 35 20 C		
				iPcP	22 36 02	iPa	22 39 06			
				iPa	22 39 06	iS	22 43 29			
			D = 6650 km = 60°				Ka	iP	22 36 11 C	



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Dec 26 Komandorskie Islands  
cont. (h = 30 km).  
Magn. = 6.7 (Up, Ki).

" 26 Up iP 23 33 59  
i 23 34 09  
microns sec  
P Z' 0.1 0.5  
Ki iP 23 34 24  
i 23 34 31  
microns sec  
P Z' 0.1 0.5  
Sk iP 23 34 30  
Gb iP 23 34 14  
Um iP 23 34 05  
iPP 23 36 01  
Ka iP 23 33 55  
Arabian Sea (h = 30 km).  
Magn. = 6.0 (Up, Ki).

" 26 Up iP 23 56 47 C  
microns sec  
P N 0.8 2  
P Z 0.6 1  
P Z' 0.3 0.5  
M E 2.1 16  
M N 3.6 22  
M Z 3.2 20  
Ki iP 23 55 53 C  
microns sec  
P Z' 0.7 1.1  
Sk iP 23 56 28  
Gb iP 23 57 06 C  
i 23 57 15  
Um iP 23 56 19 C  
i 23 56 28  
Ka iP 23 57 11 C  
i 23 57 21  
Komandorskie Islands  
(h = 30 km).  
Magn. = 6.6 (Up, Ki).

" 27 Ka iP 01 39 49  
Komandorskie Islands  
(h = 30 km).

" 27 Um iP 05 38 20

" 27 Ki iSg 06 28 30  
Um i 06 29 15  
iSg 06 29 48

" 27 Up iP 07 09 19

" 27 Up iP 18 29 54 C  
i 18 29 58

1962  
Dec 27 Up microns sec  
cont. P Z' 0.3 0.9  
M E 0.8 18  
M N 1.9 19  
M Z 2.9 18  
Ki iP 18 29 13 C  
microns sec  
P Z' 0.4 1.0  
Sk iP 18 29 47 C  
iPP 18 32 12  
Gb iP 18 30 15 C  
Um iP 18 29 31 C  
Ka iP 18 30 15 C  
Near west coast of southern  
Honshu, Japan (h = 40 km).  
Magn. = 6.4 (Up, Ki).

" 28 Ki iP 14 57 05  
i 14 57 16  
Um iP 14 57 31  
Fox Islands, Aleutian  
Islands (h = 30 km).

" 28 Up iP 15 21 04  
i 15 22 27  
Ki e 15 23 50  
Sk iP 15 23 01  
e 15 24 21  
Um iP 15 21 52  
i 15 23 13  
Two shocks with same  
epicenter?

" 28 Ki iP 20 00 29  
Um iP 20 00 49  
Off east coast of Hokkaido,  
Japan (h = 40 km).

" 28 Up i(P) 21 00 05

" 28 Up iP 21 51 20  
microns sec  
P Z' 0.1 1.2  
Sk iP 21 51 32  
Um iP 21 51 41  
Ka iP 21 50 57  
South Atlantic Ocean  
(h = 30 km).

" 28 Sk iP 23 35 34  
Mediterranean Sea  
(h = 30 km).

" 29 Up iP 04 25 46  
Ki iP 04 25 25  
i 04 29 05

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962  
Dec 29 Ki iPP 04 29 15  
cont. microns sec  
P Z' 0.1 1.0  
Sk eP 04 25 45  
iPP 04 29 47  
Um iP 04 25 30 C  
iPP 04 29 20  
eSKS 04 35 59  
ePS 04 38 02  
Halmahera region  
(h = 30 km).

" 29 Ki e(P) 06 52 20  
Local.

" 29 Up iP 08 13 09  
i 08 13 19  
iS 08 20 14  
microns sec  
S N 0.3 5  
M E 0.7 16  
M N 1.6 16  
M Z 1.2 15  
D = 5450 km = 49°.

Ki iP 08 13 32  
iPP 08 15 37  
eS 08 21 02  
e 08 21 21  
eSS 08 24 48  
microns sec  
S E 0.3 7  
M E 1.9 17  
M N 2.1 16  
M Z 1.7 14  
D = 5800 km = 52°.

Sk iP 08 13 39  
i 08 13 47  
Um iP 08 13 15  
i 08 13 26  
iPP 08 15 20  
Afghanistan (h = 30 km).  
Magn. = 5.4 (Up, Ki).

" 29 Um iP 08 49 47

" 29 Um iP 09 03 29

" 29 Up iP 10 55 13  
ePKP 10 59 34  
e 11 05 44  
eSKS 11 06 54  
e 11 08 49  
microns sec  
PKP E 0.4 3  
PKP Z 0.8 5  
M E 3.8 20

1962  
Dec 29 Up M N 2.4 20  
cont. M Z 5.2 20  
(D = 12000 km = 108°).  
Ki ePKP 10 59 51  
eSKS 11 06 21  
eS 11 07 31  
ePS 11 09 20  
microns sec  
PKP E 0.3 7  
PKP Z 0.8 5  
SKS E 0.6 9  
S N 0.7 14  
M E 4.0 20  
M N 3.1 23  
M Z 9.4 22

(D = 12200 km = 110°).  
Um iP 10 55 22  
ePKP 10 59 47  
iSKS 11 06 19  
eS 11 07 23  
ePS 11 09 12  
eSS 11 15 08  
(D = 12100 km = 109°).  
Northern Chile  
(h = 50 km).  
Magn. = 6.3 (Up, Ki).

" 29 Up ePKP 15 07 28  
i 15 07 33  
e 15 10 40  
microns sec  
M E 1.1 20  
M N 2.0 20  
M Z 1.8 19  
Ki iP 15 07 05  
ePP 15 10 13  
ePKS 15 10 45  
eSKKS 15 17 10  
eSS 15 28 40  
microns sec  
PKP Z 0.4 6  
PKS E 0.3 7  
M E 1.8 20  
M N 1.6 20  
M Z 4.2 20

(D = 15900 km = 143°).  
Sk iP 15 07 19  
i 15 07 25  
Gb iP 15 07 38  
i 15 07 47  
Um iP 15 07 14 C  
i 15 07 18  
i 15 07 30  
eSS 15 29 30

Kermadec Islands region  
(h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
 Ka = Karlskrona

1962					1962						
Dec	29	Sk	e(PKP)	15 40 37	Dec	30	Near south coast of Hokkaido, Japan (h = 90 km).				
		Um	iPKP	15 40 17	cont.						
			i	15 40 30							
		Kermadec Islands region (h = 40 km).			"	30	Up	iPKP	23 10 00		
"	29	Um	iP	17 00 15			Kermadec Islands (h = 50 km).				
"	29	Sk	ePKP	18 33 41	"	31	Ki	iSg	06 06 38		
			i	18 33 51			Um	iSn	06 07 21		
		Um	iPKP	18 33 34				iSg	06 08 01		
			i	18 34 35			Possibly northwest Russia.				
		Kermadec Islands region (h = 30 km).			"	31	Up	iP	08 10 54		
"	29	Sk	iPKP	18 39 22			ipP	08 11 04			
			ePP	18 43 02				microns sec			
		Um	iPKP	18 39 15			P	Z' 0.1 1.0			
			iPP	18 42 54			✓ Ki	iP	08 10 01		
			i	18 43 17			ipP	08 10 12			
		Kermadec Islands region (h = 30 km).						microns sec			
"	29	Um	iP	18 45 40 D			pP	Z' 0.1 1.0			
			i	18 45 48			M	E 0.7 17			
"	29	Um	iP	20 00 09			M	N 0.5 18			
"	29	Um	iP	23 22 35			M	Z 0.9 16			
"	29	Um	iP	23 22 35			✓ Sk	iP	08 10 38		
"	30	Um	iPKP	02 16 41			✓ Gb	iP	08 11 14		
		New Hebrides Islands (h = 50 km).					✓ Um	iP	08 10 26		
"	30	Up	iPKP	13 42 47			ipP	08 10 37			
		Sk	iPKP	13 42 40			Near east coast of Kamchatka (h = 50 km).				
		Um	iPKP	13 42 35			"	31	Up	iP	10 15 47
		Kermadec Islands (h = 50 km).					"	31	Up	iP	11 13 39
"	30	Um	iP	18 07 35 D				i	11 13 54		
"	30	✓ Up	iPP	18 35 58				M	N 1.0 20		
		✓ Um	e(SP)	18 45 24				microns sec			
			ePKP	18 34 41			✓ Ki	iP	11 13 35		
			epPKP	18 35 22			eS	11 24 05			
			e	18 35 31				microns sec			
		New Britain (h = 120 km).					S	N 0.3 7			
"	30	Um	i(P)	20 48 54			M	E 1.1 17			
"	30	Up	iP	22 19 36			M	N 1.0 20			
			i	22 19 40			M	Z 1.3 16			
		Ki	iP	22 18 53			D = 9500 km = 85½°				
		Um	iP	22 19 11			✓ Sk	iP	11 13 56		
			i	22 19 15			Um	iP	11 13 34		
							i	11 13 42			
"	30	Um	i(P)	20 48 54			eS	11 24 01			
"	30	Up	iP	22 19 36			eSS	11 29 39			
			i	22 19 40			Near coast of Sumatra (h = 30 km).				
		Ki	iP	22 18 53	"	31	Ki	iPg	12 08 00		
		Um	iP	22 19 11			iSg	12 08 25			
			i	22 19 15							

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå  
Ka = Karlskrona

1962

Dec 31 Um iSn 12 08 53  
cont. iSg 12 09 08

Probably Finland-Sweden  
border region.

" 31 Up iP 18 40 48  
Um eP 18 40 36  
Luzon (h = 70 km).

" 31 Up iP 21 00 34  
i 21 00 40  
Sk iP 21 00 05  
i 21 00 10  
Gb iP 21 00 37  
Um iP 21 00 14  
i 21 00 20  
Pierce County, Washington,  
U.S.A. (h = 30 km).

" 31 Up iPKP 22 04 16  
Kermadec Islands region  
(h = 240 km).

" 31 Gb iPKP 23 56 50  
Tonga Islands (h = 30 km).

Markus Båth  
April 23, 1963