

SEISMOLOGICAL DEPARTMENT
 BOX 12019
 S-750 12 UPPSALA
 SWEDEN

SEISMOLOGISKA AVDELNINGEN
 BOX 12019
 750 12 UPPSALA

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 , U M E A , U D D E H O L M
 D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

NOTE: On 6 January 1987 the coil of the vertical Galitzin pendulum at Kiruna snapped. After subsequent repairs and recalibration the instrument was again in full operation from 1 July 1987. In the time period of intermission, surface-wave magnitudes will be given from Uppsala records only, denoted M(UPP). Magnitudes derived by routine, M(UPP,KIR), i.e. mean value between Uppsala and Kiruna, will be reported again after 1 July 1987.

J A N U A R Y 1 - 31, 1987

1987				1987					
Jan.	1	UPP	iP	03 58 44.1	Jan.	3	KIR	iP	15 35 25.8
"	1	UPP	iP	06 18 13.9			UME	iP	15 35 47.5
"	1	UME	iPKP	06 25 55.4	"	3	UPP	Mx	16 42
		New Ireland region							micr sec
		(h = 55 km).					Mx	Z	10.9 18
"	1	UPP	iP	07 31 41.0			KIR	Mx	16 39
									micr sec
"	1	KIR	iP	16 39 22.7					2.6 21
		UME	iPdiff	16 39 31.3 D			Bismarck Sea (h = 5 km).		
			iPKP	16 43 44.6			M = 6.2 (UPP,KIR).		
		West Irian (h = 70 km).			"	3	UPP	Mx	17 38
"	1	UDD	iSg1	16 49 06.3					micr sec
		Off coast of southwestern					Mx	Z	12.0 17
		Norway, 61.4°N, 4.7°E.					KIR	Mx	17 32
		Origin time = 16 46 46.							micr sec
		Solution from Bergen Bulletin.					Mx	Z	3.8 23
"	3	KIR	eSg1	04 15 26			Bismarck Sea (h = 5 km).		
		UME	iSg1	04 14 50.9			M = 6.3 (UPP,KIR).		
		Coast of Norrbotten, Sweden,			"	3	KIR	iPKP	17 45 28.3
		65.2°N, 21.8°E.					UME	iPKP	17 45 34.8
		Origin time = 04 14 03.					Vanuatu Islands (h = 210 km).		
		By combination with Finnish			"	3	UPP	iP	17 56 26.1
		station readings.					UME	iP	17 56 07.3
							Bonin Islands region		
							(h = 460 km).		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987						
Jan.	3	UPP	iPKP	22 23 16.6	Jan.	4	UPP	iPKP	11 02 57.9	
				micr sec			UME	iPKP	11 02 46.9	
			Mx	Z 10.8 20			Kermadec Islands region			
		KIR	iPKP	22 23 01.0			(h = N).			
				micr sec		"	4	UPP		micr sec
			PKP	Z' 0.1 1.0				Mx	Z 3.6 22	
			Mx	Z 3.8 20			KIR	iP	13 35 57.3	
		UME	iPKP	22 23 07.6					micr sec	
		Vanuatu Islands (h = 15 km).						Mx	Z 0.9 20	
		M = 6.3 (UPP,KIR).					UME	iPdiff	13 36 05.7	
"	4	UPP	iP	00 16 37.9			Near n. coast of west Irian			
		KIR	iP	00 15 44.8			(h = 30 km).			
		UME	iP	00 16 10.6			M = 5.7 (UPP,KIR).			
		Andreanof Islands, Aleutian Is. (h = N).				"	4	UPP	iP	18 05 43.1
"	4	KIR	ePKP	00 50 24					micr sec	
		UME	iPKP	00 50 24.6				Mx	Z 7.0 25	
		Fiji Islands region					KIR	eP	18 05 38	
		(h = 560 km).							micr sec	
"	4	UPP	iPKP	00 51 34.9				P	Z' 0.4 2.0	
				micr sec				Mx	Z 1.6 21	
			PKP	Z' 0.1 1.0			UME	iP	18 05 41.6	
		UME	iPKP	00 51 24.2				ipP	18 05 44.8	
		South of Panama (h = 10 km).					M = 5.7 (UPP,KIR).			
"	4	UME	iP	00 53 10.1		"	5	UPP	iP	12 22 51.8
"	4	UPP	iPKP1	01 58 28.0				ipP	12 22 57.7	
		UME	iPKP	01 58 16.7				iS	12 31 50	
		Kermadec Islands region							micr sec	
		(h = N).						P	Z' 0.2 1.1	
"	4	UPP	iPKP1	02 15 54.2				pP	Z' 0.5 1.0	
		Kermadec Islands region						Mx	Z 64.6 21	
		(h = N).					KIR	iP	12 22 58.6	
"	4	KIR	iPKP	02 19 41.0				ipP	12 23 04.1	
		Vanuatu Islands (h = N).						i	12 23 51.3	
"	4	KIR	iPKP	07 24 16.1					micr sec	
		South Sandwich Islands region						P	Z' 0.3 1.1	
		(h = 140 km).						pP	Z' 0.9 1.1	
"	4	UPP	iP	10 31 30.1 D				Mx	Z 11.8 18	
			iPcP	10 32 00.0			UME	iP	12 22 24.2	
				micr sec				ipP	12 22 31.0	
			P	Z' 0.2 1.0			Fox Islands, Aleutian Islands.			
		KIR	iP	10 30 42.2 D			h = 20 km (UPP,KIR,UME).			
				micr sec			m = 6.7, M = 6.5 (UPP,KIR).			
			P	Z' 0.4 0.8		"	5	UPP	iPKP	21 10 42.2
		UME	iP	10 31 04.1 D				KIR	iPKP	21 10 28.3
			iPcP	10 31 43.8				UME	iPKP	21 10 34.6
		Northwest of Kuril Islands					Vanuatu Islands (h = 130 km).			
		(h = 490 km).							micr sec	
		m = 5.7 (UPP,KIR).				"	5	UPP	iP	23 00 39.0 C
								ipP	23 00 45.2	
									micr sec	
								P	Z' 0.3 1.0	
								Mx	Z 23.9 11	

(cont.)

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1987			1987							
Jan.	5	(cont.)				Jan.	7	KIR	iP	02 33 51.6
		KIR	iP	23 00 30.3 C				UME	iP	02 34 18.8
			ipP	23 00 36.1				Fox Islands, Aleutian Islands (h = N).		
			iPP	23 02 04.9						
				micr sec			"	7	UME	iPKP1 06 32 19.4
			P	Z' 0.7 1.0				South of Kermadec Islands (h = N).		
			Mx	Z 3.2 8			"	7	KIR	eP 08 36 24
		UME	iP	23 00 28.6 C					UME	iP 08 36 15.8
		Southern Xinjiang, China.						Tajik SSR (h = 140 km).		
		h = 20 km (UPP,KIR).					"	7	UPP	iP 18 29 06.7 C
		m = 6.2 (UPP,KIR).							iS	18 37 14
"	6	KIR	iPn	04 46 40.7		"	7			micr sec
			iSn	04 48 11.7					P	Z' 0.1 1.1
			i	04 48 30.0					Mx	Z 2.2 14
		UME	iSn	04 48 24.7				KIR	iP	18 28 46.6 C
			i	04 48 44.7						micr sec
		UDD	iPn	04 46 42.8					P	Z' 0.1 1.1
			iSn	04 48 11.0				UME	iP	18 28 51.5 C
		MYV	iSn	04 47 36.2				Gansu Province, China (h = N).		
			i	04 47 49.4				m = 5.8 (UPP,KIR), M = 5.3 (UPP).		
		Norwegian Sea, near $65\frac{3}{4}^{\circ}\text{N}$, 0°E .					"	6	UPP	iP 05 19 33.5 C
		Origin time = 04 44 39.								micr sec
		M_L (UPP) = 3.5 1.					"	7	UME	iP 21 14 01.0
"	6	UPP	iP	05 19 33.5 C			"	8	UME	iP 02 03 52.3
				micr sec				Yugoslavia (h = N).		
			P	Z' 0.2 0.9			"	8	UPP	iP 13 30 19.6
			Mx	Z 7.3 17			"	8	UME	iP 18 05 09.8
		KIR	iP	05 19 09.9 C				Yugoslavia (h = 20 km).		
				micr sec			"	8	UME	iPKP 20 07 26.8
			P	Z' 0.2 0.8				New Ireland region (h = 45 km).		
		UME	iP	05 19 18.1 C			"	8	UME	iP 23 16 32.8
		Taiwan (h = 40 km).						Near east coast of Honshu, Japan (h = 70 km).		
		m = 6.1 (UPP,KIR), M = 6.0 (UPP).					"	9	KIR	iPKP 00 09 39.0
"	6	KIR	eP	15 21 19				Kermadec Islands region (h = N).		
		UME	iP	15 21 30.0			"	9	UPP	iP 01 10 43.1
		Mariana Islands (h = 90 km).							KIR	iP 01 10 33.3
"	6	UME	iP	20 53 23.2				India-China border region (h = N).		
		Luzon Philippine Islands (h = 10 km).					"	9	UPP	iP 06 25 52.5
"	7	UPP	iP	00 43 55.9					i	06 25 55.3
			i	00 45 15.5					iS	06 34 57
				micr sec					i	06 39 13
			Mx	Z 2.1 8				(cont.)		
		KIR	iP	00 45 14.1						
		UME	iP	00 44 36.9						
			ipP	00 44 40.5						
			i	00 45 59.1						
		Greece-Albania border region (h = 15 km).								

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1987				1987			
Jan.	9	(cont.)		Jan.	11	KIR iP	06 48 30.2
		UPP	micr sec			UME iP	06 48 32.4
		P	Z' 0.6 1.0			North Atlantic Ocean	
		i	Z' 1.0 1.0			(h = 10 km).	
		Mx	Z 21.1 16				
		KIR iP	06 25 11.1	"	11	UME iP	12 38 57.0
		i	06 25 14.3			Southern Iran (h = 10 km).	
		iS	06 33 40.4				
			micr sec				
		P	Z' 1.0 1.4	"	12	UME iP	19 05 59.0
		i	Z' 2.2 1.4			Southeast of Shikoku, Japan	
		UME iS	06 34 15.0			(h = 10 km).	
		Honshu, Japan (h = 70 km).		"	13	UPP iP	00 42 08.0
		m = 6.8 (UPP,KIR), M = 6.4					
		(UPP).		"	13	UME iPKP	06 41 21.9
		Double P, small and large,				South Sandwich Islands	
		in average 3.0 s apart.				region (h = N).	
"	9	KIR iP	06 40 31.9	"	13	UPP iP	06 58 55.8
		UME iP	06 40 50.0			UME iP	06 59 20.5
		Honshu, Japan (h = 80 km).				i	06 59 26.5
"	9	UPP	micr sec			Ascension Island region	
		Mx	Z 17.7 23			(h = 10 km).	
		KIR iPKP	08 20 45.8	"	13	KIR iPKP	08 21 50.7
		UME iPKP	08 20 48.3			UME iPKP	08 21 54.2
		Fiji Islands region (h = N).				Vanuatu Islands (h = 55 km).	
		M = 6.6 (UPP).		"	13	UPP iPKP1	11 14 54.8
"	9	UPP iP	17 51 41.1				micr sec
		KIR iP	17 50 59.9			PKP1	0.1 0.9
		ipP	17 51 17.5			KIR iPKP	11 14 40.9
		UME iP	17 51 17.9			UME iPKP1	11 14 42.2
		ipP	17 51 35.8			Kermadec Islands (h = 60 km).	
		Honshu, Japan.		"	13	KIR iP	13 36 55.0
		h = 70 km (KIR,UME).				i	13 37 26.8
"	10	KIR iP	04 59 48.7			UME iP	13 35 55.7
		Mindanao, Philippine Islands				i	13 35 59.9
		(h = 60 km).				i	13 36 29.3
						South of Panama (h = 10 km).	
"	10	KIR iP	05 42 29.7	"	13	UME iP	15 29 30.0
		iS	05 43 44.3			Ascension Island region	
		UME iP	05 43 17.4			(h = 10 km).	
		Greenland Sea (h = 10 km).		"	13	UME iP	16 08 43.6
"	10	UME iP	10 17 48.6			Ascension Island region	
		Southeastern Uzbek SSR				(h = 10 km).	
		(h = N).		"	13	UME iP	16 55 31.9
"	10	KIR iP	13 15 34.4			i	16 55 37.8
		Southern Iran (h = N).				Ascension Island region	
"	10	KIR iP	15 10 37.7			(h = 10 km).	
		Cyprus (h = 35 km).		"	13	UME iP	19 43 11.5
"	10	UPP iP	17 01 36.9			South of Panama (h = 10 km).	
		Southern Greece (h = 25 km).					

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1987				1987			
Jan.	13	UME iP	20 07 31.1	Jan.	15	UPP iP	19 53 32.3
		Near east coast of Honshu, Japan (h = 80 km).				KIR iP	19 53 09.8
						UME iP	19 53 17.7
"	13	UME iPKP	20 40 46.0	"	15	Taiwan (h = 20 km).	
		Tonga Islands (h = 290 km).				UME iP	22 52 04.9
"	13	UME iP	21 09 05.2			Fox Islands, Aleutian Is. (h = N).	
		i	21 09 09.5	"	16	UPP iP	00 16 28.6
		Ascension Island region (h = 10 km).				Andreanof Islands, Aleutian Is. (h = N).	
"	13	UPP iP	23 15 03.7	"	16	UPP eP	02 55 23
		P	Z' 0.1 1.1			UME iP	02 55 03.9
		KIR iP	23 14 08.7			i	02 55 12.4
		UME iP	23 14 34.8			South of Honshu, Japan (h = 80 km).	
		Near east coast of Kamchatka (h = N).		"	16	UPP iP	05 23 48.4 C
"	14	UME iP	06 56 28.0			i	05 24 00.6
		North of Ascension Island (h = 10 km).				KIR iP	05 23 04.4
"	14	UME iPKP1	09 58 50.1			UME iP	05 23 24.0 C
		Easter Island Cordillera (h = 10 km).				Hokkaido, Japan region (h = 55 km).	
"	14	UPP iP	11 14 39.7 C	"	16	KIR iPKP	15 33 49.6
		iPP	11 17 10			UME iPKP	15 33 41.4
		iS	11 23 32			South of Africa (h = 10 km).	
		eP'P'	11 42 44	"	16	UPP iP	17 31 06.2
			micr sec	"	16	UME iP	19 50 51.1
		P	Z' 1.5 0.9			Zaire Republic (h = 10 km).	
		KIR iP	11 14 56.2 C	"	16	UME iP	21 48 46.2
			micr sec			Philippine Islands region (h = 50 km).	
		P	Z' 3.3 1.0	"	17	UPP iP	10 15 14.5
		UME iP	11 14 15.5 C			KIR iP	10 15 33.4 D
		iP'P'	11 42 52.6			UME iP	10 14 51.5 D
		Hokkaido, Japan region (h = 100 km).				Honshu, Japan (h = 80 km).	
		m = 7.1 (UPP,KIR).		"	17	UPP iP	11 52 16.4
"	14	UME iP	14 51 38.1	"	17	UME iP	13 45 31.9
		Fox Islands, Aleutian Islands (h = N).		"	18	UPP iP	13 11 24.5
"	15	UPP iPKP	08 30 15.9			KIR iP	13 11 33.3
		UME iPKP	08 29 57.6			UME iP	13 11 22.2
"	15	UPP iP	11 25 17.1			Afghanistan-USSR border region (h = 100 km).	
		KIR iP	11 26 17.2	"	19	UPP iP	00 32 35.8
			micr sec			UME iP	00 32 51.8
		P	Z' 0.1 0.7			Eastern Gulf of Aden (h = 10 km).	
		UME iP	11 25 43.8				
		Cyprus (h = 35 km).					

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1987				1987			
Jan.	19	UPP	iPn	04 09 25.4	Jan.	19	(cont.)
			iSn	04 10 41.5			UME iP 21 33 46.4
			iSg1	04 11 33.1			Komandorsky Islands region
		UDD	iSn	04 10 06.5			(h = N).
		DEL	iPn	04 08 38.6	"	20	KIR iP 00 04 36.0
			iPg1	04 08 45.0			UME iP 00 04 33.0
		North Sea, near 55 1/4°N,					Southern Sumatera (h = 25 km).
		6 1/2°E.					
		Origin time = 04 07 38.					
"	19	UPP	iP	04 23 28.7	"	20	UPP iP 04 11 29.8
		UME	iP	04 23 03.5			UME iP 04 11 34.4
		Kuril Islands (h = 50 km).					Northern Colombia (h = 45 km).
"	19	UPP	iP	06 58 03.1	"	20	KIR iPg1 06 06 40.9
			ipP	06 58 15.8			iSg1 06 06 45.5
			micr sec				UME iSg1 06 08 39.2
		P	Z' 0.1 1.2				Lappland, Sweden, 67.8°N,
		KIR	iP	06 57 08.3			19.5°E.
			ipP	06 57 21.0			Origin time = 06 06 35.
			micr sec				M _L (UPP) = 2.3 1.
		P	Z' 0.1 1.0				By combination with Finnish
		UME	iP	06 57 32.4			station readings.
			ipP	06 57 47.1	"	20	UPP iP 06 29 22.7
		Off east coast of Kamchatka.					UME iP 06 29 36.9
		h = 45 km (UPP,KIR,UME).					Iran (h = N).
		m = 5.8 (UPP,KIR).					
"	19	UPP	iP	07 55 46.7 C	"	20	KIR iPKP 16 11 34.6
			micr sec				UME iPKP 16 11 40.8
		P	Z' 0.1 0.6				Vanuatu Islands (h = 190 km).
		KIR	iP	07 55 47.0 C	"	20	UPP iP 23 47 21.7
			micr sec				KIR iP 23 46 37.1
		P	Z' 0.1 0.6				UME iP 23 46 59.2
		UME	iP	07 55 41.8 C			Near east coast of Honshu,
		Nepal (h = N).					Japan (h = 70 km).
		m = 6.0 (UPP,KIR).					
"	19	UPP	iP	08 21 23.6	"	20	UPP iP 23 54 52.4
		KIR	iP	08 21 29.6			micr sec
		UME	iP	08 21 23.6			P Z' 0.1 0.9
		Nepal (h = N).					KIR iP 23 53 58.8
							UME iP 23 54 25.3
"	19	KIR	iPn	10 32 07.3			Andreanof Islands, Aleutian
			iSn	10 33 36.2			Is. (h = N).
		UME	iSn	10 35 19.9	"	21	UPP eP 01 21 57
		UDD	iPn	10 33 55.2			KIR iP 01 21 23.4
		Barents Sea, near 76 1/2°N,					UME iP 01 21 38.3
		23°E.					Bonin Islands region (h = N).
		Origin time = 10 30 06.					
"	19	UPP	iPKP1	20 00 12.0	"	21	UME iPdiff 02 05 15.0
		UME	iPKP1	20 00 00.6			Banda Sea (h = 55 km).
		Kermadec Islands					
		(h = 90 km).		"	21	UPP iP 11 39 17.5	
						micr sec	
		UPP	iP	21 34 16.1			P Z' 0.1 0.8
		KIR	eP	21 33 23			(cont.)
		(cont.)					

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1987		1987	
Jan.	21	(cont.) KIR iP 11 38 48.2 micr sec P Z' 0.1 0.6 UME iP 11 39 00.5 Mariana Islands (h = 120 km). m = 5.9 (UPP,KIR).	Jan. 23 KIR iP 05 05 11.0 UME iP 05 05 38.2 Fox Islands, Aleutian Islands (h = N).
"	21	UME iPKP1 15 39 30.9 South of Kermadec Islands (h = N).	" 23 UPP iP 18 04 36.4 micr sec Mx Z 0.5 28 KIR iP 18 04 22.1 micr sec P Z' 0.1 1.0 UME iP 18 04 26.1 Molucca Passage (h = 70 km). M = 5.4 (UPP).
"	21	UPP iP 20 07 42.1 Iran-Iraq border region (h = 55 km).	" 23 UPP iP 21 31 14.1 KIR iP 21 30 48.3 UME iP 21 30 58.4 Mariana Islands (h = 160 km).
"	21	UME iP 23 28 25.2 Volcano Islands region (h = 45 km).	" 24 UPP iP 08 17 06.2 i 08 17 07.9 ipP 08 17 14.4 iPP 08 18 36 i 08 22 50 micr sec i Z' 0.7 0.9 Mx Z 52.1 7 KIR iP 08 16 59.6 i 08 17 01.9 micr sec i Z' 0.7 0.7 UME iP 08 16 57.1 i 08 16 58.4 ipP 08 17 04.7 Kirghiz-Xinjiang border region. h = 30 km (UPP,UME). m = 6.4 (UPP,KIR).
"	22	UPP iP 01 44 04.8 UME iP 01 44 02.1 Southern Sumatera (h = 40 km).	" 24 KIR iP 08 20 53.9 micr sec P Z' 0.2 0.5 Kirghiz-Xinjiang border region (h = 30 km).
"	22	UPP iP 05 59 30.5 UME iP 05 59 11.3 South of Honshu, Japan (h = 40 km).	" 24 UPP iP 08 53 31.3 KIR iP 08 53 25.9 Kirghiz-Xinjiang border region (h = N).
"	22	UPP iP 12 26 43.6 C micr sec P Z' 0.1 0.8 KIR iP 12 25 59.1 C micr sec P Z' 0.1 0.7 UME iP 12 26 19.2 C Kuril Islands (h = 70 km). m = 5.9 (UPP,KIR).	" 24 UPP iP 08 56 17.4 KIR iP 08 56 11.7 Kirghiz-Xinjiang border region (h = N).
"	22	UPP iPKP1 14 26 57.3 iPKP2 14 27 04.2 micr sec PKP2 0.1 0.6 KIR iPKP 14 26 41.3 UME iPKP1 14 26 47.4 Kermadec Islands region (h = 400 km).	" 24 UPP iP 09 07 20.5 Kirghiz-Xinjiang border region (h = N).
"	22	UME iP 20 27 29.2 Philippine Islands region (h = 35 km).	
"	23	UME iP 02 03 24.5 Fox Islands, Aleutian Islands (h = N).	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Jan.	24	UPP iP UME iP India-China border region (h = 25 km).	10 44 25.3 10 44 17.0	Jan.	26	UPP iP KIR iP UME iP Algeria (h = 10 km).	11 17 17.2 11 18 24.6 11 17 54.8
"	24	UME iPKP1 South of Kermadec Islands (h = 480 km).	13 03 32.5	"	27	UPP iP KIR iP UME iP Hokkaido, Japan region (h = 70 km).	00 36 15.4 00 35 33.4 00 35 52.5
"	24	UPP iP KIR eP UME iP Carlsberg Ridge (h = 10 km).	13 24 07.8 13 24 38 13 24 19.2	"	27	UPP iP KIR iP UME iP Arabian Sea (h = 10 km).	00 45 45.1 00 46 21.0 00 45 59.3
"	24	UPP iP P Z' 0.2 1.0 KIR iP micr sec P Z' 0.1 0.6 UME iP Kirghiz-Xinjiang border region (h = N). m = 5.8 (UPP,KIR).	13 48 25.1 13 48 18.9 13 48 16.1	"	27	UPP iP KIR eP UME iP i Near east coast of Honshu, Japan (h = 60 km).	01 42 08.8 01 42 30 01 41 47.8 01 41 51.7
"	24	UPP iP KIR iP i UME iP i Carlsberg Ridge (h = N).	13 53 30.8 13 53 58.6 13 54 05.7 13 53 41.2 13 53 50.0	"	27	UPP iP UME iP Carlsberg Ridge (h = 10 km).	09 36 44.4 09 37 03.0
"	24	UPP iP UME iP Carlsberg Ridge (h = 10 km).	14 37 23.7 14 37 32.3	"	27	UME iPKP1 South of Kermadec islands (h = N).	18 28 37.7
"	24	UME iP Kodiak Island region (h = N).	18 41 17.5 19 22 29.1	"	27	UPP iP Carlsberg Ridge (h = 10 km).	23 49 22.6
"	24	UPP iP KIR iP iS UME iP iS Norwegian Sea (h = 10 km).	02 00 37.4 01 59 09.6 02 00 10.1 01 59 52.8 02 01 22.4	"	28	UME iP Southern Italy (h = 10 km).	05 38 28.1
"	24	KIR iP Kodiak Island region (h = N).	19 22 29.1	"	28	UPP iP KIR iP UME iP Mindanao, Philippine Islands (h = 50 km).	09 20 58.9 09 20 40.5 09 20 47.0
"	25	UPP iP KIR iP iS UME iP iS Norwegian Sea (h = 10 km).	02 00 37.4 01 59 09.6 02 00 10.1 01 59 52.8 02 01 22.4	"	28	UPP iP i KIR iP UME iP i Mongolia (h = N).	12 20 44.1 12 20 47.7 12 20 20.1 12 20 26.5 12 20 29.8
"	25	UME iP i Svalbard region (h = 10 km).	03 16 46.9 03 16 56.0	"	28	KIR iPKP2 Balleny Islands region (h = 10 km).	20 35 11.4
"	25	UME iPKP Fiji Islands region (h = 580 km).	04 58 17.6				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Jan.	28	UPP iP	23 37 29.2 C	Jan.	31	UME iPKP	02 40 09.7
		KIR iP	23 37 00.5 C			South Sandwich Islands region (h = 30 km).	
			micr sec				
		P Z'	0.2 1.0				
		UME iP	23 37 13.2 C	"	31	UPP iPKP	04 59 11.6
		Mariana Islands region (h = 60 km).				UME iPKP	04 59 20.8
						South Sandwich Islands region (h = N).	
"	29	UME iPKP	00 29 34.3	"	31	UME iPKP	06 44 26.0
		Santa Cruz Islands (h = 240 km).				Fiji Islands region (h = 590 km).	
"	29	UPP eP	02 57 19	"	31	UME iPKP	09 02 47.9
			micr sec			South Sandwich Islands region (h = 30 km).	
		Mx Z	5.5 26				
		KIR iP	02 57 03.7	"	31	UPP iPKP1	10 50 33.6
			micr sec			Kermadec Islands region (h = N).	
		P Z'	0.3 1.5				
		UME iP	02 57 08.8	"	31	UME iP	13 29 04.5
		Molucca Passage (h = 50 km). M = 5.8 (UPP).				Off east coast of Honshu, Japan (h = N).	
"	29	UPP iSg1	04 37 15.0	"	31	UME iPKP1	14 42 19.1
		UDD iSg1	04 36 17.7			South of Kermadec Islands (h = N).	
		MYV iSg1	04 35 57.2				
		Off coast of southwestern Norway, 62.9°N, 5.4°E. Origin time = 04 34 33. M _L (UPP) = 2.7 1. Solution from Bergen bulletin.					
"	29	UME iP	21 09 32.8				
		Near coast of Chiapas, Mexico (h = N).					
"	30	UME iPKP1	11 31 57.6				
		North Island, New Zealand (h = 100 km).					
"	30	UPP iPKP	22 48 35.4				
		i	22 52 13.3				
			micr sec				
		PKP Z'	0.2 0.7				
		Mx Z	27.7 17				
		KIR iPKP	22 48 50.7				
		iSKP1	22 52 17.9				
			micr sec				
		PKP Z'	0.2 1.0				
		UME iPKP	22 48 42.4				
		i	22 48 47.0				
		iSKP1	22 52 05.3				
		South Sandwich Islands region (h = 50 km). M = 6.9 (UPP).					
"	31	UME iPKP	02 08 16.1				
		South Sandwich Islands region (h = 30 km).					

August 23, 1988

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SEISMOLOGICAL BULLETIN

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

F E B R U A R Y 1 - 28, 1987

1987					1987				
Feb.	1	UPP	iP	04 21 52.0	Feb.	1	UPP	iP	18 39 05.2
		KIR	iP	04 20 57.9				ipP	18 39 47.3
		UME	iP	04 21 25.7			KIR	iP	18 38 52.3
		Near east coast of Kamchatka (h = 160 km).						ipP	18 39 35.1
									micr sec
								P	Z' 0.1 1.1
"	1	UPP	iPg1	05 31 50.6			UME	iP	18 39 01.6
			iSg1	05 31 56.1				ipP	18 39 44.4
			iRg	05 31 57.0			Chipas, Mexico. h = 175 km (UPP,KIR,UME).		
		UDD	iSg1	05 32 50.3					
		Uppland, Sweden, 60.1°N, 17.5°E. Rockburst at the Dannemora iron ore mine.			"	1	UPP	iP	20 33 56.0
							KIR	iP	20 33 35.4
							UME	iP	20 33 42.9
							Philippine Islands region (h = 40 km).		
"	1	UPP	iP	05 40 30.5	"	2	UPP	iPKP	03 46 59.8
		KIR	iP	05 41 43.2			UME	ePKP	03 47 45
		UME	iP	05 41 07.7					
		Southern Greece (h = 35 km).							
"	1	UPP	iP	07 06 48.3	"	2	UPP	iP	04 21 40.9
		KIR	iP	07 07 32.2			Crete (h = 70 km).		
		UME	iP	07 07 13.1					
		North of Ascension Island (h = 10 km).			"	2	UPP	iP	04 52 00.4
"	1	UPP	iP	09 20 01.8	"	2	UPP	iP	16 13 37.6
		KIR	iP	09 19 37.4			UME	eP	16 14 16
		UME	eP	09 19 46			Sicily (h = N).		
		Taiwan region (h = 40 km).			"	2	UPP	iP	19 34 51.6
"	1	UPP	iPn	12 38 07.3			KIR	iP	19 34 33.2
		UDD	iPn	12 37 46.0			Near coast of Guerrero, Mexico (h = N).		
			iSg1	12 38 45.3					
		DEL	iSn	12 38 07.2	"	2	UPP	iP	19 42 46.1
		Jylland, Denmark near 57°N, 8 1/2°E. Origin time = 12 36 44.					Off east coast of Kamchatka (h = N).		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Feb.	3	UME	iP	00 34 49.8	Feb.	5	UPP	iP	14 56 31.1
				Off coast of central America			KIR	eP	14 56 31
				(h = 65 km).			UME	iP	14 56 26.9
									Southern Sumatera (h = 70 km).
"	3	UPP	iPKP2	00 47 02.1	"	6	KIR	iSn	00 48 30.6
		UME	iPKP1	00 46 42.4					North-central Finland, 67.3°N,
			i	00 46 54.5					26.5°N.
				South Kermadec Islands					Origin time = 00 47 23.
				(h = 70 km).					Solution from Finnish station
"	3	UPP	iP	06 55 35.3	"	6	UPP	iP	12 35 14.4
				micr sec				iS	12 44 40
			P	Z' 0.1 1.0					micr sec
		UME	iP	06 55 08.8				P	Z' 0.6 1.1
				Kuril Islands (h = N).				Mx	Z 23.4 17
"	3	UPP	iPKP	17 01 31.3			KIR	iP	12 34 35.1
				micr sec				ipP	12 34 47.0
			Mx	Z 1.2 18					micr sec
		KIR	iPKP	17 01 39.8				P	Z' 0.5 1.0
		UME	iPKP	17 01 37.2			UME	iP	12 34 52.4
				Central Chile (h = 30 km).				ipP	12 35 04.8
				M = 5.5 (UPP).					Near east coast of Honshu,
"	4	UPP	iSn	12 05 27.0					Japan.
			iSg1	12 06 04.2					h = 40 km (KIR,UME).
		KIR	iSg1	12 07 12.1					m = 6.5 (UPP,KIR), M = 6.4
		UME	iSn	12 05 45.9					(UPP).
			iSg1	12 06 30.4	"	6	UPP	iP1	13 27 40.8
		UDD	iPn	12 03 48.7				iP2	13 27 43.6
			i	12 04 05.8				iS	13 37 04
			iSn	12 04 41.1					micr sec
			iSg1	12 05 01.2				P2	Z' 1.5 1.2
			i	12 05 09.0				Mx	Z 89.5 18
		DEL	iPn	12 04 28.3			KIR	iP	13 26 04.0
			iSn	12 05 39.9				ipP	13 26 16.1
			iSg1	12 06 22.3					micr sec
		MYV	iPn	12 03 50.4				P	Z' 0.9 1.1
			iPg1	12 04 03.2			UME	iP	13 27 21.6
			i	12 04 09.6				ipP	13 27 33.1
			iSg1	12 05 01.2					Near east coast of Honshu,
				Near western coast of Norway,					Japan.
				near 62°N, 5°E.					h = 40 km (KIR,UME).
				Origin time = 12 02 38.					m = 6.8 (UPP,KIR), M = 7.0
				M _L (UPP) = 3.8 (0.18) 6.					(UPP).
				Felt.	"	7	UPP	eP	00 01 33
"	4	UPP	iP	12 27 03.4			UME	iP	00 01 09.9
		KIR	ipP	12 26 57.7					Near east coast of Honshu,
		UME	iP	12 26 53.9					Japan (h = N).
				Taiwan (h = 70 km).	"	7	UPP	eP	03 57 25
"	4	UPP	iPKP1	16 26 29.1			UME	iP	03 57 14.4
		UME	iPKP1	16 26 20.7					California-Mexico border
				South of Kermadec Islands					region (h = 5 km).
				(h = 60 km).					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Feb.	7	UPP iP UME iP Burma-India border region (h = 80 km).	04 49 57.8 04 49 51.0	Feb.	9	UPP Mx Mx Z East Papua New Guinea region (h = 45 km). M = 5.6 (UPP).	19 25 micr sec 1.9 20
"	7	KIR iPKP2 UME iPKP2 Macquarie Islands region (h = N).	11 06 57.2 11 06 57.6	"	9	UME iP South of Mariana Islands (h = 110 km).	22 55 57.9
"	7	UME iP Fox Islands, Aleutian Islands (h = N).	12 39 31.3	"	10	UPP iPKP PKP Z' KIR iPKP iSKP1 PKP Z' UME iPKP1 i Fiji Islands region (h = 400 km).	01 17 55.7 micr sec 0.1 0.8 01 17 51.8 01 20 39.3 micr sec 0.3 1.2 01 17 48.3 01 17 58.1
"	7	UPP Mx Mx Z East Papua New Guinea region (h = 15 km). M = 6.0 (UPP).	13 08 micr sec 9.2 18	"	10	UPP iP UPP iP UPP iPKP1 UME ePKP Kermadec Islands region (h = 45 km).	01 29 47.6 02 28 53.0 02 28 45
"	7	UPP iP P Z' KIR iP ipP P Z' UME iP ipP Southern Sumatera. h = 65 km (KIR,UME). m = 6.3 (UPP,KIR).	15 37 25.2 micr sec 0.1 1.0 15 37 24.7 15 37 43.0 micr sec 0.2 1.0 15 37 22.6 15 37 40.5	"	10	UPP iP i KIR iP i i UME iP i i Off coast of Hokkaido, Japan (h = 40 km).	06 06 29.7 06 06 33.4 06 05 45.6 06 05 48.2 06 06 05.1 06 06 05.2 06 06 08.6 06 06 24.6
"	7	KIR iP UME iP Kuril Islands (h = 150 km).	18 18 22.3 18 18 44.1	"	10	UPP iP KIR iP Mindanao, Philippine Islands (h = N).	08 38 13.3 08 37 55.7
"	8	UPP eP Mx Z KIR iP ipP UME iP Molucca Passage (h = 15 km). M = 5.7 (UPP).	18 02 25 micr sec 4.1 29 18 02 08.6 18 02 14.8 18 02 13.2	"	10	UPP iP UME iP Southwestern Ryukyu Islands (h = 30 km).	12 27 52.8 12 27 35.7
"	8	KIR iP UME iP	18 48 25.8 18 48 33.2	"	10	UPP iPKP i South of Fiji Islands (h = 560 km).	13 19 03.9 13 19 14.8
"	8	UPP ePKP Mx Z KIR ePKP UME ePKP East Papua New Guinea region (h = 55 km). M = 7.4 (UPP).	18 52 58 micr sec 177 28 18 51 33 18 52 32	"	10	UME iP Ryukyu Islands (h = N).	14 12 20.1

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Feb.	10	UME	iP	16 17 00.5	Feb.	11	KIR iP	20 13 09.4	
"	10	UPP eP		16 35 27			UME iP	20 13 09.5	
		UME iP		16 35 05.5			South of Fiji Islands		
				Off east coast of Honshu,				(h = 520 km).	
				Japan (h = 40 km).		"	12	UPP ePKP1	05 21 11
"	10	UPP eP		17 34 34			UME ePKP	05 21 03	
		i		17 34 40.4			Kermadec Islands region		
		KIR eP		17 33 58				(h = 110 km).	
		UME iP		17 34 17.7	"	12	UPP eP	07 03 15	
				East China Sea (h = 25 km).			KIR iP	07 02 22.9	
"	10	UME iP		18 02 48.5			UME iP	07 02 50.7	
				Honshu, Japan (h = 70 km).			Alaska Peninsula (h = N).		
"	11	UPP iP		06 25 02.4	"	12	UPP iP	09 38 23.3	
				micr sec			Rat Islands, Aleutian Islands		
		P	Z'	0.1 0.8				(h = N).	
		Mx	Z	8.1 16	"	12	UME iP	13 34 47.5	
		KIR iP		06 24 42.8			Near east coast of Honshu,		
				micr sec			Japan (h = 60 km).		
		P	Z'	0.2 1.0	"	12	UPP iP	15 51 31.3	
		UME iP		06 24 49.6			UME iP	15 51 06.7	
				Luzon, Philippine Islands			Hokkaido, Japan region		
				(h = 25 km).				(h = 330 km).	
				m = 6.0 (UPP,KIR), M = 6.1					
				(UPP).		"	12	UPP iP	16 45 33.5
"	11	UPP iP		08 15 22.6			UME iP	16 45 15.7	
		iSKP1		08 18 47.0			Near S. coast of Honshu,		
				micr sec			Japan (h = 100 km).		
		PKP	Z'	0.1 1.0	"	13	UPP iP	07 32 06.0	
		Mx	Z	12.9 22				micr sec	
		KIR iP		08 15 08.9			Mx	Z 23.6 24	
				micr sec			KIR iP	07 31 49.4	
		PKP	Z	0.3 0.8				micr sec	
		UME iP		08 05 15.0			P	Z' 0.5 1.4	
				Vanuatu Islands (h = 25 km).			UME iP	07 31 54.5	
				M = 6.5 (UPP).			Molucca Passage (h = 30 km).		
"	11	UPP iP		17 52 35.3			M = 6.5 (UPP).		
		iPP		17 55 03.9	"	13	UPP iP	10 13 03.2	
		iS		18 00 35.4				micr sec	
				micr sec			P	Z' 0.1 0.8	
		P	Z'	0.2 0.9			KIE iP	10 12 24.8	
		KIR iP		17 51 56.6			UME iP	10 12 41.7	
		iPP		17 54 13.6			Near east coast of Honshu,		
		iS		17 59 20.4			Japan (h = 65 km).		
				micr sec	"	13	UPP iP	14 02 37.4	
		P	Z'	0.6 0.7				micr sec	
		UME iP		17 52 13.5			Mx	Z 3.8 16	
		iS		17 59 54.5			KIR eP	14 03 56	
				Near E. coast of Eastern			UME iP	14 03 19.2	
				USSR (h = 500 km).			Albania (h = 15 km).		
				m = 5.9 (UPP,KIR).			M = 4.7 (UPP).		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Feb.	14	UPP	iPKP	06 53 35.0	Feb.	15	UME	iP	17 41 03.5
			iSKP1	06 56 40.3					
		KIR	iPKP	06 53 21.8	"	15	UPP	iP	17 59 16.3
				micr sec			Near east coast of Kamchatka (h = N).		
			PKP	Z' 0.2 1.0					
		UME	iPKP	06 53 27.7	"	15	UPP	iP	19 36 45.3
		Vanuatu Islands (h = 120 km).					KIR	iP	19 36 39.2
"	14	UME	iP	07 38 34.7			UME	iP	19 36 37.8
		Central California (h = 15 km).					Burma-India border region (h = 110 km).		
"	14	UPP	iSKP1	13 59 21.0	"	15	UPP	iP	19 52 27.9
		KIR	iPKP	13 56 24.8			UME	iP	19 52 06.6
			iSKP1	13 58 56.2			Near east coast of Honshu, Japan (h = 40 km).		
				micr sec					
			PKP	Z' 0.2 1.3	"	16	UPP	eP	02 34 37
		UME	iPKP	13 56 32.3			KIR	eP	02 34 15
			iSKP1	13 58 05.1			Taiwan (h = N).		
		Fiji Islands region (h = 570 km).			"	16	UPP	iPKP1	03 05 25.1
"	14	KIR	iPKP	14 00 17.7				iPKP2	03 05 29.5
		Fiji Islands region (h = 570 km).					UME	iPKP1	03 05 15.3
								i	03 05 19.7
							South of Kermadec Islands (h = 60 km).		
"	14	UPP	iP	16 52 36.5	"	16	UPP	iP	09 51 49.2
				micr sec			KIR	iP	09 51 34.5
			P	Z' 0.2 1.1			UME	iP	09 51 38.9
		KIR	iP	16 51 43.0			Molucca Passage (h = 35 km).		
				micr sec					
			P	Z' 0.2 0.9	"	16	UPP	iP	17 41 48.1
		UME	iP	16 52 08.7				ipP	17 41 53.0
		Near east coast of Kamchatka (h = N).							micr sec
		m = 6.2 (UPP,KIR).						Mx	Z 7.3 20
"	14	UPP	Mx	16 59	"	16	KIR	iP	17 41 32.5
				micr sec				ipP	17 41 37.8
			Mx	Z 3.3 19			UME	iP	17 41 38.1
		Off coast of southern Chile (h = 10 km).						ipP	17 41 42.7
		M = 6.0 (UPP).					Molucca Passage. h = 15 km (UPP,KIR,UME). M = 6.1 (UPP).		
"	14	KIR	iSg1	19 57 23.2	"	17	UPP	iP	03 14 20.9
		UME	iSg1	19 57 41.7			KIR	iP	02 13 51.9
		UDD	iSg1	19 58 52.1			UME	iP	03 14 02.9
		MYV	iPn	19 56 34.0			Eastern China (h = 10 km).		
			iSg1	19 57 20.4	"	17	UPP	iPKP	04 39 11.5
		Coast of central Norway, near 66 1/4°N, 13°E.						i	04 39 21.3
		Origin time = 19 55 43.							micr sec
		M _L (UPP) = 2.7 (0.37) 2.						Mx	Z 1.5 18
"	15	UPP	iP	05 50 06.6	"	17	KIR	iPKP	04 39 00.0
							UME	iPKP	04 39 07.3
"	15	UME	eP	14 43 27				i	04 29 12.5

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Feb.	17	(cont.) UME iSKP1 04 42 31.0 Vanuatu Islands (h = N). M = 5.6 (UPP).		Feb.	17	UPP ePKP 23 34 55 i 23 35 07.5 UME iPKP 23 34 44.7	
"	17	UPP iPKP 06 35 58 i 06 39 50 i 06 49 54 micr sec PKP Z' 0.5 0.9 Mx Z 14.4 20 KIR iPKP1 06 35 42.9 UME iPKP 06 35 50.7 iPKP1 06 35 52.8 South of Kermadec Island (h = 10 km). M = 6.7 (UPP).		"	18	UPP iP1 00 11 50.3 iP2 00 11 51.6 iS 00 20 48 eP'P' 00 39 57 micr sec P2 Z' 1.8 1.0 Mx Z 7.2 19 KIR iP1 00 10 57.8 iP2 00 10 59.3 micr sec P2 Z' 0.5 1.0 UME iP1 00 11 24.0 iP2 00 11 25.3 iP'P' 00 40 08.9	
"	17	KIR iPKP 09 47 50.1 UME iPKP1 09 47 54.7 Off W. coast of S. Island, N.Z. (h = N).				Andreanof Islands, Aleutian Is. (h = N). m = 6.8 (UPP,KIR), M = 5.8 (UPP). Multiple, small and large, in average 1.4 s apart.	
"	17	UME iP 12 23 25.3		"	18	UME iP 00 30 45.2	
"	17	UPP iPKP 13 15 46.5 UME iPKP 13 15 56.4 South Sandwich Islands region (h = N).		"	18	UME iP 01 10 18.6	
"	17	UME iP 22 05 31.2		"	18	UPP iPKP1 01 29 35.9 KIR ePKP 01 29 15 UME iPKP 01 29 22.1 iPKP1 01 29 27.1 South of Kermadec Islands (h = 10 km).	
"	17	UPP iPKP1 22 56 43.5 iPKP2 22 56 51.9 UME iPKP 22 56 33.3 iPKP1 22 56 47.1 South of Kermadec Islands (h = 60 km).		"	18	UME iP 01 47 50.9 i 01 48 04.2	
"	17	UME iP 23 09 18.8		"	18	UME iP 01 50 07.8	
"	17	UPP iPKP1 23 15 35.8 KIR ePKP1 23 15 18 UME iPKP1 23 15 26.2 South of Kermadec Islands (h = 10 km).		"	18	UPP iP 05 39 20.8 micr sec P Z' 0.2 0.8 KIR iP 05 38 28.6 UME iP 05 38 55.0 Andreanof Islands, Aleutian Is. (h = N).	
"	17	UME iP 23 21 46.1 i 23 21 50.9		"	18	KIR iP 05 41 36.1 Cyprus (h = 50 km).	
"	17	UPP iPKP1 23 26 33.8 UME iPKP1 23 26 16.5 i 23 26 24.9 South of Kermadec Islands (h = 10 km).		"	18	UME iP 06 48 39.0	
				"	18	UME iP 08 31 11.5 Off coast of Oregon (h = 10 km).	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987									
Feb.	18	UME	iP	08 51	34.7	Feb.	21	UME	iP	19 06	18.7		
"	18	KIR	iPKP	10 51	17.2			South of Kermadec Islands (h = N).					
		UME	iPKP	10 51	09.6								
		South Sandwich Islands region (h = N).				"	22	UPP	iP	01 29	25.2		
								KIR	eP	01 28	16		
								UME	iP	01 28	48.5		
"	18	UPP	iP	20 54	57.9			East of Severnaya Zemlya (h = 10 km).					
		UME	iP	20 55	09.3								
		Southern Iran (h = N).				"	22	UME	iP	04 56	02.1		
"	18	UME	iP	21 13	04.0			Afghanistan-USSR region (h = N).					
"	19	UPP	iPKP1	06 07	51.1			"	22	UPP	iP	10 26	54.4
		UME	iPKP1	06 07	40.6			Greece (h = 25 km).					
		South of Kermadec Islands (h = N).				"	23	UPP	iP	00 28	44.1		
"	19	UPP	iPKP1	09 52	26.8			KIR	eP	00 28	53		
		Kermadec Islands region (h = 10 km).						UME	iP	00 28	42.2		
"	19	UPP	iPKP1	10 22	02.6			Afghanistan-USSR border region (h = N).					
		UME	iPKP1	10 21	53.7	"	23	UPP	iPKP	03 02	30.0		
		South of Kermadec Island (h = N).						i		03 02	40.5		
"	19	UME	iP	15 01	02.1			KIR	iPKP	03 02	46.6		
"	19	UPP	ePKP	22 45	02			i		03 02	56.4		
		UME	iPKP	22 44	54.4					micr	sec		
		South of Kermadec Islands (h = N).						PKP	Z'	0.5	.15		
"	19	UPP	iP	22 45	51.6			UME	iPKP	03 02	38.1		
		Greece (h = 35 km).				"	23	South Sandwich Islands region (h = 25 km).					
"	20	UPP	iP	12 24	56.7			UPP	iP	07 32	36.6		
		KIR	iP	12 24	02.0			KIR	iP	07 32	18.7		
		UME	iP	12 24	46.0			UME	iP	07 32	20.1		
"	20	UME	iP	17 17	02.7			Luzon, Philippine Islands (h = 40 km).					
"	20	UME	iP	19 14	49.0			"	23	UPP	iP	13 27	10.6
"	21	UME	ePKP	11 18	13			UME	iP	13 27	03.8		
		South Sandwich Islands region (h = N).						Flores Sea (h = 630 km).					
"	21	UPP	iPKP	17 45	35.9			"	23	UPP	iPKP	16 08	37.9
		UME	iPKP	17 45	29.7					iSKP		16 11	42.1
"	21	UPP	ePKP1	18 41	44							micr	sec
		UME	iPKP	18 41	30.1			KIR	iPKP	Mx	Z	9.5	23
		Kermadec Islands region (h = N).										micr	sec
								PKP	Z'	0.1	0.6		
								UME	i(PKP)	16 08	23.3		
								iPKP		16 08	31.8		
								iSKP		16 11	31.3		
								Vanuatu Islands (h = 230 km). M = 6.3 (UPP). M uncorrected for focal depth.					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987								1987				
Feb.	23	UPP	iP	22 38	50.9	Feb.	25	(cont.)				
		KIR	eP	22 38	49			KIR	iP			
		Kirghiz-Xinjiang border region (h = N).						UME	iP			
"	24	UPP	iPKP1	01 11	26			Luzon, Philippine Islands (h = 15 km).				
			iPKP2	01 11	37.8			M = 5.4 (UPP).				
				micr sec		"	25	UPP	iP			
		Mx	Z	1.8	19				iS			
		KIR	ePKP1	01 11	26							
		UME	iPKP1	01 11	23.4							
		West of Macquarie Island (h = 10 km).							P	Z'		
		M = 5.8 (UPP).							Mx	Z		
"	24	UPP	iP	06 26	21.5			KIR	iP	20 05		
		KIR	iP	06 25	29.0					14.0		
		UME	iP	06 25	55.2					micr sec		
		Andreanof Islands, Aleutian Is. (h = N).								P	Z'	
"	24	UPP	iP	07 50	32.4					0.2	0.9	
		KIR	iP	07 49	36.7					5.0	15	
		UME	eP	07 49	59					20 05	14.0	
		Kamchatka (h = 120 km).									micr sec	
"	24	UPP	iP	15 04	53.7					P	Z'	
		KIR	iP	15 04	55.9					0.3	1.4	
		UME	iP	15 04	51.8					20 05	16.0	
		Northern Sumatra (h = 50 km).									UME	iP
"	25	UPP	iPKP1	02 20	52.8					Qinghai Province, China (h = 25 km).		
		UME	iPKP	02 20	43.1					m = 6.1 (UPP,KIR), M = 5.5 (UPP).		
		Kermadec Islands region (h = 70 km).						"	25	UPP	iP	
"	25	KIR	eP	11 21	18					20 36	16.9	
		UME	iP	11 21	48.8						micr sec	
		Kodiak Islands region (h = N).									P	Z'
"	25	UPP	Mx	12 35						0.1	0.6	
				micr sec						20 36	04.7	
		Mx	Z	3.1	18					Qinghai Province, China (h = N).		
		Yugoslavia (h = 15 km).						"	26	UPP	iP	
"	25	UPP	iP	14 50	21.5					00 22	58.2	
		KIR	iP	14 50	14.1					00 22	34.4	
		UME	iP	14 50	15.4					00 22	33.6	
		Bali Sea (h = 300 km).								Ural Mountains region (h = 10 km).		
"	25	UME	iP	14 54	13.2					UPP	iP	
				00 36	07.4					UME	iP	
				00 35	48.6					South of Honshu, Japan (h = N).		
"	25	UPP	iP	15 32	28.7					UME	iPKP	
				micr sec						04 49	42.4	
		P	Z'	0.1	0.8					Vanuatu Islands (h = 45 km).		
		Mx	Z	1.8	15					UPP	iP	
		(cont.)								05 05	16.3	
										KIR	iP	
										05 05	01.2	
										UME	iP	
										05 05	01.8	
										Eastern Kazakh SSR. Underground explosion.		
"	25	UPP	iP	10 59	44.7					UPP	iP	
		KIR	iP	10 58	51.1					KIR	iP	
		UME	iP	10 59	18.7					UME	iP	
		Unimak Islands region (h = N).								10 59	18.7	
"	25	UPP	iP	15 32	28.7					UPP	iP	
				micr sec						08 42	47.2	
		P	Z'	0.1	0.8					iS	08 51	
		Mx	Z	1.8	15					iP'P'	09 11	
		(cont.)								(cont.)		

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1987

Feb. 27 (cont.)

			micr	sec	
	Mx	Z	37.4	20	
KIR	iP		08 41	53.2	
	ipP		08 41	58.2	
	iP'P'		09 11	28.8	
UME	iP		08 42	21.3	
	ipP		08 42	25.1	
	iP'P'		09 11	23.6	
Fox Islands, Aleutian Islands.					
h = 15 km (KIR,UME).					
M = 6.5 (UPP).					
"	27	UPP	iP	23 39	41.0 C
			ipP	23 39	43.9
			iS	23 43	34
				micr	sec
		P	Z'	0.5	0.9
		Mx	Z	31.3	14
KIR		iP		23 40	57.5
		ipP		23 44	01.1
				micr	sec
		P	Z'	0.3	1.0
UME		iP		23 40	21.1
		ipP		23 40	24.6
Greece.					
h = 15 km (UPP,KIR,UME).					
m = 6.0 (UPP,KIR), M = 5.7 (UPP).					
"	28	UPP	iP	07 03	28.9
		KIR	iP	07 03	50.9
		UME	iP	07 03	07.1
Near east coast of Honshu, Japan (h = 50 km).					
"	28	UME	iP	07 43	36.5
Near east coast of Honshu, Japan (h = 90 km).					
"	28	UME	iP	23 30	38.5
South of Alaska (h = N).					

August 30, 1988

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

MARCH 1 - 31, 1987

1987					1987				
Mar.	1	UPP	iP	00 45 48.7	Mar.	1	UPP	iP2	18 07 41.9
		UME	iP	00 45 47.0			KIR	iP2	18 07 07.6
		Hindu Kush region (h = 180 km).					UME	iP1	18 07 15.7
								iP2	18 07 19.3
							Mongolia (h = 25 km). Double P phases.		
"	1	UPP	iP	03 25 05.7					
		KIR	iP	03 26 15.5 C	"	1	UPP	iPKP1	21 55 33.6
		UME	iP	03 25 39.8			KIR	iPKP	21 55 25.9
		Mediterranean Sea (h = N).					UME	e(PKP)	21 55 23
								iPKP	21 55 34.1
"	1	UPP	iPn	06 43 33.8				iSKP1	21 58 30.3
			iPg1	06 43 41.3			Fiji Islands region (h = 410 km).		
			iSn	06 44 39.0					
		KIR	iLg2	06 48 38.6	"	1	UPP	iP	23 49 43.4
		UME	iSn	06 45 57.6			KIR	iP	23 49 15.4
			iSg2	06 47 00.0			UME	iP	23 49 27.9
		UDD	iPn	06 43 12.0			, Mariana Islands (h = 80 km).		
			iPg1	06 43 19.0					
			iSn	06 44 02.7	"	2	UPP	ePKP2	01 55 47
			iSg1	06 44 14.2			KIR	ePKP1	01 55 18
		DEL	iPn	06 43 01.2			UME	iPKP1	01 55 24.9
			iPg1	06 43 08.5			North Island, New Zealand (h = 30 km).		
			iSn	06 43 41.4	"	2	UPP	iPKP1	02 02 30.2
		Skagerrak, near 57 1/4°N, 7 1/2°E.						iPKP2	02 02 44.3
		Origin time = 06 42 05.							micr sec
		M _L (UPP) = 3.6 (0.16) 4.						Mx	Z 17 26
"	1	KIR	iP	07 59 29.2			KIR	iPKP1	02 02 13.5
		UME	iP	07 59 47.0					micr sec
		Near east coast of Honshu, Japan (h = 60 km).						PKP1	Z' 0.2 1.3
"	1	UPP	iP	12 22 26.9			UME	iPKP	02 02 16.5
		Greece (h = 45 km).						iPKP1	02 02 21.6
							North Island, New Zealand (h = 20 km). M = 6.6 (UPP).		
"	1	UPP	iP	13 41 13.0					
		KIR	iP	13 41 03.2					
		India-China border region (h = N).							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Mar.	2	UPP	iPKP1	02 10 52.9	Mar.	3	(cont.)
			iPKP2	02 11 07.8			UME iP 00 16 14.8
		KIR	iPKP1	02 10 37.0			ipP 00 16 58.1
				micr sec			Andreanof Islands, Aleutian Is.
			Mx	Z' 0.1 1.1			h = 190 km (UPP,KIR,UME).
		UME	iPKP1	02 10 45.2	"	3	UPP iP 01 42 59.6
			i	02 10 49.0			ipP 01 43 24.7
				North Island, New Zealand			iP'P' 02 11 17.2
				(h = 20 km).			micr sec
"	2	UME	iP	02 27 13.7			P Z' 0.2 0.8
"	2	UME	iP	02 27 42.8			Mx Z 3.9 30
"	2	UPP	iPKP2	03 47 50.1			KIR iP 01 42 11.0
		UME	iPKP1	03 47 26.6			i 01 42 11.9
				North Island, New Zealand			micr sec
				(h = 20 km).			i Z' 0.5 0.8
"	2	UME	iP	03 48 19.6			UME iP 01 42 33.4
"	2	UME	iPKP	06 16 44.5			i 01 42 33.8
				Southeast Indian Rise			Kuril Islands.
				(h = 10 km).			h = 100 km (UPP).
"	2	UME	iP	07 04 19.5			m = 6.4 (UPP,KIR), M = 5.4
"	2	UPP	iP	07 16 37.0			(UPP).
			i	07 16 47.7			M uncorrected for focal depth.
		KIR	eP	07 16 14	"	3	UPP iP 09 49 18.4
		UME	iP	07 16 21.8			i 09 49 19.5
			i	07 16 24.6			micr sec
"	2	UPP	iPKP2	08 15 22.9			i Z' 0.1 0.8
		UME	iPKP1	08 14 57.4			Mx Z 3.3 11
				North Island, New Zealand			KIR iP 09 49 12.6
				(h = 10 km).			i 09 49 14.0
"	2	KIR	iPn	08 32 48.6			micr sec
			iSn	08 34 13.9			i Z' 0.1 0.7
		UME	iPn	08 33 42.7			UME iP 09 49 10.2
		UDD	iPn	08 34 32.9			Kirghiz-Xinjiang border region
				Barents Sea, near 75 1/2°N,			(h = N).
				17°E.			m = 5.8 (UPP,KIR), M = 5.4
				Origin time = 08 30 52.			(UPP).
"	2	UPP	iP	09 54 25.2	"	3	UPP eP 13 13 06
				micr sec			KIR iP 13 11 54.2
			P	Z' 0.1 0.8			i 13 11 59.7
		KIR	iP	09 53 32.9			UME iP 13 12 28.7
		UME	iP	09 53 57.3			Jan Mayen Island region
				Off east coast of Kamchatka			(h = 10 km).
				(h = 40 km).	"	3	UPP iPKP 14 39 23.0
"	3	UPP	iP	00 16 41.5			KIR iPKP 14 39 40.0
			ipP	00 17 24.7			UME iPKP 14 39 32.7
		KIR	iP	00 15 49.4			South Sandwich Islands region
			ipP	00 16 31.4			(h = 25 km).
				(cont.)	"	3	UPP iP 22 44 47.2
							UME eP 22 44 22
							Kuril Islands (h = 110 km).
"	4	UPP	iP	00 24 39.5	"	4	UPP iP 00 24 39.5
		KIR	iP	00 24 10.9			KIR iP 00 24 10.9
				(cont.)			(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Mar.	4	(cont.) UME eP Mariana Islands region (h = 310 km).	00 24 23	Mar.	5	UPP iPP UME iPKP Near coast of northern Chile (h = 35 km).	11 14 12.1 11 13 31.8
"	4	KIR eP UME iP	05 17 54 05 18 47.1	"	5	UPP iP UME iP Eastern USSR (h = 15 km).	20 49 01.3 20 48 35.3 D
"	4	UPP eP KIR iP i Jan Mayen Island region (h = 10 km).	15 15 37 15 14 23.9 15 14 28.2	"	6	UPP eP KIR iP Near east coast of Kamchatka (h = 30 km).	01 17 16 01 16 22.4
"	4	UPP iP	15 30 55.4	"	6	UPP iP i iPP iSKS iS	02 08 01.6 C 02 08 06.7 02 11 47.8 02 18 36 02 19 06
"	4	UPP iP UME iP	19 43 52.1 19 43 42.7				
"	5	UPP iP KIR eP UME iP ipP Near east coast of Honshu, Japan. h = 40 km (UME).	01 57 23.8 01 56 45 01 57 02.2 01 57 14.2				
"	5	UPP iP ipP UME iP ipP Kuril Islands region. h = 35 km (UPP,UME).	03 07 07.7 03 07 18.5 03 06 42.1 03 06 52.7				
"	5	KIR iPn iSn UME iSn MYV iSg1 Norwegian Sea, near 69°N, 11°E. Origin time = 06 39 07. M _L (UPP) = 2.6 1.	06 40 04.8 06 40 47.4 06 41 57.7 06 42 18.8				
"	5	UPP iPdiff e(PP) i(PP) iPP iPKKP micr sec Mx Z KIR ePKP iPKKP UME iPdiff iPKKP Near coast of northern Chile (h = 60 km). M = 7.7 (UPP).	09 31 30 09 34 46 09 34 59.3 09 35 55.4 09 46 48.5 293 24 09 35 33 09 46 37.8 09 31 40.6 09 46 38.3				
				"	6	UPP ePKP1 iPKP2 UME iPKP1 Kermadec Islands (h = N).	02 56 46 02 56 50.7 02 56 33.9
				"	6	UPP iP iPP iSKS iS micr sec P Z' Mx Z KIR iP iPP micr sec P Z' UME iP Colombia-Ecuador border region (h = 10 km). m = 7.0 (UPP,KIR), M = 6.9 (UPP). Multiple P with successively increasing amplitudes.	04 23 55.1 C 04 27 40.2 04 34 24 04 34 56 0.6 1.4 73 29 04 23 58.1 04 27 39.6 1.3 1.6 04 23 59.6

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Mar.	6	UPP iP	06 46 16.4	Mar.	6	UPP eP	15 48 31
		Equador (h = 10 km).				Rat Islands, Aleutian Islands (h = N).	
"	6	UPP ePP	07 25 38	"	6	UPP iP	16 41 17.8
			micr sec			Rat Islands, Aleutian Islands (h = N).	
		Mx Z	3.5 23				
		Near coast of northern Chile M = 5.8 (UPP).					
"	6	UPP iP	08 28 02.6	"	6	UPP iP	17 05 49.2 C
			micr sec			P Z'	0.1 1.0
		Mx Z	3.5 20			KIR iP	17 04 56.5 C
		KIR eP	08 28 05				micr sec
		UME iP	08 28 06.7			P Z'	0.1 1.0
		Colombia-Ecuador border region (h = 10 km). M = 5.7 (UPP).				UME iP	17 05 22.5
"	6	UPP e(PP)	09 58 37			Rat Islands, Aleutian Islands (h = N). m = 5.7 (UPP, KIR).	
			micr sec	"	7	UPP eP	01 49 38
		Mx Z	6.6 26			KIR iP	01 49 20.1
		UME i(PP)	09 58 49.2			Mindanao, Philippine Islands (h = 120 km).	
		iPP	09 59 05.1	"	7	UPP eP	03 28 07
		Near coast of northern Chile (h = 45 km). M = 6.0 (UPP).				UME iP	03 27 47.4
"	6	UPP eP	10 09 51			Near east coast of Honshu, Japan (h = 60 km).	
		KIR iP	10 09 30.7	"	7	UPP iPKP	06 30 23.9
		UME iP	10 09 29.6			i	06 33 48.5
"	6	UPP iPKP1	10 35 11.1			iSKP1	06 33 51.3
		iPKP2	10 35 17.4			KIR iPKP	06 30 10.4
		KIR i	10 35 12.2			UME iPKP	06 30 16.6
		UME i	10 34 46.1			Vanuatu Islands (h = 35 km).	
		iPKP1	10 35 01.3	"	7	UPP iP	07 04 24.1
		Kermadec Islands region (h = 320 km).		"	7	UPP ePKP1	08 16 40
"	6	UPP iP	13 59 36.9 C			e	08 17 22
			micr sec			UME iPKP	08 16 30.3
		P Z'	0.3 1.0			iPKP1	08 16 32.1
		KIR iP	13 58 44.7 C			i	08 17 06.3
			micr sec			i	08 17 26.4
		P Z'	0.2 0.9			South of Kermadec Islands (h = N).	
		UME iP	13 59 10.6 C	"	7	UME iP	17 19 07.4
		Rat Islands, Aleutian Islands (h = 55 km). m = 6.2 (UPP, KIR).				Banda Sea (h = 150 km).	
"	6	UME iP	14 28 02.0	"	7	UPP iP	17 33 53.7
		i	14 28 11.1			KIR eP	17 33 39
"	6	UPP iP	15 36 57.4			UME iP	17 33 44.2
		UME eP	15 37 10			Mindanao, Philippine Islands (h = 35 km).	
		Arabian Sea (h = 10 km).					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Mar.	7	KIR ePKP	20 02 13	Mar.	9	UPP iP	05 59 21.1
		UME ePKP	20 02 16			"	9 UPP iP 10 18 04.1
		Samoa Islands region				"	9 KIR iP 10 17 46.9
		(h = N).					Mindanao, Philippine Islands
"	7	KIR iPn	21 47 33.1			"	9 UPP iP 19 54 56.0
		iPg1	21 47 40.4			"	9 Greece-Albania border region
		iSn	21 48 15.7			"	9 KIR iP 20 43 48.2
		UME iSg1	21 50 00.2			"	9 UME iP 20 43 55.5
		Norwegian Sea, near 69 3/4°N,				"	9 UPP eP 21 34 34
		12°E.				"	9 UME iP 21 34 24.7
		Origin time = 21 46 35.				"	10 UPP iP 00 17 25.3 C
		M _L (UPP) = 2.6 1.					PKP1 Z' 0.2 0.8
		By combination with TRO					KIR i(PKP) 00 17 06.3
		readings.					iPKP 00 17 13.5
"	8	UPP iP	05 21 32.4				UME iP 00 17 14.0
		Northeast of Taiwan					iSKP1 00 20 09.1
		(h = 170 km).					South of Fiji Islands
"	8	UPP iP	08 24 19.6			"	10 UPP iP 03 35 38.1 C
		KIR iP	08 23 25.5				PKP1 Z' 0.1 1.0
		UME iP	08 23 53.4				Mx Z 1.9 18
		Fox Islands, Aleutian Islands					KIR iP 03 34 59.4 C
		(h = 80 km).					micr sec
"	8	UPP eP	13 22 26			"	10 UPP eP 00 49 07
		UME eP	13 22 38			"	10 UME eP 00 48 46
		Carlsberg Ridge (h = 10 km).					Near east coast of Honshu,
"	8	UPP iP	17 43 10.2			"	10 UPP iP 03 35 38.1 C
		i	17 43 13.0				micr sec
		UME i	17 43 55.5				P Z' 0.1 1.0
		Greece-Albania border region					Mx Z 1.9 18
		(h = 55 km).					KIR iP 03 34 59.4 C
"	8	UPP iP	17 46 55.5 C			"	10 UPP eP 00 49 07
		i	17 46 58.6			"	10 UME eP 00 48 46
		micr sec					Near east coast of Honshu,
		P Z' 0.2 0.6					Japan (h = 80 km).
		Mx Z 1.7 13				"	10 UPP iP 03 35 38.1 C
		KIR iP	17 48 12.4 C				micr sec
		UME iP	17 47 35.2 C				P Z' 0.1 1.0
		Greece-Albania border region					Mx Z 1.9 18
		(h = 40 km).					KIR iP 03 34 59.4 C
		M = 4.5 (UPP).					micr sec
"	8	UPP ePKP2	19 38 21			"	10 UPP eP 00 49 07
		KIR iP	19 37 48.6			"	10 UME eP 00 48 46
		UME ePKP1	19 37 56				Near east coast of Honshu,
		Off e. coast of S. Island,					Japan.
		N.Z. (h = 25 km).					h = 40 km (UME).
"	9	UPP eP	03 21 22			"	10 UPP iP 03 35 38.1 C
		KIR iP	03 21 25.8			"	10 UME eP 03 35 16.8 C
		UME eP	03 21 18			"	10 UPP iP 03 35 28.7
		i	03 21 21.5			"	10 UPP iP 03 35 28.7
		Tajik-Xinjiang border region					Near east coast of Honshu,
		(h = 50 km).					Japan.
							h = 40 km (UME).
							m = 5.7 (UPP, KIR, M = 5.3
							(UPP)).
"	9	UPP eP	03 21 22			"	10 UPP iP 03 40 20.3
		KIR iP	03 21 25.8			"	10 KIR iP 03 39 41.8
		UME eP	03 21 18				(cont.)
		i	03 21 21.5				
		Tajik-Xinjiang border region					
		(h = 50 km).					

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1987		1987	
Mar.	10	(cont.) UME iP 03 39 59.0 ipP 03 40 11.1 Near east coast of Honshu, Japan. h = 40 km (UME).	Mar. 10 UPP iP 18 35 48.1 D ipP 18 35 59.9 micr sec P Z' 0.5 1.5 Mx Z 1.8 17 KIR iP 18 35 06.1 D micr sec P Z' 0.1 1.2 UME iP 18 35 25.1 D ipP 18 35 36.9 Off east coast of Honshu, Japan. h = 40 km (UPP,UME). m = 6.1 (UPP,UME), M = 5.3 (UPP).
"	10	UPP iPKP1 04 41 13.1 C i 04 41 17.6 micr sec PKP1 Z' 0.1 0.9 UME ePKP1 04 41 02 i 04 41 10.3 South of Fiji Islands (h = 370 km).	" 10 UPP iP 22 33 12.7 KIR iP 22 33 15.2 UME iP 22 33 17.1 Northern Colombia (h = 55 km).
"	10	UPP iP 07 54 44.6 UME iP 07 54 18.5 Andreanof Islands, Aleutian Is. (h = N).	" 11 KIR iP 02 06 40.0 Iran-Iraq border region (h = 55 km).
"	10	UDD iSn 14 45 27.7 Off coast of southwestern Norway, 60.1°N, 4.8°E. Origin time = 14 43 23. Solution from Bergen bulletin.	" 11 UPP iP 02 26 30.9 ipP 02 27 11.6 KIR iP 02 26 07.0 epP 02 26 48 UME iP 02 26 15.9 ipP 02 26 56.3 Northeast of Taiwan. h = 170 km (UPP,KIR,UME).
"	10	UDD iSg1 15 03 32.4 Off coast of southwestern Norway, 60.1°N, 4.9°E. Origin time = 15 01 12. M _L (UPP) = 2.3 1. Solution from Bergen bulletin.	" 11 UPP iPKP1 03 10 19.0 iPKP2 03 10 28.6 iX 03 11 35.4 KIR ePKP1 03 10 00 UME iPKP 03 10 09.5 iPKP1 03 10 09.9 iY 03 11 19.2 South of Kermadec Islands (h = 230 km). If the phases X (UPP) and Y (UME) are interpreted as pPKP2 and pPKP1, respectively, the focal depth would be 270 km.
"	10	UPP iP 16 26 07.2 D i 16 26 18.9 iS 16 35 18 micr sec P Z' 0.2 1.0 Mx Z 1.9 16 KIR iP 16 25 25.2 D micr sec P Z' 0.1 0.9 UME iP 16 25 44.0 D Off east coast of Honshu, Japan (h = 40 km). m = 6.0 (UPP,KIR), M = 5.4 (UPP).	" 11 UPP iP 05 02 40.0 KIR iP 05 02 11.5 UME iP 05 02 24.7 Mariana Islands (h = 45 km). Phases are about 5 s late related to the NEIC solution and Jeffreys-Bullen travel time tables.
"	10	UPP eP 18 07 46 ipP 18 07 57.1 UME ipP 18 07 32.9 Off east coast of Honshu, Japan (h = N).	" 11 UPP iP 05 02 40.0 KIR iP 05 02 11.5 UME iP 05 02 24.7 Mariana Islands (h = 45 km). Phases are about 5 s late related to the NEIC solution and Jeffreys-Bullen travel time tables.
"	10	UPP iPKP1 12 34 38.1 UME iPKP1 18 34 27.9 C Kermadec Islands region (h = 20 km).	

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1987				1987							
Mar.	11	UME	iP	06 07 52.8	Mar.	12	UPP	iP	23 21 18.4 C		
"	11	UPP	eP	08 42 50				i	23 21 33.2		
				Andreanof Islands, Aleutian Is. (h = N).				P	Z' 0.1 1.0		
"	11	UPP	iSg1	15 21 44.1			KIR	iP	23 22 02.4 C		
			iRg	15 21 45.6				i	23 22 17.1		
		UDD	iSg1	15 22 39.5				P	Z' 0.1 1.1		
				Uppland, Sweden, 60.1°N, 17.5°E.			UME	iP	23 21 43.6 C		
				Rockburst at the Dannemora iron ore mine.				i	23 21 58.4		
"	11	UME	iP	23 40 50.2					Central Mid-Atlantic Ridge (h = 10 km). m = 5.9 (UPP,KIR). The second phase at each station, if interpreted as pP, yields a focal depth of 55 km, unlikely for this focal region. More probably it refers to a second, smaller event in the same region, 15 s delayed.		
				Guatemala (h = 80 km).							
"	12	KIR	iP	01 30 55.6							
		UME	iP	01 31 09.0							
				Bonin Islands region (h = 480 km).			"	13	UPP	iPKP1	05 22 52.2
"	12	UPP	iP	02 04 14.2 C						South of Fiji Islands (h = 90 km).	
			P	Z' 0.2 0.7			"	13	UPP	iPKP1	05 43 52.5
		KIR	iP	02 03 58.5 C						South of Fiji Islands (h = 60 km).	
			P	Z' 0.6 0.5			"	13	UPP	ePKP1	06 38 32
		UME	iP	02 03 59.4 C					UME	i(PKP)	06 38 23.5
				Eastern Kazakh SSR. m = 6.4 (UPP,KIR). Underground explosion.							South of Fiji Islands (h = 80 km).
"	12	UPP	eP	04 20 56			"	13	UPP	ePKP1	06 47 33
"	12	UPP	iP	12 30 54.6						i	06 47 38.3
			ipP	12 31 08.8							South of Fiji Islands (h = 55 km).
			iS	12 41 19			"	13	UPP	iPKP2	06 51 53.4
			i	12 41 36					UME	iP	06 51 45.9
				micr sec							Kermadec Islands region (h = N).
			Mx	Z 3.6 22			"	13	UPP	iP	07 09 10.2
		KIR	eP	12 30 44						ipP	07 09 27.9
			P	Z' 0.2 1.2					UME	iP	07 09 09.6
		UME	iP	12 30 51.2						ipP	07 09 28.1
			i	12 30 55.3							Near coast of Nicaragua. h = 70 km (UPP,KIR).
				Near coast of Oaxaca, Mexico. h = 50 km (UPP). M = 5.6 (UPP).			"	13	UPP	ePKP1	07 41 44
"	12	UPP	eP	16 44 40							South of Fiji Islands (h = N).
				Pakistan (h = N).			"	13	UPP	ePKP1	07 59 43
"	12	UPP	iP	22 55 41.2					UME	ePKP	07 59 41
			i	22 55 45.7							South of Fiji Islands (h = 50 km).
		KIR	eP	22 56 22							
		UME	iP	22 55 57.2							
				Iran (h = 80 km).							

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1987				1987					
Mar.	13	UPP	ePKP1	08 35 42	Mar.	15	UPP	iP	05 18 50.1
				South of Fiji Islands.			UME	iP	05 18 33.9
"	13	UPP	iPKP1	08 41 13.9					Ryukyu Islands region
			i	08 41 18.4					(h = 25 km).
				micr sec	"	15	UPP	iP	05 24 00.5
			Mx	Z 5.4 22				ipP	05 24 14.5
		KIR	iPKP	08 41 04.7					micr sec
		UME	iPKP)	08 41 06.9				Mx	Z 5.1 21
			i	08 41 18.1			KIR	iP	05 23 48.2
				South of Fiji Islands					micr sec
				(h = 30 km).				P	Z' 0.1 1.0
				M = 6.2 (UPP).			UME	iP	05 23 55.9
"	13	UPP	ePKP1	08 55 15				ipP	05 23 09.0
				South of Fiji Islands					Near coast of Oaxaca, Mexico.
				(h = N).					h = 45 km (UPP,UME).
"	13	KIR	iP	09 41 32.2	"	15	UPP	iP	07 53 13.8
		UME	iP	09 41 41.4			KIR	iP	07 52 44.2
				Molucca Passage (h = 70 km).			UME	iP	07 52 55.2
"	13	UPP	ePKP1	10 08 32					Mariana Islands (h = 60 km).
				South of Fiji Islands	"	15	UPP	eP	08 19 27
				(h = 150 km).					Mariana Islands region
"	13	UPP	ePKP1	10 09 10					(h = 45 km).
				South of Fiji Islands.	"	15	UPP	iP	08 30 33.5
				Could also be pPKP1 to					Mariana Islands region
				preceding event.					(h = N).
"	13	UPP	iPKP1	19 08 40.8	"	15	UPP	eP	11 48 24
				South of Fiji Islands				ipP	11 48 37.8
				(h = 80 km).			KIR	eP	11 48 00
"	13	UPP	iPKP1	19 28 13.5			UME	iP	11 48 09.1
		UME	iPKP	19 28 12.2				ipP	11 48 23.6
				South of Fiji Islands					Mariana Islands.
				(h = 280 km).					h = 50 km (UPP,UME).
"	14	UPP	iPKP1	06 29 27.5	"	15	UPP	iP	12 09 15.9
		UME	e(PKP)	06 29 19					Mariana Islands (h = 40 km).
			iPKP	06 29 26.0	"	15	UPP	iP	16 27 50.4
				South of Fiji Islands			KIR	iP	16 27 58.3
				(h = 40 km).			UME	iP	16 27 51.9
"	14	UPP	iP	09 34 57.9					South Indian Ocean (h = 10 km).
		KIR	iP	09 34 04.4	"	15	UPP	iPKP	22 00 50.9
		UME	iP	09 34 31.7			UME	iPKP	22 00 45.3
			iPcP	09 35 06.3					New Britain region (h = 60 km).
				Andreanof Islands, Aleutian	"	15	UPP	iP	22 03 33.6
				Is. (h = N).				i	22 03 41.7
"	14	UPP	ePKP1	16 31 36			UME	iP	22 03 23.8
		UME	iPKP1	16 31 26.1	"	16	UPP	iP	03 57 29.2
				South of Kermadec Islands				ipP	03 57 40.0
				(h = N).					(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987						
Mar.	16	(cont.)		Mar.	17	KIR	iP	01 54 34.2		
		KIR	eP			UME	iP	01 54 52.7		
			ipP			Eastern Sea of Japan				
		UME	iP			(h = 260 km).				
			ipP			"	18	UPP	iP	00 36 19.3
		Off east coast of Honshu, Japan.						i	00 36 33.8	
		h = 35 km (UPP,UME).						KIR	iP	00 36 04.5
"	16	UME	iP					UME	iP	00 36 09.3
		Kirghiz SSR (h = 60 km).				Molucca Passage (h = 30 km).				
"	16	UPP	Mx			"	18	UPP	iP	03 47 57.9 C
								iS	03 57 22	
									micr sec	
								P	Z' 1.9 1.7	
								Mx	Z 44 24	
		East Papua New Guinea region (h = 25 km).						KIR	iP	03 47 25.6 C
		M = 5.8 (UPP).							micr sec	
"	16	UME	iP					P	Z' 1.7 2.1	
		Mariana Islands (h = 45 km).						UME	iP	03 47 39.0 C
"	16	UPP	Mx					Kyushu, Japan (h = 55 km).		
								m = 6.7 (UPP,KIR), M = 6.6 (UPP).		
						"	18	UME	iP	04 54 39.1
						"	18	UPP	iP	06 02 00.3
								KIR	iP	06 01 32.1
								UME	iP	06 01 43.0
		East Papua New Guinea region (h = 30 km).				Ryukyu Islands (h = 30 km).				
		M = 5.8 (UPP).		"	18	UPP	eP	06 02 48		
"	16	UPP	iPKP			UME	iP	06 02 37.7		
			iSKP1			"	18	UPP	eP	08 14 41
		KIR	iPKP					i	08 14 50.9	
		UME	iPKP					KIR	iP	08 14 10.0
		Vanuatu Islands (h = 190 km).						UME	iP	08 14 23.6
"	16	UPP	i			Bonin Islands region (h = N).				
						"	18	UPP	iPKP1	09 12 31.4
								i	09 12 39.8	
								UME	iPKP1	09 12 19.8
						Kermadec Islands (h = 30 km).				
		UME	iPKP			"	18	UPP	iP	13 56 56.3
		East Papua New Guinea region (h = 25 km).		"	18	UPP	iP1	17 59 10.8		
		M = 6.3 (UPP).					iP2	17 59 12.8		
"	16	UPP	iPKP					micr sec		
		KIR	iPKP					P2	0.1 0.8	
		UME	iPKP					KIR	i	18 00 41.5
		Santa Cruz Islands (h = 55 km).							micr sec	
"	16	UPP	eP					i	Z' 0.1 0.7	
			iPcP					UME	iP2	17 59 53.1
		KIR	iPcP			Romania (h = 120 km).				
		UME	ePcP			(cont.)				
		Fox Islands, Aleutian Islands (h = 10 km).								

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1987				1987		
Mar.	18	(cont.) m = 5.0 (UPP,KIR). Double P, P2 larger amplitudes than P1. The Kiruna phase is 7 s late for P2.		Mar.	19	UPP i(PKP) 23 10 30.7 iPKP1 23 10 35.4 i 23 13 57.4 micr sec PKP1 Z' 0.2 1.1 Mx Z 0.8 25 KIR e(PKP) 23 10 15 iPKP 23 10 26.2 iSKP1 23 13 33.4 UME i(PKP) 23 10 20.3 i(PKP) 23 10 27.0 iSKP1 23 13 45.9 Fiji Islands region (h = 210 km). M = 5.8 (UPP). M uncorrected for focal depth.
"	19	UPP iP 01 41 35.3 C micr sec P Z' 0.1 1.2 KIR iP 01 41 38.0 C micr sec P Z' 0.3 1.4 UME iP 01 41 40.0 C Northern Colombia (h = 10 km). m = 6.1 (UPP,KIR).		"	20	UME iP 01 33 01.8 Albania (h = 10 km).
"	19	KIR iP 04 15 29.7 UME iP 04 15 32.6 Northern Colombia (h = 70 km).		"	20	UPP iP 05 36 33.2 UME iP 05 36 32.1 i 05 36 34.2 Hindu Kush region (h = 120 km).
"	19	UPP eP 10 05 42 KIR eP 10 05 42 UME iP 10 05 42.8 Northern Colombia (h = 30 km).		"	20	UPP eP 08 45 45 micr sec Mx Z' 1.9 18 KIR iP 08 45 07.3 micr sec P Z' 0.1 1.5 UME iP 08 45 24.2 i 08 45 28.4 Iceland region (h = 10 km).
"	19	UPP iP 14 41 00.4 KIR iP 14 41 24.6 micr sec P Z' 0.1 0.8 UME iP 14 41 08.3 D Near coast of Pakistan (h = 10 km).		"	20	UPP iP 11 23 11.0 KIR eP 11 23 44 UME iP 11 23 22.9 Southern Iran (h = 45 km).
"	19	UPP eP 14 45 40		"	21	UPP iP 03 04 46.3 Romania (h = 170 km).
"	19	UPP iPKP1 16 36 49.9 South of Fiji Islands (h = N).		"	21	UPP iP 04 11 40.1 micr sec Mx Z 0.6 21 UME iP 04 11 46.8 North Atlantic Ocean (h = 10 km). M = 4.1 (UPP).
"	19	UPP ePKP 17 33 32 iSKP1 17 36 42.3 KIR iPKP 17 33 19.4 UME iPKP 17 33 25.5 Vanuatu Islands (h = 150 km).		"	21	UPP iP 04 13 53.2 North Atlantic Ocean (h = 10 km).
"	19	UPP iP 21 38 55.4 C micr sec P Z' 0.5 1.3 KIR iP 21 38 24.3 C micr sec P Z' 0.3 1.3 UME iP 21 38 37.8 C South of Honshu, Japan (h = 540 km). m = 5.7 (UPP,KIR).				

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1987				1987			
Mar.	21	KIR	iSg1	10 07 07.1	Mar.	22	(cont.)
		UME	ipg1	10 06 13.1			micr sec
			iSg1	10 06 36.6			P Z' 0.3 1.2
			i	10 06 45.1			Mx Z 9.0 24
				Gulf of Bothnia, 65.3°N, 21.6°E.		KIR	ip 02 59 23.5
				Origin time = 10 05 45.			micr sec
				By combination with Finnish station readings.			P Z' 0.1 0.7
						UME	ip 02 59 50.2
							eP'P' 03 28 34
"	21	KIR	ip	10 51 29.7			Andreanof Islands, Aleutian Is. (h = 20 km).
			ipP	10 51 55.8			m = 6.1 (UPP,KIR), M = 5.8 (UPP).
			iScP	10 56 07.1			
			ipP'P'	11 21 21.6			
				micr sec	"	22	UPP ipP 03 42 51.0
				P Z' 0.3 1.0			micr sec
		UME	ip	10 51 56.9 C			PP Z' 0.1 1.7
			ipP	10 52 22.5			Mx Z 4.2 25
			ip'P'	11 20 44.7		KIR	ipP 03 43 12.4
			i	11 21 03.3		UME	ipP 03 43 08.5
			ipP'P'	11 21 12.1			Near coast of northern Chile (h = 40 km).
				Andreanof Islands, Aleutian Is. h = 110 km (KIR,UME).			M = 5.8 (UPP).
"	21	KIR	ip2	12 21 43.6	"	22	UPP ip 10 40 44.8
		UME	ip1	12 21 46.4			i 10 40 55.7
			ip2	12 21 48.9		KIR	eP 10 40 36
				Costa Rica (h = 25 km).		UME	eP 10 40 37
				Double P, P2 larger than P1.			Burma (h = N).
"	21	UPP	ip	14 54 01.5	"	22	UPP ip 11 40 12.8
		KIR	ip	14 54 10.7		KIR	ip 11 39 56.3
		UME	ip	14 54 00.4		UME	ip 11 40 01.5
				Hindu Kush region (h = 210 km).			Halmahera (h = 230 km).
"	21	UPP	ip	15 42 38.7	"	22	UPP ipKP2 12 32 04.0 D
				Andreanof Islands, Aleutian Is. (h = 100 km).		KIR	ipKP1 12 31 33.5
						UME	ipKP1 12 31 41.9 D
							i 12 33 19.5
"	21	UPP	ip	16 44 47.4			North Island, New Zealand (h = 360 km).
		KIR	eP	16 46 11			If the second phase at UME is interpreted as pPKP1, a focal depth of 390 km is yielded.
		UME	ip	16 45 29.9			
				Romania (h = 150 km).			
"	21	UME	ip	19 47 13.0	"	22	KIR eP 17 45 33
				Guatemala (h = 90 km).			Hokkaido, Japan region (h = 55 km).
"	22	UPP	eP	01 07 13			
"	22	UPP	ip	01 48 24.9	"	22	UPP ip 17 56 01.2
				Kuril Islands (h = N).			micr sec
							Mx Z 0.9 22
"	22	UPP	ip	03 00 15.9		KIR	ip 17 55 07.6
			i	03 00 30.8		UME	ip 17 55 35.3
			iS	03 09 18			Fox Islands, Aleutian Islands (h = N).
			ip'P'	03 28 27.1			M = 4.9 (UPP).
				(cont).			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987			1987				
Mar.	23	UPP iP KIR iP UME iP Fox Islands, Aleutian Islands (h = N).	00 12 05.0 00 11 11.8 00 11 38.3	Mar.	25	UME iP Near west coast of Honshu, Japan (h = 40 km).	00 50 37.7
"	23	UPP iP ipP KIR ipP UME i ipP Kyushu, Japan. h = 35 km (UPP).	05 09 48.2 05 09 59.0 05 09 27.0 05 09 33.0 05 09 40.3	"	25	KIR iSg1 UME iSg1 Norrbotten, Sweden, 65.9°N, 23.2°E. Origin time = 04 03 23. M _L (UPP) = 2.1 (0.29) 2. By combination with Finnish station readings.	04 04 30.5 04 04 36.8
"	24	UPP eP KIR eP UME eP i Yugoslavia (h = 10 km).	01 32 55 01 34 26 01 33 41 01 33 48.3	"	25	UPP iP KIR iP Andreanof Islands, Aleutian Is. (h = N).	05 13 51.1 05 12 58.4
"	24	UPP iP UME eP Samar, Philippine Islands (h = 70 km).	04 02 19.8 04 02 10	"	25	UPP iP KIR iP UME iP Northern Sumatera (h = 70 km).	06 20 10.1 06 20 12.6 06 20 08.2
"	24	UPP iP P Mx KIR iP P UME iP Near west coast of Honshu, Japan (h = 25 km). m = 6.0 (UPP,KIR, M = 5.2 (UPP).	13 01 03.8 micr sec Z' 0.3 1.7 Z 1.6 17 13 00 27.0 micr sec Z' 0.1 1.2 13 00 42.6	"	25	UME eP Near east coast of Honshu, Japan (h = 70 km).	13 53 04
"	24	UPP iP UME iP South of Kermadec Islands (h = 35 km).	14 06 01.7 14 05 52.6 C	"	25	UDD iSg1 Coast of southwestern Norway, 62.5°N, 6.2°E. Origin time = 16 07 52. M _L (UPP) = 2.3 1. Solution from Bergen bulletin.	16 09 58.3
"	24	UPP iP UME iP Kuril Islands region (h = 30 km).	17 42 29.1 17 42 05.1	"	25	KIR iSg1 Lappland, Sweden, 68.0°N, 22.6°E. Origin time = 16 58 21. M _L (UPP) = 1.7 1. By combination with Finnish and Norwegian station readings.	16 58 50.1
"	24	UPP eP UME iP	19 31 22 19 31 12.5	"	25	UME iP	18 07 38.1
"	24	UPP iP KIR iP UME iP Volcano Islands region (h = 120 km).	21 50 42.5 21 50 13.6 21 50 26.6 D	"	25	KIR iP West of Macquarie Island (h = 10 km).	19 58 56.8
"	24	UPP iP KIR iP UME iP Volcano Islands region (h = 120 km).	21 50 42.5 21 50 13.6 21 50 26.6 D	"	25	UME eP Mariana Islands (h = N).	23 11 07
"	24	UPP iP KIR iP UME iP Volcano Islands region (h = 120 km).	21 50 42.5 21 50 13.6 21 50 26.6 D	"	26	UPP iP Mid-Indian Rise (h = 10 km).	00 19 18.2

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Mar.	29	(cont.) UME iP	23 27 02.9	Mar.	31	UPP iP	20 17 27.2
		Yunnan Province, China (h = N).				UME iP	20 17 18.0 D
						South of Kermadec Islands (h = N).	
"	29	KIR eP	23 37 17	"	31	UPP iP	21 18 44.2 C
		Molucca Passage (h = 70 km).				KIR iP	21 18 12.0 C
						UME iP	21 18 26.2 C
"	30	UPP eP	02 27 34			South of Honshu, Japan (h = 450 km).	
		Kyushu, Japan (h = N).					
"	30	UPP iP	03 21 49.0 C				
		iPcP	03 23 33.9				
			micr sec				
		P Z'	0.2 0.9				
		KIR iP	03 20 47.9 C				
		iPcP	03 23 10.5				
			micr sec				
		P Z'	0.3 1.3				
		UME iP	03 21 20.9 C				
		iPcP	03 23 22.8				
		Beaufort Sea (h = 10 km). m = 5.9 (UPP,KIR). Well developed PcP phases, especially at KIR and UME.					
"	30	UPP iP	03 44 52.0				
		iS	03 47 26.5				
		KIR iP	03 46 19.9				
		iS	03 50 20.6				
		UME iP	03 45 34.5				
		i	03 45 43.2				
		iS	03 48 45.2				
		Romania (h = 80 km).					
"	30	UPP iP	06 15 01.3				
"	30	UPP iP	11 43 41.9				
		UME iP	11 43 50.2				
"	30	UPP iP	12 41 50.4				
		KIR iP	12 41 06.3				
		Kuril Islands (h = N).					
"	31	UPP iP	01 28 41.7 D			September 15, 1988	
		iPcP	01 29 17.0			Conny Holmqvist	
		KIR iP	01 27 50.5 D			Fekadu Kebede	
		iPcP	01 28 48.2			Rutger Wahlström	
		UME iP	01 28 15.1 D				
		iPcP	01 29 01.7				
		Kamchatka (h = 180 km).					
"	31	UPP iP	03 50 52.8				
		Fiji Islands region (h = 130 km).					

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

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1987					1987				
Apr.	1	UPP	ipdiff	02 01 59.5	Apr.	1	(cont.)		
			ipp	02 06 20.0			UME ip	13 07 16.1	
			i	02 07 15.3			ipP	13 07 57.9	
			iS	02 13 30			Hindu Kush region.		
			ipKKP	02 17 38.8			h = 200 km (UPP,UME).		
				micr sec					
		Mx	Z	9.4 25	"	1	UPP eP	16 12 37	
		KIR	ePKP	02 06 09			KIR iP	16 12 29.5	
			ipp	02 06 46.6			UME iP	16 12 32.2	
			i	02 17 15.2			Burma (h = N).		
			ipKKP	02 17 29.2					
		UME	ipKP	02 06 04.0	"	1	UPP iP	20 31 57.7	
			ipp	02 06 42.2			South Indian Ocean (h = 10 km).		
			i	02 17 20.6					
			ipKKP	02 17 30.4	"	2	UPP ipKP1	02 23 48.9	
			Jujuy Province, Argentina				UME ipKP1	02 23 37.9	
			(h = 250 km).				Kermadec Islands (h = 70 km).		
			M = 6.1 (UPP).						
			M uncorrected for focal		"	2	UPP iP	13 39 11.5	
			depth.				KIR iP	13 39 11.0	
"	1	UPP	iP	05 02 08.9			UME iP	13 39 09.3	
		KIR	iP	05 02 09.1			Kashmir-Tibet border region		
		UME	iP	05 02 06.6			(h = N).		
			Southern Sumatera (h = 80 km).		"	2	UME iP	15 48 55.1	
"	1	UPP	iP	05 58 31.8			Fox Islands, Aleutian Islands		
		KIR	iP	05 59 39.3			(h = N).		
		UME	iP	05 59 04.1	"	2	UPP iP	18 53 18.2	
			Crete (h = N).				i	18 53 19.6	
							ipP	18 53 41.0	
"	1	UPP	iP	13 07 17.2			i(P)	18 54 53	
			ipP	13 07 58.5			iS	18 59 25	
		KIR	iP	13 07 26.8			micr sec		
				micr sec			i	Z' 0.9 1.4	
		P	Z'	0.1 0.5			Mx	Z 3.9 18	
		(cont.)					(cont.)		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987			1987		
Apr.	2	(cont.)	Apr.	3	UME iP 17 58 52.0
		KIR iP 18 53 27.4			Banda Sea (h = N).
		i 18 53 29.0			
		ipP 18 53 50.9	"	3	UME iPKP 18 12 42.9
		i(PP) 18 54 58.7			Tonga Islands (h = 150 km).
		micr sec			
		i Z' 0.5 1.2	"	3	UPP Mx 18 56
		UME iP 18 53 17.1			micr sec
		i 18 53 18.7			Mx Z 1.4 20
		ipP 18 53 41.6			Near n. coast of Papua New Guinea (h = 90 km).
		Afghanistan-USSR border region.			M uncorrected for focal depth.
		h = 100 km (UPP,KIR,UME).			
		m = 6.3 (UPP,KIR), M = 5.2			
		(UPP).	"	4	UPP iSn 07 32 46.4
		M uncorrected for focal depth.			UME iPn 07 30 44.7
"	2	UPP iP 19 32 33.0			i 07 30 53.4
		UME iP 19 32 15.2			iSn 07 31 52.3
		South of Honshu, Japan			iSg1 07 32 22.2
		(h = 390 km).			UDD iPn 07 31 04.6
"	2	UPP iP 23 08 08.7			iSn 07 32 29.0
		KIR iP 23 07 50.3			DEL iSn 07 33 51.2
		UME iP 23 07 56.5			MYV iPn 07 30 31
		Luzon, Philippine Islands			iSn 07 31 28
		(h = N).			Norwegian Sea, near 67 1/4°N, 8°E.
"	3	UPP iP 01 24 04.4 C			Origin time = 07 29 12.
		iPn 01 25 09.0			M _L (UPP) = 3.5 (0.31) 2.
		iPP 01 25 23.2	"	4	UPP i(PKP) 08 16 53.8
		micr sec			i 08 17 02.2
		P Z' 1.4 0.7			UME i(PKP) 08 16 49.7
		Mx Z 28 10			iPKP 08 16 55.4
		KIR iP 01 24 48.9 C			South of Fiji Islands
		micr sec			(h = 590 km).
		P Z' 1.0 0.6	"	4	UPP eP 16 04 22
		UME iP 01 23 50.6 C			UME eP 16 04 53
		i 01 24 27.1			Dodecanese Islands (h = 20 km).
		Eastern Kazakh SSR.	"	4	UME iP 17 43 22.1
		m = 6.9 (UPP,KIR), M = 5.2			Sicily (h = 220 km).
		(UPP).	"	4	UPP iPKP 20 51 05.4
		Underground explosion.			UME iPKP 20 51 14.5
"	3	UPP iPKP1 03 50 55.4			South Sandwich Islands region
		KIR i(PKP) 03 50 36.1			(h = N).
		iPKP 03 50 46.4	"	6	UPP iP 00 35 07.4
		iSKP1 03 53 32.1			UME iP 00 34 45.6
		UME i(PKP) 03 50 44.7			Andreanof Islands, Aleutian Is. (h = N).
		iPKP 03 50 50.4	"	6	UPP iP 01 00 47.0
		iSKP1 03 53 42.6			Andreanof Islands, Aleutian Is. (h = N).
		South of Fiji Islands			
		(h = 480 km).			
"	3	UPP iP 05 58 10.7			
		KIR eP 05 58 04			
		UME iP 05 58 03.4			
		Burma (h = 150 km).			

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1987				1987			
Apr.	6	UPP iP UME eP Andreanof Islands, Aleutian Is. (h = 70 km).	10 34 05.6 10 33 38	Apr.	8	KIR iP UME iP i Near coast of Nicaragua (h = 40 km).	15 57 52.3 15 57 55.7 15 58 01.7
"	6	UPP ePKP UME iPKP	17 54 23 17 54 14.5	"	8	UPP iP iPP iS micr sec Mx Z 19 23 KIR iP UME iP Near coast of Nicaragua (h = 55 km). M = 6.3 (UPP).	17 55 15.4 17 58 40 18 06 04
"	6	UPP iP KIR iP UME iP Mariana Islands region (h = 70 km).	19 09 48.6 19 09 20.1 19 09 31.1	"	8	UPP iP iPKP1 KIR iP KIR iP UME iP Near coast of Nicaragua (h = 60 km).	17 55 10.7 17 55 17.0
"	6	UME iP Bonin Islands region (h = N).	22 41 25.6	"	8	UME iP Java (h = 60 km).	20 11 33.8
"	6	UPP iP KIR iP UME iP Burma-India border region (h = 100 km).	23 38 44.5 23 38 35.5 23 38 37.0	"	8	UPP iP KIR iP South of Fiji Islands (h = 510 km).	23 02 18.6 23 02 07.1
"	7	UPP iP ipP i(PP) iS micr sec P Z' 1.7 1.1 Mx Z 50 21 KIR iP ipP iPP iP'P' micr sec P Z' 1.3 1.2 UME iP ipP Near east coast of Honshu, Japan. h = 40 km (UPP,KIR,UME). m = 6.9 (UPP,KIR), M = 6.7 (UPP).	00 52 08.1 C 00 52 20.4 00 54 46.2 01 01 25 01 01 25 00 51 29.2 C 00 51 40.6 00 53 57.3 01 20 04.1 00 51 47.2 C 00 51 57.2	"	9	UPP iP iS micr sec Mx Z' 8.7 22 KIR iP UME iP ipP Halmahera (h = 50 km). M = 6.1 (UPP).	01 02 31.8 01 13 56 01 02 15.9 01 02 23.4 01 06 27.5
"	8	UPP eP UME iP Off east coast of Honshu, Japan (h = 50 km).	07 10 06 07 09 47.8	"	9	UPP iP KIR iP UME iP Eastern Mediterranean Sea (h = N).	03 06 03.4 03 07 04.5 03 06 30.8
"	8	UPP iP Kermadec Islands region (h = N).	07 46 09.2	"	9	UPP iP iPKP2 UME iPKP1 South of Kermadec Islands (h = N).	05 06 47.6 05 28 41.5 05 28 22.8
"	8	UPP iP Dodecanese Islands (h = 30 km).	13 19 47.5	"	9	UPP iP Mx Z 3.2 16 Tibet (h = N). M = 5.3 (UPP).	07 34 28.4 3.2 16

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Apr.	9	UPP iP UME iP Near east coast of Honshu, Japan (h = 70 km).	08 02 06.2 08 01 43.4	Apr.	11	UPP iPKP KIR iPKP UME iPKP Santa Cruz Islands (h = 190 km).	14 43 42.4 14 43 28.6 14 43 34.7
"	9	UME iP Fox Islands, Aleutian Islands (h = N).	08 01 25.9	"	11	UPP iP KIR iP UME iP	16 32 59.7 16 32 06.6 16 32 33.7
"	9	UPP iP P Z' 0.1 1.0 KIR iP i UME iP Kashmir-Tibet border region (h = N).	20 09 48.2 20 09 41.6 20 09 47.2 20 09 40.2	"	11	UPP iP P Z' 0.1 0.7 Mx Z 4.3 16 KIR iP micr sec P Z' 0.1 0.9 UME iP Taiwan region (h = 55 km). m = 5.8 (UPP,KIR), M = 5.7 (UPP).	18 25 12.7 18 24 48.6 18 24 57.7
"	9	UPP iP KIR iP UME iP Fox Islands, Aleutian Islands (h = N).	23 10 47.7 23 09 54.2 23 10 21.5	"	11	KIR eP UME iP Halmahera (h = N).	19 15 33 19 15 36.8
"	10	UPP iP i i(PP) iPP micr sec i Z' 0.1 1.0 KIR iP i micr sec i Z' 0.1 0.9 UME iP i Iran-USSR border region (h = 45 km). m = 5.7 (UPP,KIR).	06 05 06.4 06 05 08.4 06 51 12.3 06 51 22.8 06 50 32.0 06 50 34.1 06 50 12.9 06 50 15.1	"	11	UPP iP micr sec Mx Z 2.2 15 KIR iP micr sec P Z' 0.1 1.0 UME iP Iran (h = 25 km). M = 5.0 (UPP).	23 57 46.8 23 58 16.7 23 57 56.2
"	10	UPP iP KIR iP micr sec P Z' 0.1 1.0 UME iP Honshu, Japan (h = 70 km).	11 11 04.1 11 10 26.2 11 10 43.1	"	12	UPP iP 01 52 09.7	01 52 09.7
"	10	UPP iP KIR iP micr sec P Z' 0.1 1.0 UME iP Honshu, Japan (h = 70 km).	11 11 04.1 11 10 26.2 11 10 43.1	"	12	UME iPKP Santa Cruz Islands (h = 170 km).	02 22 23.4
"	10	UPP iP UME iP Kuril Islands (h = N).	23 14 25.8 23 14 00.2	"	12	UPP iP iS micr sec P Z' 0.1 0.9 Mx Z 0.7 11 KIR iP micr sec P Z' 0.2 0.8 UME iP Crete (h = 45 km). m = 5.7 (UPP,KIR), M = 4.3 (UPP).	02 52 36.4 02 56 53 02 53 46.2 02 53 10.5
"	11	UME iP South of Honshu, Japan (h = 120 km).	04 16 13.1	"	12	UME iP Bulgaria (h = 15 km).	09 05 41.7

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1987				1987			
Apr.	12	UPP ip	19 42 00.5	Apr.	14	(cont.)	
		UME ip	19 41 59.2			UME ip	02 21 01.8
		Northern Sumatera (h = 45 km).				ipP	02 21 08.4
						Mariana Islands (h = 25 km). M = 5.9 (UPP).	
"	12	UPP iPKP	21 06 38.3	"	14	UPP ip	02 38 28.7
		UME iPKP	21 06 26.2			Mariana Islands (h = N).	
"	13	UPP ip	00 29 27.6	"	14	UPP ip	03 17 14.9
		UME ip	00 30 01.2			Mariana Islands (h = 45 km).	
		Crete (h = 25 km).					
"	13	UPP ip	02 27 19.3	"	14	UPP ip	03 24 24.1
		UME eP	02 26 51			UME ip	03 24 07.1
		Near east coast of Kamchatka (h = N).				Mariana Islands (h = 40 km).	
"	13	UPP iPKP	03 49 39.4	"	14	UPP ip	04 07 03.6
		UME iPKP	03 49 29.7			Mariana Islands (h = N).	
"	13	UPP Mx	09 14	"	14	UPP ip	05 34 09.1
			micr sec			Mariana Islands (h = 50 km).	
		Mx Z	1.1 17	"	14	UPP ip	06 23 47.5
		Mid-Indian Rise (h = 10 km). M = 5.4 (UPP).					micr sec
"	13	UPP iSKP1	09 32 05.6			UME ip	06 23 37.0
		UME iPKP	09 29 12.3				Mx Z 2.0 17
		iSKP1	09 31 53.0			Mariana Islands (h = 35 km). M = 5.5 (UPP).	
		Fiji Islands region (h = 510 km).		"	14	UPP ip	12 55 31.3
"	13	UPP iSg1	18 59 45.4	"	14	UPP ip	13 22 15.9
		UME iSg1	18 59 09.2			UME ip	13 21 50.7
		UDD iSg1	18 59 15.0			Northwest of Kuril Islands (h = 430 km).	
		DEL iSg1	19 01 09.4	"	14	UPP ip	13 23 30.4
		MYV iPg1	18 57 37.2	"	14	UPP iPKP	17 39 30.9
		iSg1	18 58 01.8			UME iPKP	17 39 39.7
		Central Norway, near 64 1/4°N, 11°E. Origin time = 18 57 04. M _L (UPP) = 2.7 (0.12) 3.				South Sandwich Islands region (h = N).	
"	14	UPP ip	00 25 19.0	"	15	UPP ip	18 43 23.4
		ipP	00 25 21.5			UME ip	18 43 04.5
		UME ip	00 25 40.0			Kyushu, Japan (h = 170 km).	
		ipP	00 25 43.0	"	15	UPP ip	22 09 46.3
		South Atlantic Ridge. h = 10 km (UPP,UME).				Mariana Islands (h = N).	
"	14	UPP ip	02 21 18.1	"	16	UPP ip	01 20 03.7
		iSKS	02 31 48				micr sec
			micr sec			P Z'	0.1 1.0
		P Z'	0.1 1.1			UME ip	01 19 35.5
		Mx Z	5.3 18			Kamchatka (h = 310 km).	
		(cont.)					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Apr.	16	UPP iP UME iP Mariana Islands (h = N).	06 51 29.0 06 51 14.1	Apr.	18	UPP iP UME iP ipP Off east coast of Honshu, Japan (h = 30 km).	01 19 41.4 01 19 22.2 01 19 32.4
"	16	UPP iP P Z' 0.2 1.0 UME iP Near east coast of Honshu, Japan (h = 55 km).	19 34 50.5 C micr sec 19 33 28.0 C	"	18	UPP iP P Z' 0.2 1.0 UME iP ipP Southern Alaska (h = 70 km).	02 11 28.5 C micr sec 02 11 01.6 C 02 11 20.2
"	16	UPP iP UME iP Volcano Islands region (h = 90 km).	22 15 49.2 22 15 33.3	"	18	UME iPKP Solomon Islands (h = 25 km).	05 55 06.8
"	17	UPP iP UME iP Mindanao, Philippine Islands (h = 560 km).	00 24 26.6 00 24 15.7	"	18	UPP iP P Z' 0.1 1.1 UME iP Southern Nevada. Underground explosion.	13 51 48.4 micr sec 13 51 34.0
"	17	UPP iP Taiwan region (h = N).	00 44 17.4	"	18	UME iP India (h = N).	17 09 29.3
"	17	UPP eP UME iP Mariana Islands (h = 100 km).	00 46 54 00 46 39.3	"	18	UPP iP Tibet (h = N).	17 35 12.2
"	17	UPP iP P Z' 1.3 0.9 UME iP Eastern Kazakh SSR. Underground explosion.	01 10 01.7 C micr sec 01 09 46.8 C	"	18	UPP iP UME iP Tibet (h = N).	20 56 59.0 20 56 55.3
"	17	UPP iP UME iP Near s. coast of Honshu, Japan (h = 80 km).	05 22 38.2 05 22 21.7	"	18	UME iP Mariana Islands (h = 55 km).	21 06 47.1
"	17	UPP iP UME iP Near s. coast of Honshu, Japan (h = 80 km).	07 45 06.0 C 07 44 44.8 C	"	18	UPP iP UME iP Near coast of Venezuela (h = 100 km).	23 26 56.6 23 27 04.6
"	17	UME iPKP Tonga Islands (h = N).	08 52 48.4	"	19	UME iP South of Honshu, Japan (h = N).	03 22 06.4
"	17	UME iP Kuril Islands (h = N).	13 54 41.5	"	19	UPP iP UME iP Yugoslavia (h = 40 km).	03 58 52.9 03 59 40.2
"	17	UPP iPKP1 UME iPKP1 South of Kermadec Islands (h = N).	15 16 24.0 15 16 15.1	"	19	UPP iP UME iP Ural Mountains region. Underground explosion.	04 04 26.6 04 04 01.3
"	18	UME iP Kyushu, Japan (h = 100 km).	00 14 09.0	"	19	UPP iP UME iP Ural Mountains region. Underground explosion.	04 09 26.7 04 09 04.4

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1987				1987							
Apr.	19	UPP	iSg1	12 43 55.8	Apr.	20	UPP	iP	10 20 33.2		
		UME	iPn	12 40 51.3			UME	iP	10 20 10.2 C		
			iPg1	12 41 00.6			Near east coast of Honshu, Japan (h = 60 km).				
			iSn	12 41 36.3							
			iSg1	12 41 51.6							
		UDD	eSn	12 43 33	"	20	UPP	iPKP1	11 16 04.4		
			iSg1	12 44 03.2				iPKP2	11 16 09.2		
		DEL	iSg1	12 45 55.0					micr sec		
		MYV	iPg1	12 41 25.6				PKP2	0.1 0.9		
			i	12 42 04.4			UME	iPKP1	11 15 53.3		
			iSg1	12 42 34.2			Kermadec Islands region (h = 220 km).				
		Lappland, Sweden, 67.8°N, 19.8°E.									
		Origin time = 12 39 52.					"	21	UPP	iP	10 49 07.5
		M _L (UPP) = 3.6 (0.24) 6.					"	21	UPP	iP	12 48 11.0
		Felt.					"	21	UPP	iP	13 01 31.8
		By combination with Finnish station readings.					"	21	UPP	iP	15 06 03.0
"	19	UPP	iPn	22 17 47.0	"	21	Afghanistan-USSR border region (h = N).				
			iSn	22 18 50.5							
		UME	iSn	22 20 07.5							
		UDD	iPn	22 17 25.6	"	21	UPP	ePKP	15 48 01		
			i	22 17 26.6				iSKP1	15 51 40.0		
			iPg1	22 17 33.2					micr sec		
			i	22 17 48.0				Mx	Z	1.9 20	
			iSn	22 18 15.2			Loyalty Islands region (h = 15 km).				
		DEL	iPn	22 17 12.1			M = 5.7 (UPP).				
			i	22 17 33.7	"	22	UME	iP	02 22 14.8		
			iSn	22 17 48.4			Near east coast of Honshu, Japan (h = 55 km).				
		MYV	iPn	22 17 59.2	"	22	UPP	iP	16 17 55.5		
			eSn	22 19 26					micr sec		
		Jylland, Denmark, near 56 3/4°N, 8 1/2°E.						P	Z'	0.1 1.0	
		Origin time = 22 16 21.					KIR	iP	16 17 03.0		
"	20	UPP	iP	00 29 21.2				i	16 17 06.0		
		UME	iP	00 29 03.4			UME	iP	16 17 29.3		
		Bonin Islands region (h = 410 km).					Andreanof Islands, Aleutian Is. (h = N).				
"	20	UME	iP	08 32 26.3	"	22	UPP	iPKP1	16 19 11.1		
		Hokkaido, Japan region (h = 70 km).					South of Fiji Islands (h = 270 km).				
"	20	UME	iPKP	09 38 15.2	"	22	UPP	iPKP	16 38 31.8		
		South Sandwich Islands region (h = 80 km).					South of Fiji Islands (h = 600 km).				
"	20	UPP	i(PKP)	09 49 54.3	"	22	KIR	iPKP1	17 42 44.0		
			iPKP	09 50 02.5			UME	iPKP1	17 42 43.6		
		UME	i(PKP)	09 49 42.3			South of Australia (h = 10 km).				
			iPKP	09 49 48.6							
		Fiji Islands region (h = 570 km).									

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987										
Apr.	22	UPP	iP	20 24	49.6	C	Apr.	23	UPP	iP	17 17	52.8		
			ipP	20 25	04.3				KIR	iP	17 17	27.7		
			iS	20 34	07				Southwestern Ryukyu Islands (h = 50 km).					
					micr	sec								
			P	Z'	0.9	1.5								
			Mx	Z	47	18		"	23	UME	iP	17 28	26.5	
		KIR	iP	20 24	10.0	C			Fox Islands, Aleutian Islands (h = N).					
			ipP	20 24	25.1									
					micr	sec								
			P	Z'	0.8	2.0		"	24	UPP	iP	02 34	12.7	
		UME	iP	20 24	27.8	C			KIR	iP	08 35	39.5		
			ipP	20 24	42.5				UME	iP	02 34	58.8		
		Near east coast of Honshu, Japan. h = 55 km (UPP,KIR,UME). m = 6.4 (UPP,KIR), M = 6.7 (UPP).								Northern Italy (h = 30 km).				
"	22	UME	iP	20 45	47.9			"	24	UPP	ipdiff	12 54	27.3	
			ipP	20 46	00.5				KIR	ipdiff	12 54	23.7		
		Near east coast of Honshu, Japan (h = 55 km).										micr	sec	
											Pdiff	Z'	0.1	1.0
"	22	UPP	ipKP1	23 51	00.2				UME	ipdiff	12 54	19.1		
		South of Fiji Islands (h = 560 km).								Banda Sea (h = 380 km).				
"	23	UME	iP	02 24	36.1			"	24	KIR	iP	22 33	02.6	
		Near east coast of Honshu, Japan (h = N).								UME	iP	22 32	52.1	
"	23	UPP	iP	06 08	03.6				Hindu Kush region (h = 210 km).					
		KIR	iP	06 07	46.9			"	25	KIR	iP	05 06	25.8	
					micr	sec			Mariana Islands (h = N).					
			P	Z'	0.1	1.0		"	25	UPP	eSg1	06 55	18	
		UME	iP	06 07	56.5				KIR	iSg1	06 54	12.0		
		Mindanao, Philippine Islands (h = 90 km).								UME	iPg1	06 53	00.2	
"	23	UPP	iP	09 15	33.7					i	06 53	03.9		
		KIR	iP	09 15	29.4					iSg1	06 53	12.8		
		Nepal (h = 50 km).								i	06 53	16.3		
									UDD	iSg1	06 55	39.9		
									MYV	iSg1	06 54	27.6		
									Västerbotten, Sweden, 64.7°N, 21.0°E. Origin time = 06 52 43. M _L (UPP) = 2.4 (0.27) 3. Felt.					
"	23	KIR	iP	16 52	09.6			"	25	UPP	eP	08 22	08	
		UME	iP	16 52	14.3				KIR	iP	08 22	50.1		
		Mindanao, Philippine Islands (h = 150 km).								UME	iP	08 21	57.3	
"	23	UPP	ipKP1	17 08	38.3				Mindanao, Philippine Islands (h = 80 km).					
			i	17 09	06.7			"	25	UPP	iP	08 31	18.5	
		KIR	ipKP1	17 08	26.3					i	08 31	29.9		
			iSKP1	17 11	12.1				KIR	iP	08 30	57.8		
		UME	ipKP1	17 08	33.5					i	08 31	12.0		
			iSKP1	17 11	23.1				UME	iP	08 31	04.9		
			i	17 11	51.2				Philippine Islands region (h = 50 km).					
		South of Fiji Islands (h = 490 km).												

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Apr.	25	UPP KIR Kamchatka (h = N).	iP iP	09 43 20.5 09 42 23.4	Apr.	25	(cont.) KIR ipP	iP ipP	19 34 34.7 19 34 38.6
"	25	UPP	iP	11 21 11.3				micr sec pP	0.7 1.5
"	25	UPP KIR UME	iP iP iP	12 28 59.1 D micr sec Z' 0.1 0.9 12 28 41.0 D micr sec Z' 0.1 1.0 12 28 47.2 D			UME ipP	iP ipP	19 34 32.0 19 34 35.5
		Luzon, Philippine Islands (h = 110 km). m = 5.6 (UPP,KIR).			Northern Sumatera. h = 10 km (UPP,KIR,UME). m = 6.5 (UPP,KIR), M = 6.5 (UPP).				
"	25	UPP	iP	12 29 02.4 D	"	25	UPP	iP	21 56 08.4 C
			iS	12 39 07				P	Z' 0.1 1.1
			i	12 39 50			KIR	iP	21 55 20.6
				micr sec				P	Z' 0.1 1.0
			P	Z' 1.5 1.0			UME	iP	21 56 43.1 C
			Mx	Z 32 22			Kuril Islands (h = 40 km). m = 5.8 (UPP,KIR).		
		KIR	iP	12 28 44.2 D	"	25	UME	iP	22 16 27.2
			ipP	12 29 13.2			Turkey (h = 10 km).		
				micr sec	"	25	UME	iP	22 40 19.5
			P	Z' 2.3 1.0			Kuril Islands (h = N).		
		UME	iP	12 28 50.4	"	25	UME	iP	22 59 50.7
			ipP	12 29 18.7	"	25	UPP	iP	23 51 33.8
		Luzon, Philippine Islands. h = 120 km (KIR,UME). m = 6.8 (UPP,KIR), M = 6.5 (UPP). M uncorrected for focal depth.			"	25	UME	iP	23 52 05.4
							Crete (h = 40 km).		
"	25	UPP	iP	12 47 27.2	"	26	UME	iPKP	06 40 14.7
		KIR	iP	12 47 36.1			Santa Cruz Islands (h = 80 km).		
		UME	iP	12 47 32.2	"	26	UME	iPKP	08 09 34.5
"	25	UPP	iP	13 08 21.9			Tonga Islands (h = 280 km).		
		Luzon, Philippine Islands (h = N).			"	26	UPP	Mx	16 56
"	25	UME	iP	18 45 58.9				micr sec	
		Near east coast of Honshu, Japan (h = 60 km).						Mx	Z 1.9 18
							South Sandwich Islands region (h = N). M = 5.7 (UPP).		
"	25	KIR	iPKP	19 28 14.6	"	26	UPP	iP	20 13 43.0 D
		UME	iPKP	19 28 21.4			UME	iP	20 13 23.6 D
		Vanuatu Islands (h = 250 km).					South of Honshu, Japan (h = 150 km).		
"	25	UPP	eP	19 34 34	"	27	UME	iP	04 51 28.0
			ipP	19 34 39.0			Southern Sumatera (h = 55 km).		
			iS	19 44 54					
				micr sec					
			pP	Z' 0.2 0.9					
			Mx	Z 22 18					
		(cont.)							

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1987				1987			
Apr.	27	UPP iP	05 34 58.6	Apr.	28	UME iPKP	22 10 39.1
		UME iP	05 34 40.7 D			South of Fiji Islands	(h = 380 km).
		Bonin Islands region					
		(h = 480 km).					
"	27	UPP iP	12 50 33.8	"	28	UPP iP	22 49 19.6
		i	12 50 44.7			KIR eP	22 49 53
		KIR iP	12 49 41.5			UME iP	22 49 33.8
		UME iP	12 50 07.1			Southern Iran (h = 40 km).	
		Off east coast of Kamchatka		"	28	UPP iP	22 57 00.5
		(h = N).				KIR eP	22 57 01
"	27	UME iP	13 36 12.2			UME iP	22 56 57.6
						Northern Sumatera (h = N).	
"	27	UME iP	15 29 03.5	"	28	UPP iP	23 14 11.7
		Afghanistan-USSR border				Carlsberg Rigde (h = 10 km).	
		region (h = 240 km).					
"	27	UPP iP	17 10 24.2	"	29	UPP iP	00 55 52.1
			micr sec	"	29	UPP iP	01 53 11.8 C
		Mx Z	2.2 18			iPP	01 54 50.8
		KIR iP	17 09 44.7				micr sec
			micr sec			P Z'	0.3 1.1
		P Z'	0.1 1.0			Mx Z	3.3 13
		UME iP	17 10 01.8			KIR iP	01 53 45.5 C
		Off east coast of Honshu,					micr sec
		Japan (h = 50 km).				P Z'	0.6 1.1
		M = 5.4 (UPP).				UME iP	01 53 24.2 C
						iPP	01 55 05.8
"	28	UPP iP	02 22 55.2			Southern Iran (h = 10 km).	
		KIR iP	02 23 19.7			m = 6.2 (UPP,KIR)., M = 5.3	
		UME iP	02 23 04.6			(UPP).	
		Chagos Archipelago region		"	29	UPP iP	05 25 50.9
		(h = 10 km).				ipP	05 26 17.5
"	28	UME iP	15 19 16.2			KIR iP	05 25 45.1
		North Atlantic Ocean				ipP	05 26 11.6
		(h = 10 km).				UME iP	05 25 44.0
"	28	UPP iP	15 44 58.6			ipP	05 25 10.3
		i	15 45 00.3			Burma-India border region.	
		iS	15 55 18			h = 110 km (UPP,KIR,UME).	
			micr sec	"	29	UPP i(PKP)	14 46 06.4
		i Z'	0.1 1.0			iSKP1	14 49 02.4
		Mx Z	3.2 17			iSKKP	14 58 02.4
		KIR iP	15 44 59.3			UME i(PKP)	14 45 56.0
			micr sec			iPKP	14 46 07.6
		P Z'	0.1 1.0			iSKP1	14 49 00.1
		UME iP	15 44 57.3			iSKKP	14 58 27.8
		Northern Sumatera (h = 20 km).				Fiji Islands region	
		m = 6.0 (UPP,KIR), M = 5.7				(h = 390 km).	
		(UPP).*		"	29	UME iP	22 17 31.6
"	28	UME iP	19 00 54.9			Jan Mayen Islands region	
		North Atlantic Ocean				(h = 10 km).	
		(h = 10 km).					

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1987

Apr. 30 UME eP 01 22 03
Ryuky Islands (h = 35 km).

" 30 UPP iP 05 25 15.5 C
i(PP) 05 26 45.1
iS 05 31 28
micr sec
Mx Z 6.6 10
UME iP 05 25 10.6
Southern Xinjiang, China
(h = 10 km).
M = 5.7 (UPP).

" 30 KIR iP 07 02 37.9
Southern Xinjiang, China
(h = 10 km).

" 30 UPP iP 13 41 48.0
KIR iP 13 41 14.2
UME iP 13 41 33.7
Southern Nevada.
Underground explosion.

" 30 UPP iP 13 57 33.2
ipP 13 57 45.5
KIR iP 13 56 55.1
i 13 57 19.3
UME iP 13 57 11.7
ipP 13 57 24.9
Near east coast of Honshu,
Japan (h = 60 km).
h = 50 km (UPP,UME).

" 30 KIR iPg1 13 59 12.7
iSg1 13 59 34.6
Northwestern Finland, 67.7°N,
25.2°E.
Origin time = 13 58 47.
M_L(UPP) = 2.5 (0.00) 2.

" 30 UPP iP 21 32 33.3
KIR iP 21 32 32.9
UME iP 21 32 31.0
Northern Sumatera
(h = 40 km).

September 16, 1988

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Ota Kulhánek
Harris Mwamboo Nyali

SEISMOLOGICAL DEPARTMENT
 BOX 12019
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 SWEDEN

SEISMOLOGISKA AVDELNINGEN
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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

M A Y 1 - 31, 1987

1987					1987				
May	1	UPP eP	07 03 43		May	2	KIR iP	21 46 11.2	
		Near east coast of Honshu, Japan (h = 70 km).					Southern Xinjiang, China (h = N).		
"	1	UPP iP	23 17 42.6		"	3	UME iP	00 46 44.4	
		i	23 17 49.7				Afghanistan-USSR border region (h = N).		
		KIR iP	23 17 03.9						
		UME iP	23 17 20.8						
		i	23 17 30.7		"	3	UME iP	02 06 58.3	
		Near east coast of Honshu, Japan (h = 50 km).					Near east coast of Honshu, Japan (h = 55 km).		
"	2	UME iP	04 29 16.2		"	3	UPP iPKP1	11 22 16.6	
							i	11 22 30.8	
"	2	UME iP	13 00 03.5				UME iPKP1	11 22 06.2	
		South of Honshu, Japan (h = N).					Kermadec Islands region (h = 60 km).		
"	2	UPP iP	19 32 10.2		"	3	UPP iPKP1	11 53 41.0 D	
		KIR iP	19 31 17.9				KIR ePKP	11 53 30	
		UME iP	19 31 44.3				UME i(PKP)	11 53 30.0	
		Alaska Peninsula (h = N).					iPKP	11 53 39.0	
"	2	UPP iP	20 47 33.4				South of Fiji Islands (h = 580 km).		
		i	20 47 38.4		"	3	UPP ePKP2	12 47 22	
			micr sec				KIR ePKP1	12 46 52	
		i	Z' 0.1 0.8				UME iPKP2	12 47 12.6	
		Mx	Z 2.0 10				Auckland Islands region (h = N).		
		KIR iP	20 49 07.4						
		i	20 49 11.3		"	3	UPP iPKP1	17 04 23.8	
			micr sec				iSKP1	17 07 14.5	
		i	Z' 0.2 1.4				KIR iPKP	17 04 17.4	
		UME iP	20 48 24.8 D				iSKP1	17 06 52.2	
		Northern Italy (h = 10 km). m = 5.3 (UPP,KIR).					UME i(PKP)	17 04 12.8	
							iPKP	17 04 19.3	
							iSKP1	17 07 03.7	
							Fiji Islands region (h = 570 km).		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987			1987				
May	3	KIR iP Mariana Islands (h = 180 km).	17 07 42.6	May	5	UPP iP i iS P Z' Mx Z KIR iP P Z' UME iP Hindu Kush region (h = 200 km). m = 6.5 (UPP,KIR), M = 5.7 (UPP). M uncorrected for focal depth.	15 48 10.1 C 15 50 47.9 15 54 04 micr sec 1.0 0.9 11 16 15 48 19.9 C micr sec 1.8 1.0 15 48 09.0 C
"	3	UPP iP ipP KIR eP ipP UME iP East China Sea. h = 210 km (UPP,KIR).	17 32 40.3 17 33 32.9 17 32 14 17 33 03.6 17 32 23.5	"	6	UPP iP iPn iPP P Z' KIR iP P Z' UME iP Eastern Kazak SSR. m = 6.2 (UPP,KIR). Underground explosion.	04 08 59.8 C 04 10 07.4 04 10 18.6 micr sec 0.1 1.0 04 08 45.5 C micr sec 0.4 0.5 04 08 45.7 C
"	4	UME iP Tajik SSR (h = 190 km).	09 55 08.4	"	6	UPP S iP'P' P Z' Mx Z KIR iP iP'P' P Z' UME iP iP'P' Andreanof Islands, Aleutian Is. (h = 20 km). m = 7.3 (UPP,KIR), M = 6.3 (UPP).	04 17 13.5 C 04 26 10 04 45 21.4 micr sec 4.7 1.0 20 19 04 16 21.3 C 04 45 45.7 micr sec 1.2 1.0 04 16 47.0 C 04 45 33.4
"	4	UPP iPKP1 Kermadec Islands region (h = 80 km).	17 57 14.9	"	6	UPP iP Rat Islands, Aleutian Islands (h = N).	04 23 40.1
"	4	UPP eP Mx Z KIR eP UME iP North Atlantic Ridge (h = 10 km). M = 4.6 (UPP).	23 23 23 micr sec 1.4 15 23 23 50 23 23 39.9	"	6	UPP iP Eastern Caucasus (h = N).	10 46 05.1
"	4	UPP Mx Z KIR iP UME iP Azores Islands region (h = 10 km). M = 4.7 (UPP).	micr sec 1.4 20 23 56 25.6 23 56 14.9	"	6	UPP iP iS micr sec Mx Z Central Mid-Atlantic Ridge (h = 10 km). M = 5.2 (UPP).	11 01 43.5 11 10 34 micr sec 1.7 16
"	5	UPP iPKP1 UME iPKP1 Kermadec Islands region (h = N).	00 50 55.0 00 50 44.2	"	6	UPP iP KIR iP P Z' UME iP (cont.)	04 28 23.4 C micr sec 0.2 1.0 04 28 31.1 micr sec 0.1 1.0 04 28 56.6
"	5	UPP iP KIR iP UME iP Hindu Kush region (h = 180 km).	05 00 10.8 05 00 20.8 05 00 10.6	"	6		
"	5	UME iP Near east coast of Honshu, Japan (h = 90 km).	05 30 40.9	"	6		
"	5	UPP iP Eastern Caucasus (h = N).	10 46 05.1	"	6		
"	5	UPP iP iS micr sec Mx Z Central Mid-Atlantic Ridge (h = 10 km). M = 5.2 (UPP).	11 01 43.5 11 10 34 micr sec 1.7 16	"	6		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987	1987
May 6 (cont.) Andreanof Islands, Aleutian Is. (h = N). m = 6.1 (UPP,KIR).	May 7 (cont.) UME iP 03 15 11.4 C iS 03 22 45.9 Near e. coast of eastern USSR. h = 450 km (UPP). m = 6.4 (UPP,KIR), M = 5.6 (UPP). M uncorrected for focal depth.
" 6 UPP iP 05 27 14.0 KIR iP 05 26 22.0 Andreanof Islands, Aleutian Is. (h = N).	" 7 UPP iP 09 01 52.8 ipP 09 02 19.8 iS 09 06 03 micr sec P Z' 0.1 0.7 KIR iP 09 02 59.8 UME iP 09 02 25.3 Dodecanese Islands. h = 150 km (UPP).
" 6 UPP iP 05 29 23.6 KIR iP 05 28 31.2 Andreanof Islands, Aleutian Is. (h = N).	" 8 UPP iP 20 48 55.0 Mindanao, Philippine Islands (h = 55 km).
" 6 UPP iP 06 35 41.8 Andreanof Islands, Aleutian Is. (h = N).	" 9 UPP iP 04 06 02.4 KIR iP 04 05 27.7 UME iP 04 05 42.6 Near s. coast of southern Honshu (h = 10 km).
" 6 UPP iP 06 38 05.6 Andreanof Islands, Aleutian Is. (h = N).	" 9 UPP iP 06 51 32.1 KIR iP 06 51 19.7 micr sec PKP Z' 0.1 1.0 UME iP 06 51 25.5 Santa Cruz Islands (h = 45 km).
" 6 UPP iP 07 59 07.2 Andreanof Islands, Aleutian Is. (h = N).	" 9 UPP iP 08 18 21.6 micr sec P Z' 0.1 0.8 KIR iP 08 17 54.0 micr sec P Z' 0.1 0.7 UME iP 08 18 05.8 Mariana Islands (h = 150 km). m = 5.8 (UPP,KIR).
" 6 UPP iP 08 15 41.4 Andreanof Islands, Aleutian Is. (h = N).	" 9 UPP iP 17 02 54.1 C micr sec P Z' 0.1 1.1 KIR iP 17 02 15.6 micr sec P Z' 0.1 1.1 UME iP 17 02 32.9 C Near east coast of Honshu, Japan (h = 45 km). m = 5.8 (UPP,KIR).
" 6 UPP iPdiff 12 58 29.3 micr sec Mx Z 3.2 23 KIR iPdiff 12 58 20.4 UME ePdiff 12 58 27 New Britain region (h = 20 km). M = 5.8 (UPP).	
" 6 UPP iP 14 57 16.5 micr sec P Z' 0.2 0.9	
" 7 UPP iP 03 15 35.0 C iPcP 03 16 07.3 ipP 03 17 10.0 iS 03 23 30 iScS 03 24 40 micr sec P Z' 0.9 0.9 Mx Z 6.0 22 KIR iP 03 14 51.7 C iS 03 22 10.2 micr sec P Z' 1.7 1.0 (cont.)	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
May	10	UPP iP	03 30 44.7	May	11	UPP iP	10 12 48.7
		KIR iP	03 30 53.5 C			iS	10 23 12
		UME iP	03 30 43.1 C				micr sec
		Afghanistan-USSR border region (h = 250 km).				P Z'	0.1 1.0
"	10	KIR iP	03 44 46.9			Mx Z	2.8 19
		Southern Xinjiang, China (h = 10 km).				KIR iP	10 12 32.8
"	10	UME iP	09 03 35.5			ipP	10 12 58.1
		i	09 03 44.9				micr sec
		Near s. coast of Honshu, Japan (h = 25 km).				P Z'	0.8 1.7
"	10	UPP iP	09 50 03.9			UME iP	10 12 39.5
			micr sec			Talaud Islands. h = 90 km (KIR). m = 6.5 (UPP,KIR), M = 5.7 (UPP). M uncorrected for focal depth.	
		P Z'	0.1 0.8	"	11	UPP i(P)	13 51 50.7
		KIR iP	09 49 11.3	"	11	UME iP	15 02 28.1
		UME iP	09 49 37.6			Off east coast of Honshu, Japan (h = 40 km).	
		Andreanof Islands, Aleutian Is. (h = N).		"	11	UME iP	17 39 44.3
"	10	UPP iP	12 34 41.9			Bulgaria (h = 10 km).	
		KIR iP	12 34 02.8	"	11	UME iP	18 26 41.2
		UME iP	12 34 20.5			Banda Sea (h = 160 km).	
		Near east coast of Honshu, Japan (h = 40 km).		"	11	UPP iP	21 02 58.5 C
"	10	UME iPKP	15 34 42.6				micr sec
		Cordoba Province, Argentina (h = 180 km).				P Z'	0.2 1.0
"	10	KIR eP	20 26 54			Mx Z	5.1 19
		Eastern Kazakh SSR (h = N).				KIR iP	21 02 18.7 C
"	10	UME iP	21 46 30.8				micr sec
		Near s. coast of Honshu, Japan (h = 25 km).				P Z'	0.1 1.0
"	10	KIR iP	21 50 29.8			UME iP	21 02 36.5 C
		Kuril Islands region (h = 30 km).				Near east coast of Honshu, Japan (h = 55 km). m = 5.9 (UPP,KIR), M = 5.7 (UPP).	
"	11	UPP iPKP	02 55 56.0	"	12	UPP iP	01 43 36.7
		iSKP1	02 58 48.8			iSKS	01 54 04
		KIR iSKP1	02 58 25.9			iS	01 54 36
		UME iPKP	02 55 52.1				micr sec
		iSKP1	02 58 38.3			P Z'	0.2 1.2
		Fiji Islands region (h = 570 km).				Mx Z	17 18
"	11	UME iP	07 07 50.8			KIR iP	01 43 20.2
		Near s. coast of Honshu, Japan (h = 30 km).					micr sec
"	11	UME iPKP	08 06 21.9			P Z'	0.5 1.1
		Vanuatu Islands (h = 160 km).				UME iP	01 43 25.7
						Mindanao, Philippine Islands (h = 25 km). m = 6.6 (UPP,KIR), M = 6.4 (UPP).	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987							
May	12	UPP	iP	02 00 44.5	May	14	UME	iP	08 05 40.8		
		KIR	iP	02 00 55.7			"	14	KIR	eP	10 19 40
		UME	iP	02 00 52.5					Southern Iran (h = 45 km).		
"	12	UME	iP	02 43 09.1	"	14	UPP	iP	15 42 53.4		
"	12	UPP	iP	04 14 35.5			KIR	iP	15 42 30.5		
		KIR	iP	04 13 45.9			UME	iP	15 42 38.8		
		UME	iP	04 14 09.5					Taiwan region (h = 45 km).		
		Kuril Islands (h = 45 km).			"	14	UPP	Mx	17 01		
"	12	UPP	iPKP1	04 36 32.0					micr sec		
		Kermadec Islands region					Mx	Z	2.6 19		
		(h = 190 km).							Off coast of central Chile		
"	12	UPP	iP	07 22 51.2					(h = 30 km).		
				micr sec					M = 5.8 (UPP).		
		Mx	Z	0.8 12	"	14	UPP	iP	21 24 01.3		
		KIR	iP	07 23 25.6					Mindoro, Philippine Islands		
		UME	iP	07 23 02.5					(h = 70 km).		
		Southern Iran (h = 40 km).			"	14	UPP	iP	22 29 19.4		
		M = 4.7 (UPP).					KIR	iP	22 30 08.9		
"	12	KIR	iP	07 36 40.0			UME	iP	22 29 38.4		
		Southern Iran (h = 45 km).							Turkey (h = 50 km).		
"	12	UME	iPKP	14 14 51.4	"	15	UPP	iP	08 54 34.2		
		New Britain region					KIR	iP	08 53 40.8		
		(h = 90 km).					i		08 53 48.0		
"	12	KIR	iP	18 26 15.7					micr sec		
		Southern Iran (h = 70 km).					P	Z'	0.1 1.0		
"	12	UME	iP	21 02 17.0			UME	iP	08 54 08.7		
		Near east coast of Honshu,					i		08 54 16.2		
		Japan (h = 55 km).							Kodiak Island region (h = N).		
"	13	UPP	iSn	07 24 15.7	"	15	UPP	iPKP1	14 09 07.4		
			iSg1	07 24 30.4			KIR	iPKP1	14 09 08.6		
		UDD	iPn	07 23 06.2			UME	iPKP	14 09 04.1		
			iSn	07 23 39.9				iPKP1	14 09 10.2		
			iSg1	07 23 44.5				iPKP2	14 09 21.3		
		DEL	iSn	07 23 47.8					Easter Island Cordillera		
			iSg1	07 23 56.6					(h = 10 km).		
		Off coast of southern		"	16	UME	iP	02 18 39.0			
		Norway, near 58 1/4°N, 11°E,		"	16	KIR	iSg1	08 19 44.0			
		Origin time = 07 22 22.						Norrbottnen, Sweden, 66.3°N,			
		M _L (UPP) = 2.6 (0.14) 2.						22.5°E.			
"	14	UME	iP	00 36 12.3					Origin time = 08 18 51.		
		Near east coast of Honshu,						By combination with Finnish			
		Japan (h = 55 km).						station readings.			
"	14	UPP	iP	06 34 03.1	"	16	UME	iP	09 36 11.2		
		KIR	iP	06 35 17.8	"	16	UPP	iP	13 19 24.1		
		UME	iP	06 34 40.7			KIR	iP	13 19 22.7		
		Greece (h = 10 km).						Sunda Strait (h = 70 km).			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
May	17	UPP eP	00 47 19	May	18	(cont.)	
		UME iP	00 46 57.2			ipP	03 18 17.1
		Near east coast of Honshu, Japan (h = 70 km).					micr sec
"	17	UPP iPKP	05 30 56.9			P Z'	3.1 0.8
			micr sec			UME iP	03 16 48.3 D
		KIR PKP	Z' 0.1 1.0			ipP	03 18 42.9
		KIR iPKP	05 30 44.5 C			Sea of Okhotsk.	
		KIR PKP	Z' 0.2 0.8			h = 540 km (UPP,KIR,UME).	
		UME i(PKP)	05 30 33.5 C			m = 6.7 (UPP,KIR), M = 5.7 (UPP).	
		UME iPKP	05 30 50.6			M uncorrected for focal depth.	
		Vanuatu Islands (h = 180 km).		"	18	UPP iP	07 28 50.1
"	17	UME iPKP	12 06 12.6			KIR iP	07 28 04.3
		Fiji Islands region (h = 610 km).				UME iP	07 28 25.0
"	17	UPP iP	12 23 22.6			Kuril Islands (h = 110 km).	
			12 23 37.6	"	18	UPP iP	07 36 12.2
		KIR iP	12 23 24.1			KIR iP	07 36 12.9
			12 23 39.2			UME iP	07 36 09.6
		UME iP	12 23 19.8			Southern Sumatera (h = N).	
			12 23 34.8	"	18	UPP iP	07 40 06.5
		Northern Sumatera (h = 70 km).				KIR iP	07 39 49.3
"	18	UPP iP	02 04 05.8 D			UME iP	07 39 55.1
			02 12 22			Mindanao, Philippine Islands (h = 15 km).	
			micr sec	"	18	KIR iP	16 13 07.8
		P Z'	1.1 1.4			UME iP	16 13 04.3
		Mx Z	7.5 16			Northern Sumatera (h = 100 km).	
		KIR iP	02 03 59.7 D	"	19	UPP iP	00 25 49.0
			micr sec			iS	00 35 08
		P Z'	0.4 1.0				micr sec
		UME iP	02 03 58.8 D			P Z'	0.4 0.8
		Burma-India border region (h = 50 km).				KIR iP	00 25 16.6
		m = 6.6 (UPP,KIR), M = 5.8 (UPP).				i	00 25 17.1
"	18	UPP iP	02 13 42.7				micr sec
		KIR iP	02 13 31.5			P Z'	0.2 0.9
		UME iP	02 13 32			UME iP	00 25 30.7
"	18	UPP iPKP1	02 55 04.9			i	00 25 31.3
		UME iPKP1	02 54 53.8			South of Honshu, Japan (h = 420 km).	
		Kermadec Islands (h = N).				m = 5.9 (UPP,KIR).	
"	18	UPP iP	03 17 13.5 D	"	19	UPP iPKP	08 30 58.0
		ipP	03 19 06.0			South Sandwich Islands region (h = N).	
		iS	03 26 09	"	19	KIR iSg1	12 04 31.0
			micr sec			Central Norway, 66.4°N, 15.2°E.	
		P Z'	2.7 1.0			Origin time = 12 03 09.	
		Mx Z	6.0 20			M _L (UPP) = 2.4 1.	
		KIR iP	03 16 27.0 D			Solution from Bergen bulletin.	
		(cont.)					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
May	19	UPP	Mx	14 00	May	20	UME	iPKP	14 13 34.1
				micr sec					South Shetland Islands
			Mx	Z 4.3 21					(h = 10 km).
				Near coast of central Chile	"	20	UME	iPKP	17 24 20.4
				(h = 35 km).					Tuamotu Archipelago region.
				M = 5.9 (UPP).					Underground explosion.
"	19	UPP	iPKP1	17 17 37.6	"	20	UPP	iPg1	18 21 08.6
				Tonga Islands (h = N).				iSg1	18 21 13.0
"	19	UPP	iP	17 50 24.0 C				iRg	18 21 14.4
				micr sec			UDD	iSg1	18 22 07.6
			P	Z' 0.1 0.9				iRg	18 22 20.3
		KIR	iP	17 49 55.2 C					Uppland, Sweden, 60.1°N,
				micr sec					17.5°E.
			P	Z' 0.3 1.4					Rockburst at the Dannemora
		UME	iP	17 50 08.1 C					iron ore mine.
				Volcano Islands region	"	21	UME	iP	05 07 10.8
				(h = 80 km).					South of Honshu, Japan (h = N).
				m = 6.0 (UPP,KIR).					
"	19	UME	iP	19 52 51.4	"	21	UPP	iP	12 37 19.5
"	19	UPP	iPKP	22 36 46.7					micr sec
		UME	iPKP	22 36 38.7				Mx	Z 1.5 18
				South of Kermadec Islands			KIR	iP	12 36 54.2
				(h = 110 km).			UME	iP	12 36 04.2
"	20	UPP	iP	05 50 47.4					Southwestern Ryukyu Islands
		KIR	iP	05 49 54.1 C					(h = 40 km).
		UME	iP	05 50 22.4 C	"	21	UPP	iP	15 48 01.9
				Kodiak Island region (h = N).			UME	iP	15 47 46.6
"	20	UPP	iP	06 09 45.8					Southwestern Ryukyu Islands
		KIR	iP	06 08 53.7					(h = 40 km).
		UME	iP	06 09 21.4	"	22	KIR	iP	08 53 09.3
				Kodiak Island region (h = N).					Near Islands, Aleutian
"	20	UPP	iP	06 19 50.0					Islands (h = N).
		KIR	iP	06 18 56.9	"	22	KIR	iP	16 30 49.3
		UME	iP	06 19 25.4			UME	iP	16 31 16.0
				Kodiak Island region (h = N).					South of Alaska (h = N).
"	20	UPP	eP	07 17 34	"	22	KIR	iP	17 14 30.3
				Southwestern Ryukyu Islands			UME	iP	17 14 22.6
				(h = 35 km).					Tajik-Xinjiang border region
"	20	UPP	iP	07 23 12.0					(h = 140 km).
		UME	iP	07 22 56.6	"	22	KIR	iP	20 44 25.4
				Southwestern Ryukyu Islands			UME	iP	20 45 01.8
				(h = 45 km).					Jan Mayen Island region
"	20	UDD	iSg1	09 49 42.0	"	23	UPP	iP	07 12 04.7
				Norwegian Sea, 61.0°N, 3.0°E.					Andreanof Islands, Aleutian
				Origin time = 09 46 47.					Is. (h = N).
				M _L (UPP) = 2.7 1.					
				Solution from Bergen bulletin.					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
May	23	UPP	iP	17 22 17.3	May	25	(cont.)
			iS	17 32 44			KIR iP 11 50 18.3 C
				micr sec			micr sec
			Mx Z	1.0 18			P Z' 0.1 1.0
		KIR	e	17 22 06			UME iP 11 50 46.1 C
		Mindanao, Philippine Islands					Kodiak Island region (h = N).
		(h = 30 km).					m = 5.8 (UPP,KIR).
		M = 5.2 (UPP).					
"	24	UPP	eP	02 19 43	"	25	UME iP 13 03 19.5
			ipP	02 20 00.1	"	25	UPP i(P) 16 02 38.5
		KIR	eP	02 19 43	"	25	UPP i(P) 18 04 37.8
			ipP	02 20 02.5	"	26	UPP iP 02 01 54.1
		UME	iP	02 19 37.9			UME iP 02 01 35.7
			ipP	02 19 58.0			South of Honshu, Japan
		Andaman Islands region					(h = 70 km).
		(h = 70 km).					
"	24	KIR	iPg1	14 30 30.5	"	26	UPP i 02 53 51.5
			iSg1	14 30 48.1			UME iSn 02 50 20.1
		UME	iSg1	14 32 42.3			UDD e 02 54 06.1
		Norway-Finland border region,					Barents Sea, 76.3°N, 22.1°N.
		68.7°N, 23.3°E.					Origin time = 02 44 56.
		Origin time = 14 30 07.					M _L (UPP) = 4.1 (0.48) 2.
		M _L (UPP) = 1.7 (0.22) 2.					Solution from Finnish station
		By combination with Finnish					readings.
		and Norwegian station					
		readings.					
"	25	UPP	iSg1	02 38 44.1	"	26	UME iSKP1 11 16 46.1
		UME	iSg1	02 39 11.7			South of Fiji Islands
		UDD	i	02 36 44.5			(h = 470 km).
			iSg1	02 37 46.0	"	26	UPP iP 12 19 13.6
		DEL	iSg1	02 39 07.4			iS 12 28 32
		MYV	iPg1	02 36 45.2			micr sec
			iSg1	02 37 43.2			Mx Z 2.3 17
		Coast of southwestern Norway,					UME iP 12 18 51.6
		near 62°N, 5°E.					Near east coast of Honshu,
		Origin time = 02 35 28.					Japan (h = 35 km).
		M _L (UPP) = 3.1 (0.09) 4.					M = 5.4 (UPP).
"	25	UPP	iP	11 36 04.3 D	"	26	UPP iP 19 31 30.4
			iS	11 39 18			ipP 19 33 01.5
				micr sec			micr sec
			P Z'	0.9 1.4			Mx Z 0.5 10
			Mx Z	37 13			UME eP 19 31 39
		KIR	iP	11 35 50.2 D			Iran (h = 15 km).
				micr sec			M = 4.6 (UPP).
			P Z'	5.2 2.4	"	27	UPP iSg1 02 52 15.5
		UME	iP	11 35 57.8			UME iSg1 02 50 03.7
		Iceland (h = 10 km).					UDD iSg1 02 52 26.8
		m = 6.0 (UPP,KIR).					MYV iSn 02 50 33.0
"	25	UPP	iP	11 51 11.3			iSg1 02 51 03.3
				micr sec			Norrbottnen, Sweden, 67.7°N,
			P Z'	0.1 1.0			22.7°E.
		(cont.)					Origin time = 02 48 01.
							M _L (UPP) = 3.0 (0.06) 2.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987	
May	27	UME iP	21 14 38.6 Southern Honshu, Japan (h = 10 km).
"	28	UPP iPKP1	12 06 30.6 Kermadec Islands (h = N).
"	29	UME iP	03 39 07.5 Southern Sumatera (h = 45 km).
"	29	UPP iP	06 34 20.0 micr sec Mx Z' 1.7 16 UME iP 06 34 37.6 Western Iran (h = 40 km). M = 4.7 (UPP).
"	29	UME iP	14 34 02.7 South of Mariana Islands (h = 30 km).
"	29	UPP iP UME iP ipP	17 50 06.0 17 49 50.3 D 17 50 20.2 Volcano Islands region. h = 120 km (UME).
"	29	UPP iP i iS P i Mx	18 45 25.6 D 18 45 32.6 18 49 26 micr sec Z' 0.1 0.6 Z' 0.3 0.6 Z 1.6 17 UME iP 18 45 03.2 Southern Greece (h = 50 km). M = 4.4 (UPP).
"	29	UME iP	21 01 59.9 Near east coast of Kamchatka (h = N).
"	29	UME iP	22 32 28.9 Near east coast of Honshu, Japan (h = 60 km).
"	30	UPP Mx Z	micr sec 1.2 22 UME ePKP 03 18 45 Tonga Islands (h = N). M = 5.5 (UPP).
"	30	UPP eP UME iP	15 32 04 15 31 57.4 Burma (h = 110 km).
May	30	UME iPdiff	17 07 52.9 Banda Sea (h = 140 km).
"	30	UPP iP	17 29 57.5 C micr sec Mx Z 1.3 16 UME iP 17 29 33.1 C Kuril Islands region (h = 55 km). M = 5.2 (UPP).
"	30	UME iP	18 06 39.9 Mona Passage (h = 5 km).
"	30	UME iP	19 36 28.4 South of Honshu, Japan (h = 110 km).
"	31	UPP iPdiff UME iPdiff	01 14 31.2 01 14 23.9 Flores Sea (h = 230 km).
"	31	UPP ePn iSg1 UME iPn	02 56 36 02 58 55.4 02 57 25.7 Poland (h = 10 km).
"	31	UME iPKP	19 04 10.2 New Britain region (h = 15 km).
"	31	UME iP	20 20 27.5
"	31	UPP iP UME iP	22 45 26.4 22 45 02.1 C Sea of Okhotsk (h = 310 km).
October 11, 1988			
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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

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1987				1987						
June	1	UPP	iP	00 26 11.2	June	1	UPP	IPKP	04 35 57.2	
			Mx	7 0.8 20			UME	IPKP	04 36 05.8	
		UME	iP	00 25 44.5			South Sandwich Island region (h = 40 km).			
		Andreanof Islands, Aleutian Is. (h = N). M = 4.9 (UPP).				"	1	UPP	iP	11 50 02.3
"	1	UPP	iPKP	01 26 42.3			Andreanof Islands, Aleutian Is. (h = 60 km).			
			i	01 26 47.1	"	1	UPP	iP	16 04 55.8	
		UME	iPKP	01 26 32.0			Qinghai Province, China (h = 10 km).			
"	1	UPP	iP	02 33 25.6	"	1	UPP	iP	16 52 09.3	
		Dodecanese Island (h = 170 km).					UME	iP	16 52 24.9	
"	1	UPP	iP	03 04 20.2				i	16 52 28.4	
		UME	iP	03 04 36.8			Western Iran (h = 35 km).			
		Central Mid-Atlantic Ridge (h = 10 km).			"	1	UPP	iP	23 13 05.1	
"	1	UPP	iP	03 51 56.0			UME	iP	23 12 53.7	
		UME	iP	03 52 04.8			Luzon, Philippine Islands (h = 40 km).			
		Windward Islands (h = 140 km).			"	2	UPP	iP	03 24 35.6	
"	1	UPP	iPg1	04 27 55.7			UME	iP	03 24 37.3	
			iRg	04 28 01.1			Costa Rica (h = 40 km).			
		UDD	iSg1	04 28 55.2	"	2	UME	iP	07 24 14.6	
			iRg	04 29 07.4	"	2	UME	iPKP	17 03 07.6	
		Uppland, Sweden, 60.1°N, 17.5°E. Rockburst at the Dannemora iron ore mine.					New Britain region (h = 145 km).			
					"	2	UDD	iSg1	12 40 46.9	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
June	2	UPP	iSg1	22 31 14.3	June	5	UPP	iP	05 08 24.2 C
		UME	iSn	22 29 29.9				i	05 08 49.4
			iSg1	22 29 45.9					micr sec
		MYV	iPn	22 28 42.2				P	Z' 0.7 0.6
			iSg1	22 29 32.2				Mx	Z 0.5 8
		Near coast of central Norway, 66 1/4°N, 13 1/2°E. Origin time = 22 27 48. M _L (UPP) = 2.6 1.					KIR	iP	05 08 10.6 C
								i	05 08 34.9
									micr sec
								P	Z' 0.8 0.7
"	3	UPP	Mx	09 25			UME	iP	05 08 11.9 C
				micr sec				i	05 08 37.3
			Mx	Z 0.8 20			Southern Xinjiang, China (h = 0 km). m = 6.8 (UPP,KIR). Probably underground explosion.		
		New Britain region (h = 60 km). M = 5.2 (UPP).							
"	4	UPP	iP	01 02 49.4	"	5	UPP	Mx	17 24
		Northern Sumatera (h = 75 km).							micr sec
								Mx	Z 1.4 20
"	4	UPP	i(P)	23 58 37.3			West Caroline Islands (h = N). M = 5.3 (UPP).		
			iP	23 58 44.1					
			iS	24 09 36					
		KIR	iP	23 58 42.8	"	5	UPP	iP	21 38 27.9
		UME	iP	23 58 42.4				ipP	21 38 49.8
		Southern Sumatera (h = 45 km).					KIR	iP	21 38 13.1
								ipP	21 38 32.2
"	5	UPP	iPKP	00 06 18.6			UME	iP	21 38 19.3
		UME	iPKP	00 06 12.6				ipP	21 38 37.4
		Fiji Islands region (h = 620 km).					Philippine Islands region. h = 75 km (UPP,KIR,UME).		
"	5	UPP	iP	00 19 31.8	"	5	UPP	iP	22 13 20.5
		KIR	iP	00 18 51.2				ipP	22 13 38.3
		UME	iP	00 19 09.5			KIR	iP	22 13 06.6
		Near east coast of Honshu, Japan (h = 60 km).						ipP	22 13 22.4
							UME	iP	22 13 10.5
"	5	KIR	iPKP	00 53 40.9			Philippine Islands region. h = 60 km (UPP,KIR).		
		South of Australia (h = 10 km).			"	5	UPP	iP	23 04 02.0
							KIR	iP	23 03 46.1
"	5	UPP	iP	01 43 54.7			Philippine Islands region (h = 70 km).		
		Rat Islands, Aleutian Islands (h = N).			"	6	UPP	iP	02 44 00.8
								i	02 44 31.8
"	5	UPP	iP	02 55 50.5			KIR	iP	02 43 46.7
		UME	iP	02 55 25.2			UME	iP	02 43 47.9
		Northwest of Kuril Islands (h = 400 km).						i	02 44 23.1
							Eastern Kazakh SSR. Underground explosion.		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987	
June	6	UPP iP KIR iP Tibet-India border region (h = N).	03 23 15.8 03 23 21.0
"	6	UME iP	07 37 28.1
"	6	UPP iP KIR iP UME iP Mariana Islands region (h = 40 km).	08 53 03.1 08 52 31.4 08 52 46.5
"	6	UPP iP KIR iP UME iP Tibet-India border region (h = 45 km).	11 11 31.8 11 11 37.0 11 11 29.3
"	6	UPP iP Andreanof Islands, Aleutian Is. (h = N).	12 58 59.9
"	6	UPP iP KIR iP UME iP Andreanof Islands, Aleutian Is. (h = N).	13 34 43.6 13 34 52.4 13 34 19.3
"	6	UPP Mx micr sec Mx Z 3.6 22 South Pacific Cordillera (h = 10 km). M = 6.1 (UPP).	17 17
"	6	UPP iP i iS i micr sec Mx Z 21 16 KIR iP UME iP Philippine Islands region (h = 15 km). M = 6.6 (UPP).	18 53 24.9 18 53 26.7 19 03 48 19 05 45
"	7	KIR iP Andreanof Islands Aleutian Is. (h = N).	00 37 16.3
"	7	UPP iP KIR eP (cont.)	02 02 22.6 02 02 05
June	7	(cont.) Philippine Islands region (h = 55 km).	
"	7	UPP iP UME iP Philippine Islands region (h = 50 km).	03 19 31.7 03 19 19.9
"	7	UPP iP	04 26 30.3
"	7	UPP iP ipP iS i micr sec P Z' 0.2 0.8 Mx Z 34 16 KIR iP ipP mirc sec P Z' 0.2 0.9 UME iP ipP Philippine Islands region. h = 50 km (UPP,KIR,UME). m = 6.1 (UPP,KIR), M = 6.7 (UPP).	06 01 47.7 06 02 00.5 06 11 44 06 12 25
"	7	UPP iP KIR iP UME iP Philippine Islands region (h = 60 km).	06 01 26.9 06 01 40.4
"	7	UPP iP KIR iP UME iP Philippine Islands region (h = 50 km).	09 28 24.3 09 28 07.0 09 28 12.6
"	7	UPP iP KIR iP UME iP Near coast of Guerrero, Mexico (h = 40 km).	10 15 05.8 10 14 43.5
"	7	UPP iP KIR iP UME iP Central Mid-Atlantic Ridge (h = 10 km).	13 43 02.6 13 42 47.2 13 42 57.7
"	7	UPP iP KIR eP Philippine Islands region (h = N).	14 59 39.8 15 00 22
"	7	UPP iP KIR eP Philippine Islands region (h = N).	15 00 04.2

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
June	7	UPP iP	23 01 15.3	June	10	UPP iP	17 37 33.4
		KIR iP	23 00 56.9			KIR iP	17 37 36.6
		UME iP	23 01 02.6			UME iP	17 37 32.1
		Philippine Islands region (h = N).				Nicobar Islands region (h = 90 km).	
"	8	UME iPKP	03 31 11.0	"	10	UPP iPKP	20 10 26.9
		South of Kermadec Islands (h = N).				micr sec	
						Mx Z	4.4 18
		KIR iPKP	20 10 41.8			KIR iPKP	20 10 41.8
		UME iPKP	20 10 33.2			UME iPKP	20 10 33.2
		Southern Xinjiang, China (h = 10 km).				South Sandwich Islands region (h = N). M = 6.1 (UPP).	
"	9	KIR iP	06 05 14.0	"	10	UPP iP	23 59 27.6
						KIR iP	23 59 06.5
						UME iP	23 59 20.5
		New Britain region (h = 55 km). M = 6.1 (UPP).				Southern India (h = 10 km).	
"	9	UPP Mx	07 29	"	11	KIR iP	02 11 50.3
			micr sec				
		Mx Z	6.4 19			UPP iP	23 04 47.5
		New Britain region (h = 55 km). M = 6.1 (UPP).					
"	9	KIR iP	15 21 10.9	"	12	UPP iP	10 02 13.9 D
						i	10 11 29
							micr sec
"	9	UPP eP	21 29 12			P Z'	0.3 0.8
		Hindu Kush region (h = 110 km).				UME iP	10 01 59.0 D
						Taiwan region (h = 270 km).	
"	10	KIR iP	01 53 50.6	"	12	UME eP	10 11 10
		South Alaska (h = 60 km).				Chagos Archipelago region (h = 10 km).	
"	10	UPP iP	14 55 08.7 C	"	12	UPP iP	11 16 26.9
		iS	14 59 13			Southwestern Ryukyu Islands (h = 30 km).	
			micr sec				
		P Z'	0.2 0.8			UPP iPKP	13 26 06.2
		Mx Z	5.6 19			KIR iPKP	13 26 15.6
		KIR iP	14 56 23.3 C			South of Australia (h = 10 km).	
			micr sec				
		P Z'	0.2 0.9				
		UME iP	14 55 45.3 C	"	12	KIR iP	18 20 23.2
		Southern Greece (h = 40 km). m = 5.7 (UPP,KIR), M = 4.9 (UPP).				Southern Alaska (h = 100 km).	
"	10	UPP iP	16 15 57.4	"	13	UPP iP	14 11 37.8
		KIR iP	16 16 01.4			iS	14 20 53
		ipP	16 16 09.6				micr sec
		UME iP	16 15 56.6			P Z'	0.1 0.7
		ipP	16 16 04.7			Mx Z	4.9 16
		Off W coast of northern Sumatera. h = 30 km (KIR,UME).				KIR iP	14 10 52.3
						(cont.)	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
June	13	(cont.)		June	14	UPP	eP 05 39 01
			micr sec			KIR	iP 05 38 41.0
		P	Z' 0.2 0.9			UME	eP 05 39 48
		UME	iP 14 11 13.9			Philippine Islands region	
		Kuril Islands region				(h = 40 km).	
		(h = 40 km).				"	14
		m = 6.1 (UPP,KIR), M = 5.7				KIR	iP 05 40 43.9
		(UPP).				Philippine Islands region	
"	13	UPP	iP 15 52 10.6			(h = N).	
			micr sec	"	14	UPP	iP 07 29 48.6
		Mx	Z 1.7 18			UME	iP 07 29 42.0
		KIR	iP 15 51 23.8			Burma (h = 125 km).	
		UME	iP 15 51 44.6	"	14	KIR	iP 17 02 46.0
		Kuril Islands region				Philippine Islands region	
		(h = 45 km).				(h = N).	
		M = 5.2 (UPP).		"	14	UPP	eP 18 42 53
"	14	KIR	iPg1 03 21 03.8				micr sec
			iSg1 03 21 40.4			Mx	Z 0.8 19
		UME	iSg1 03 23 24.0			KIR	iP 18 42 34.4
		MYV	eSg1 03 23 41			Philippine Islands region	
		Off coast of northern Norway,				(h = 45 km).	
		near 69 3/4°N, 14 1/2°E.				M = 5.1 (UPP).	
		M _L (UPP) = 3.0 (0.16) 2.		"	14	UPP	iPKP 23 06 05.2
"	14	UPP	eP 05 20 25			South of Fiji Islands	
			iS 05 31 14			(h = 70 km).	
		KIR	iP 05 20 08.9	"	15	UPP	eP 00 32 49
		UME	iP 05 20 15.0			KIR	iP 00 32 34.8
		Philippine Islands region				UME	iP 00 32 40.9
		(h = 15 km).				Banda Sea (h = 140 km).	
"	14	UPP	iPKP 05 24 19.5	"	15	UPP	iP 02 19 05.6
			iPKP2 05 24 40.2			KIR	iP 02 18 16.0
		KIR	iPKP 05 24 06.3			Kuril Islands region	
			iPKP1 05 24 07.8			(h = 45 km).	
		UME	iPKP 05 24 14.5	"	15	UPP	iP 06 44 52.8
			iPKP1 05 24 19.5				micr sec
			iPKP2 05 24 25.4			P	Z' 0.1 0.8
		East of North Island, N.Z.				KIR	iP 06 44 38.6
		(h = N).					micr sec
"	14	UPP	micr sec			P	Z' 0.1 1.0
		Mx	Z 5.8 16			UME	iP 06 44 44.3
		KIR	iP 05 33 57.1			Talaud Islands (h = 140 km).	
		Philippine Islands region				m = 6.1 (UPP,KIR).	
		(h = 70 km).		"	15	UPP	i 14 01 13.9
		M = 6.0 (UPP).					iSg1 14 01 23.9
		M uncorrected for focal				UDD	iPn 13 59 35.1
		depth.					iSn 14 00 18.2
						(cont.)	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
June	15	(cont.)		June	17	(cont.)	
		MYV	iP ₁₁ 13 59 33.4			KIR	iP 01 46 42.7 C
			iS _n 14 00 17.2				micr sec
		Southwestern Norway, near 61 3/4°N, 7°E.				P	Z' 1.3 1.5
		Origin time = 13 58 35.				UME	iP 01 46 46.8 C
						Banda Sea (h = 70 km). m = 7.1 (UPP,KIR), M = 6.5 (UPP). M uncorrected for focal depth.	
"	15	UPP	iPKP2 15 13 07.0	"	18	UPP	eP 05 27 52
		KIR	iPKP1 15 12 37.9			KIR	iP 05 27 11.6
		UME	iPKP1 15 12 47.3			Off east coast of Honshu, Japan (h = 50 km).	
			iPKP2 15 12 52.7			"	18 UPP iP 10 13 24.1
		East of North Islands, N.Z. (h = N).					iS 10 23 30
"	15	KIR	iP 17 19 37.6				micr sec
		UME	iP 17 19 49.4			Mx	Z 5.6 19
"	15	UPP	iPKP1 17 34 02.8			KIR	iP 10 13 03.1
			iPKP2 17 34 10.8			Luzon, Philippine Islands (h = 45 km). M = 5.8 (UPP).	
		KIR	iPKP 17 33 41.6			"	18 UPP iP 14 22 05.3
		UME	iPKP1 17 33 51.4				i 14 22 28.5
			iPKP2 17 33 55.5				micr sec
		East of North Islands, N.Z. (h = N).				PKP	Z' 0.1 1.0
"	15	UPP	eP 21 18 04			Mx	Z 3.2 28
		Southern Bolivia (h = 590 km).				KIR	iPKP 14 21 53.2
"	16	KIR	iP 00 31 07.3				i 14 22 17.7
"	16	KIR	iP 02 39 12.5				micr sec
			i 02 39 37.5			PKP	Z' 0.2 1.1
		UME	iP 02 39 17.5			UME	iPKP 14 21 58.4
"	16	KIR	iP 02 44 38.4				i 14 22 22.7
"	16	UPP	iP 06 23 17.5			Solomon Islands (h = 70 km). M = 5.7 (UPP). M uncorrected for focal depth.	
		KIR	iP 06 24 17.0			"	18 UPP iP 17 30 09.1
		UME	iP 06 23 44.1			KIR	iP 17 30 45.8
		Jordan-Syria region (h = N).				Southern Iran (h = 70 km).	
"	16	KIR	iP 17 36 04.9			"	19 UPP eP 01 51 48
		Southern Iran (h = 40 km).				KIR	eP 01 51 16
"	16	KIR	eP 22 13 56			Mariana Islands region (h = 40 km).	
		Arabian Sea (h = 10 km).				"	19 UPP iP 18 50 48.4
"	17	UPP	iP 01 46 58.5 C				micr sec
			micr sec			Mx	Z 0.6 16
		P	Z' 0.1 0.8			(cont.)	
		Mx	Z 27 30				
		(cont.)					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987				
June	19	(cont.)		June	21	UPP	iP	05 56 53.3 C
		KIR	iP				iS	06 05 50
								micr sec
			P				Z'	0.5 0.8
		UME	iP				Mx	Z 25 18
		Dodecanese Islands				KIR	iP	05 56 01.1
		(h = 80 km).						micr sec
		M = 4.1 (UPP).					P	Z' 1.1 1.0
		M uncorrected for focal depth.				Alaska Peninsula (h = 35 km).		
						m = 6.8 (UPP,KIR), M = 6.4 (UPP).		
"	20	UPP	iP		21	UPP	iP	06 06 10.2
		KIR	iP			KIR	iP	06 05 17.5
		Poland (h = 15 km).				Alaska Peninsula (h = N).		
"	20	UPP	iP		21	UPP	iP	06 18 01.5
			i			Southern Greece (h = 50 km).		
								micr sec
			P				Z'	1.4 0.8
			Mx				Z	0.8 9
		KIR	iP		21	UPP	iP	06 29 42.0
						KIR	iP	06 28 50.3
						Alaska Peninsula (h = N).		
								micr sec
			P				Z'	2.4 0.6
		Eastern Kazakh SSR.			21	UPP	iP	08 02 32.2
		m = 7.1 (UPP,KIR).				Alaska Peninsula (h = N).		
		Underground explosion.						
"	20	KIR	iP		21	KIR	iPn	21 35 03.8
		Banda Sea (h = 90 km).					i	21 35 28.2
							iSg1	21 36 03.4
"	20	KIR	eP			UME	iPn	21 35 37.5
		Mariana Islands region					iSn	21 36 35.9
		(h = 25 km).					iSg1	21 37 05.8
						MYV	iSg1	21 36 56.8
"	20	KIR	iP			Off coast of northwestern Norway, near 68 1/4°N, 10 1/2°E.		
"	20	KIR	iP			Origin time = 21 34 06.		
"	21	KIR	iP			M _L (UPP) = 2.8 1.		
"	21	UPP	iP		21	UPP	iP	16 31 15.9
						Mariana Islands (h = N).		
								micr sec
			Mx				Z	0.9 21
		KIR	iP		21	UPP	iP	22 36 39.0
		Southeast of Taiwan				Southwestern Ryukyu Islands (h = 25 km).		
		(h = 15 km).						
		M = 5.0 (UPP).			22	KIR	iP	02 44 10.8
"	21	KIR	iSg1		22	UPP	iPKP	05 35 35.4
		Finland-USSR, 67.5°N, 30.0°E.					iPKP1	05 35 37.9
		Origin time = 05 17 40.					i	05 36 52.3
		Solution from Finnish station readings.						micr sec
							PKP	Z' 0.2 0.9
						KIR	iPKP	05 35 21.6
						(cont.)		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
June	22	(cont.) UME iPKP	05 35 26.2	June	24	UPP eP	06 58 50
		Kermadec Islands region (h = 290 km).				KIR iP	06 59 42.2
						UME iP	06 59 11.6
						Turkey (h = 10 km).	
"	22	KIR iP	07 54 53.4	"	24	UPP Mx	11 37
							micr sec
"	22	UPP iP	15 59 35.6			Mx Z	1.4 20
		KIR iP	15 59 45.2			Vanuatu Islands region (h = N).	
		UME iP	15 59 35.1			M = 5.6 (UPP).	
		Afghanistan-USSR border region (h = 190 km).		"	24	UPP Mx	12 03
							micr sec
"	22	UPP iP	19 31 51.7			Mx Z	1.4 21
		UME iP	19 31 41.4			Vanuatu Islands region (h = N).	
		Mindanao, Philippine Islands (h = 140 km).				M = 5.6 (UPP).	
"	22	UPP iP	19 36 24.4	"	24	UPP iPKP	13 46 53.3
			micr sec				micr sec
		Mx Z	0.8 20			Mx Z	1.0 24
		KIR iP	19 36 23.4			UME iPKP	13 47 01.5
		UME iP	19 36 28.3			South Sandwich Islands region (h = N).	
		South of Panama (h = 20 km). M = 5.0 (UPP).				M = 5.3 (UPP).	
"	23	UPP iP	05 05 30.3	"	24	UPP eP	20 06 50
		KIR iP	05 04 43.2			KIR iP	20 06 51.8
		UME iP	05 05 05.8			UME iP	20 06 54.7
		Kuril Islands (h = N).				Northern Colombia (h = 25 km).	
"	23	UPP eP	15 23 16	"	24	UPP eP	20 17 46
		KIR iP	15 24 24.8			KIR iP	20 17 47.5
		Crete (h = N).				UME eP	20 17 49
"	23	UPP eP	18 22 26			Northern Colombia (h = 40 km).	
		KIR iP	18 21 56.9	"	24	UPP eP	21 15 54
						KIR iP	21 15 36.2
"	24	UPP iP	02 37 10.2			Mindanao, Philippine Islands (h = 80 km).	
			micr sec	"	24	UME iPKP	20 25 31.1
		Mx Z	0.8 15			Vanuatu Islands (h = 170 km).	
		KIR iP	02 37 13.6	"	24	UPP eP	21 15 54
		UME iP	02 37 06.2			KIR iP	21 15 36.2
		Kirghiz-Xinjiang border region (h = N). M = 4.6 (UPP).				Mindanao, Philippine Islands (h = 80 km).	
"	24	UPP ePKP	03 49 50	"	24	UPP iP	22 50 24.4
			micr sec			UME iP	22 50 08.8
		Mx Z	13 20			Taiwan (h = 40 km).	
		KIR ePKP	03 49 34	"	25	KIR iP	01 17 28.3
		UME ePKP	03 49 42				
		Vanuatu Islands region (h = N). M = 6.6 (UPP).					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987							
June	25	UPP	iP	02 55	38.3	June	26	UME	iP	07 46	00.8
			iS	03 00	38					Off east coast of Honshu, Japan (h = N).	
					micr sec						
			P	Z'	0.1 1.0						
			Mx	Z	3.3 13		"	26	KIR	iP	08 46 23.0
		KIR	iP		02 56 05.0						
		UME	iP		02 55 56.2		"	26	UPP	iPKP2	10 24 26.9
		North Atlantic Ridge							KIR	iPKP	10 23 57.9
		(h = 10 km).							UME	iPKP1	10 24 07.1
									Off E. coast of N. Islands, N.Z. (h = 290 km).		
"	25	UPP	iP	03 38	11.7						
					micr sec						
			P	Z'	0.2 1.4		"	26	UPP	iPKP	23 25 07
		KIR	iP		03 37 30.2						micr sec
					micr sec				Mx	Z	2.7 20
			P	Z'	0.2 1.1				UME	iPKP	23 25 00.9
		UME	iP		03 37 49.6				Loyalty Islands region (h = 25 km).		
		Hokkaido, Japan region							M = 5.9 (UPP).		
		(h = 40 km).									
		m = 6.0 (UPP,KIR).					"	27	UPP		micr sec
"	25	KIR	iSg1	11 52	06.9				Mx	Z	15 19
									KIR	iP	00 30 57.4
"	25	UPP	iPKP1	18 33	21.3				UME	iPdiff	00 31 05.6
		Kermadec Islands region							West Irian (h = 20 km).		
		(h = 140 km).							M = 6.5 (UPP).		
"	26	UPP	iP	03 58	05.3		"	27	UPP	iP	00 35 42.4
		KIR	iP	03 58	20.3				KIR	iP	00 34 31.7
									UME	iP	00 35 35.6
"	26	UPP	iP	07 23	27.5		"	27	UME	iP	00 52 21.1
			ipP	07 23	32.8						
			i	07 23	38.5		"	27	UPP	iP	06 13 13.3
			iX	07 24	51.6				KIR	iP	06 12 34.4
					micr sec				UME	iP	06 12 54.1
			P	Z'	0.1 1.0		"	27	UPP	iP	07 50 39.9
			Mx	Z	1.2 15						micr sec
		KIR	iP		07 22 49.7				Mx	Z	0.7 17
			ipP		07 22 54.8				KIR	iP	07 50 18.2
			i		07 23 00.9				UME	iP	07 50 27.1
			iX		07 24 13.8				Taiwan (h = 25 km).		
					micr sec				M = 4.9 (UPP).		
			P	Z'	0.1 1.0		"	27	UPP	iP	09 14 14.8
		UME	iP		07 23 06.9						micr sec
			ipP		07 23 12.8				P	Z'	0.1 0.8
			i		07 23 18.0				KIR	iP	09 13 43.5
			iX		07 24 30.5				UME	iP	09 13 57.7
		Off east coast of Honshu, Japan.							South of Honshu, Japan (h = 440 km).		
		h = 20 km (UPP,KIR,UME).									
		m = 5.9 (UPP,KIR), M = 5.2 (UPP).									
		Unidentified phase denoted by X may refer to another event.									

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987				
June	27	UPP	iS	09 34 46	June	28	KIR iSg1	03 02 01.3
				micr sec			UME iSg1	03 01 49.7
			Mx	Z 2.5 23			Coast of Norrbotten, Sweden, 65.6°N, 22.6°E. Origin time = 03 00 46. By combination with Finnish station readings.	
		Near coast of Peru (h = 60 km). M = 5.6 (UPP).						
"	27	UPP	iP	17 20 12.4	"	28	UPP iP	06 03 27.5
			ipP	17 20 24.7			KIR iP	06 04 34.6
		KIR	iP	17 19 27.0			Dodecanse Islands (h = 40 km).	
		UME	iP	17 19 49.3				
			ipP	17 20 02.1				
		Kuril Islands. h = 45 km (UPP,UME).						
"	27	KIR	iP	18 47 34.0	"	28	UPP iP	22 49 34.8
		UME	iP	18 47 41.1			KIR iP	22 49 13.3
		Philippine Islands region (h = 50 km).					UME iP	22 49 21.9
							Taiwan region (h = 120 km).	
"	27	UPP		micr sec	"	29	UPP iP	01 03 57.8
			Mx	Z 0.9 21				micr sec
		UME	iPKP	22 24 32.0			KIR iP	01 02 42.1
		Loyalty Islands region (h = 30 km). M = 5.4 (UPP).					UME iP	01 03 22.5
							Jan Mayen Islands region (h = 10 km).	
"	27	UPP	iP	23 06 32.	"	29	UPP iPKP	04 30 57.2
		UME	iP	23 06 31.6				micr sec
		Afghanistan-USSR border region (h = N).					PKP	Z' 0.1 0.9
							South of Tonga Island (h = N).	
"	27	UPP	iP	23 34 40.3	"	29	UPP iP	05 06 52.0
		KIR	iP	23 33 59.4				
		UME	iP	23 34 18.0				
		Hokkaido, Japan region (h = 60 km).						
"	28	UPP	iP	00 56 01.3	"	29	KIR iP	10 05 39.9
			iS	01 00 38			UME eP	10 06 07
				micr sec			Unimak Islands region (h = N).	
			P	Z' 0.2 0.8				
			Mx	Z 1.1 16	"	29	UPP iP	13 11 25.6
		KIR	iP	00 57 12.1			KIR iP	13 12 52.4
				micr sec			UME iP	13 12 12.2
			P	Z' 0.6 1.0			Adriatic Sea (h = 20 km).	
		UME	iP	00 56 36.5	"	30	UPP iP	01 12 48.1
		Near coast of Libya (h = 25 km). m = 6.1 (UPP,KIR), M = 4.4.					KIR iP	01 12 58.6
							UME iP	01 12 48.2
							Afghanistan-USSR border region (h = 240 km).	
"	28	UPP	iP	01 26 09.8				
		UME	iP	01 25 55.6				
		Qinghai Province, China (h = 25 km).						

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987

June	30	UPP	iP	09 28	30.5
		KIR	iP	09 27	53.4
		UME	iP	09 28	10.4
		Honshu, Japan (h = 70 km).			

October 13, 1988

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

NOTE: After repair and recalibration of the vertical Galitzin pendulum at Kiruna the instrument was again in full operation from 1 July 1987 (cf. Note on 1 January 1987). From this date on the formula for the surface-wave magnitude from the Galitzin Z seismograph reads:

$M = \log \frac{a}{T} + 1.66 \log \Delta + 3.3$. For Uppsala Benioff LPZ the formula remains unchanged, i.e. $M = \log \frac{a}{T} + 1.66 \log \Delta + 3.2$.

As before, the surface wave magnitude given in our bulletin is the mean of the Uppsala and Kiruna magnitudes, using the above formulae.

J U L Y 1 - 31, 1987

1987				1987			
July	1	UME	iP	01 08 53.4	July	2	(cont.)
						KIR	iP
							13 21 00.1
							13 21 13.1
"	1	UPP	iPKP1	11 29 23.4			micr sec
		UME	iPKP1	11 29 08.9		P	Z' 0.2 1.0
						UME	iP
							13 21 21.0
							13 21 27.0
							13 21 33.2
"	1	UPP	iPKP1	19 53 05.4			Kuril Islands region
			iPKP2	19 53 11.6			(h = 30 km).
		UME	iPKP1	19 52 56.3			m = 6.2 (UPP,KIR).
					"	2	UPP
							iRg
							19 36 15.0
"	2	UME	iP	11 49 58.0			Uppland, Sweden, 60.2°N,
			i	11 50 02.8			17.8°E.
							Rockburst at the Dannemora
							iron ore mine.
"	2	UPP	iP	13 21 43.5	"	3	UPP
			i	13 21 54.0			iP
				micr sec			01 26 31.7
				micr sec			micr sec
				P Z' 0.2 1.0			P Z' 0.1 0.8
				(cont.)		KIR	iP
							01 26 42.8
						UME	iP
							01 26 32.1
							Afghanistan-USSR border
							region (h = 110 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
July	3	UPP	iPKP1	07 10 49.7	July	3	UPP	eP	17 42 04
		UME	iPKP	07 10 31.1			UME	iP	17 42 47.7
			iPKP1	07 10 35.6			Central Italy (h = 10 km).		
		Off e. coast of N. Island, N.Z. (h = N).			"	3	UPP	iP	18 16 01.1
"	3	UPP	iPKP2	08 03 30.7			iS	18 25 56	
		KIR	iPKP1	08 03 02.0				micr sec	
			i	08 03 13.3			Mx	Z	1.8 19
		UME	iPKP1	08 03 11.7		KIR	iP	18 16 22.9	
			i	08 03 22.8				micr sec	
		Off e. coast of N. Island, N.Z. (h = 35 km).					P	Z'	0.2 1.1
"		KIR	i	10 05 19.8			Mx	Z	0.9 16
		UME	iP	10 05 30.8		UME	iP	18 16 09.5	
		Gulf of California (h = 10 km).					i	18 16 15.8	
"							Chagos Archipelago region (h = 25 km). M = 5.3 (UPP,KIR).		
"	3	UPP	iP	10 21 58.4 C	"	3	UPP	iP	22 15 50.4
			ipP	10 21 42.2			KIR	iP	22 15 07.0
				micr sec			UME	iP	22 15 26.7
		P	Z'	0.2 0.7			Kuril Islands (h = N).		
		KIR	iP	10 21 27.7 C	"	3	UPP	iPKP2	23 18 53.3
				micr sec			i	23 19 06.6	
		P	Z'	0.5 1.3			KIR	iPKP1	23 18 18.4
		UME	iP	10 21 40.7 C			UME	iPKP2	23 18 33.8
		Kyushu, Japan. h = 170 km (UPP). m = 6.1 (UPP,KIR).					Off e. coast of N. Island, N.Z. (h = 30 km).		
"	3	UPP	iP	10 25 54.8	"	4	UPP	iP	00 28 19.6
				micr sec			KIR	iP	00 27 36.0
		P	Z'	0.1 1.3			UME	iP	00 27 56.7
		Mx	Z	8.3 14			Kuril Islands (h = 40 km).		
		KIR	iP	10 27 21.1	"	4	UME	iP	02 26 27.1
				micr sec			Off east coast of Honshu, Japan (h = N).		
		P	Z'	0.3 1.6	"	4	UPP	iP	03 23 34.7
		Mx	Z	2.7 10			KIR	iP	03 22 48.9
		UME	iP	10 26 41.5			UME	iP	03 23 11.9
			i	10 26 45.5			Kuril Islands (h = 40 km).		
		Central Italy. (h = 10 km). m = 5.2, M = 5.9 (UPP,KIR).			"	4	UPP	iPKP2	03 37 46.0
"	3	UPP		micr sec			KIR	iPKP1	03 37 17.7
		Mx	Z	0.9 16			UME	iPKP1	03 37 27.5
		KIR		micr sec			i	03 37 41.5	
		Mx	Z	1.0 14			Off e. coast of N. Island, N.Z. (h = N).		
		UME	iP	15 18 10.7					
		Gulf of California (h = 10 km). M = 5.2 (UPP,KIR).							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987				
July	4	UME	iSn 11 48 06.2 i 11 48 13.0 iSg1 11 48 42.4 UDD iSn 11 48 08.8 iSg1 11 48 44.2 MYV i 11 46 52.0 iSn 11 47 23.0 Norwegian Sea, near 65 1/4°N 6 1/2°E. Origin time = 11 45 31. M _L (UPP) = 2.7 (0.03) 2. By combination with Bergen bulletin.	July	5	(cont.) UME iP 02 53 32.6 Kyushu, Japan (h = 50 km).
"	4	UPP iP 15 25 22.5 KIR iP 15 24 38.7 Kuril Islands (h = 45 km).	"	5	UPP iP 09 33 57.9 C micr sec P Z' 0.1 0.9 Mx Z 2.4 22 KIR iP 09 33 06.7 C micr sec P Z' 0.1 0.6 UME iP 09 33 33.0 C Andreanof Islands, Aleutian Is. (h = N). m = 6.0 (UPP,KIR).	
"	4	UPP iP 15 42 42.2 KIR iP 15 41 58.5 UME iP 15 42 19.5 Kuril Islands (h = 50 km).	"	5	UPP iP 13 16 27.7 KIR eP 13 17 58 UME eP 13 17 19 Central Italy (h = 10 km).	
"	4	UPP iP 15 45 02.0 KIR iP 15 44 18.7 UME iP 15 44 38.7 Kuril Islands (h = 40 km).	"	5	KIR iP 13 54 20.5 Kuril Islands (h = 35 km).	
"	4	KIR iP 17 28 40.0 Near coast of Venezuela (h = 80 km).	"	5	UPP iP 14 08 22.8 KIR iP 14 07 38.5 Kuril Islands (h = 35 km).	
"	4	UPP iP 20 10 43.7 UME iP 20 10 31.2	"	5	UPP iP 15 38 31.0 KIR iP 15 37 47.3 Kuril Islands (h = 40 km).	
"	4	UPP iP 20 58 03.5 KIR iP 20 57 47.1 Philippine Islands region (h = N).	"	5	UPP iP 17 56 32.2 KIR iP 17 55 48.4 Kuril Islands (h = 35 km).	
"	4	UPP iP 21 45 20.3 KIR iP 21 44 36.0 Kuril Islands (h = 40 km).	"	6	UPP iP 00 34 23.2 C iS 00 43 19 P'P' 01 02 33.3 micr sec P Z' 0.4 0.9 Mx Z 5.4 22 KIR iP 00 33 31.5 C i 00 33 40.5 iPcP 00 34 16.6 micr sec P Z' 0.3 1.0 UME iP 00 33 58.3 C iP'P' 01 02 59.8 Andreanof Islands, Aleutian Is. (h = N). m = 6.4 (UPP,KIR).	
"	5	UPP iP 00 17 08.7 KIR iP 00 16 17.6 UME iP 00 16 43.6 Andreanof Islands, Aleutian Is. (h = N).	"	5	UPP iP 02 53 49.9 KIR iP 02 53 19.8 (cont.)	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
July	6	UPP iP	00 36 49.0	July	6	UPP iP	20 33 43.3
		Andreanof Islands, Aleutian Is. (h = N).				KIR iP	20 32 52.6
"	6	UME Ip	00 48 42.4			UME iP	20 33 18.8
"	6	UPP iPKP	01 25 18.4	"	6	UME iSPK1	22 03 11.3
		i	01 27 44.4			Fiji Islands region	
			micr sec			(h = 570 km).	
		PKP Z'	0.2 1.4	"	6	UPP iP	23 32 14.3 D
		Mx Z	1.9 20				micr sec
		KIR iPKP	01 25 16.1			P Z'	0.2 1.1
		i	01 25 18.6			KIR iP	23 31 22.1 D
			micr sec				micr sec
		i Z'	0.5 1.5			P Z'	0.1 1.2
		UME iPKP	01 25 19.1			UME iP	23 31 47.4 D
		i	01 27 34.8			Near east coast of Kamchatka	
		Easter Islands region				(h = 150 km).	
		(h = 10 km).				m = 5.7 (UPP,KIR).	
"	6	UPP iPKP	03 08 44.8	"	7	UPP iP	00 07 54.7
		iSKP1	03 11 04.5				micr sec
			micr sec			P Z'	0.1 1.0
		Mx Z	14 21			KIR iP	00 07 04.8
		KIR iPKP	03 08 32.4				micr sec
		UME iPKP	03 08 38.9			P Z'	0.1 1.0
		i	03 10 29.3			UME iP	00 07 26.5
		Vanuatu Islands (h = 50 km).				Central Siberia.	
"	6	UME iPKP	03 23 55.7			Underground explosion.	
		Vanuatu Islands (h = 45 km).				m = 5.6 (UPP,KIR).	
"	6	UPP iP	06 06 15.0	"	7	KIR iP	02 51 38.8
			micr sec			UME iP	02 51 59.8
		P Z'	0.1 0.9			Kuril Islands (h = 40 km).	
		KIR iP	06 05 23.2	"	7	UME iP	03 17 15.0
		UME iP	06 05 49.9			Kuril Islands (h = N).	
		Andreanof Islands, Aleutian Is. (h = N).		"	7	UPP iP	10 49 17.0
"	6	KIR iP	08 57 09.0				micr sec
		Philippine Islands region				Mx Z	0.7 18
		(h = N).				KIR iP	10 49 01.3
"	6	UPP iP	16 55 46.4				micr sec
		KIR iP	16 54 54.5			P Z'	0.1 1.0
		UME iP	16 55 20.9			UME iP	10 49 07.5
		Andreanof Islands, Aleutian Is. (h = N).				Talaud Islands (h = 70 km).	
"	6	UME iP	18 31 05.0	"	7	UPP iP	17 16 15.8
		South of Honshu, Japan.					micr sec
		(h = 60 km).				Mx Z	0.5 10
						KIR iP	17 15 29.5
						UME iP	17 15 50.0
						Eastern USSR (h = N).	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987						
July	7	UPP	iPKP1	18 31 11.7	July	8	KIR iP	21 55 47.8		
			i	18 31 13.2			UME iP	21 55 58.1		
			iSKP1	18 33 54.3			South of Mariana Islands			
				micr sec			(h = 35 km).			
			i	Z' 1.0 0.8		"	8	UPP iP	23 06 37.0 D	
		KIR	i(PKP)	18 30 49.4				iPcP	23 07 05.0	
			iPKP	18 31 01.8					micr sec	
			iSKP1	18 33 36.4				P	Z' 0.1 1.0	
		UME	i(PKP)	18 31 01.3				Mx	Z 0.4 15	
			iPKP	18 31 07.0			KIR	iP	23 05 52.0 D	
			iSKP1	18 33 46.2				iPcP	23 06 34.8	
		South of Fiji Islands							micr sec	
		(h = 650 km).						P	Z 0.2 1.0	
"	8	KIR	iP	00 36 49.0			UME	iP	23 06 13.1 D	
		UME	iP	00 36 45.7				iPcP	23 06 50.4	
		Northern Sumatra (h = N).					Kuril Islands (h = 150 km).			
"	8	UPP	ipP	03 39 55.7			m = 5.8 (UPP,KIR).			
		UME	ipP	03 39 35.6		"	9	UPP iP	04 44 45.4	
		Near east coast of Honshu,						KIR iP	04 44 30.6	
		Japan (h = 45 km).							micr sec	
"	8	UPP	eP	04 33 02				P	Z' 0.1 1.0	
		KIR	eP	04 32 47			UME	iP	04 44 36.9	
		Luzon, Philippine Islands					Talaud Islands (h = N).			
		(h = 15 km).			"	9	UPP	iPKP	07 46 20.8	
"	8	UPP	iPKP	12 09 25.2					micr sec	
			i	12 09 30.9				Mx	Z 1.4 17	
			iPP	12 11 43.2			KIR	iPKP	07 46 37.5	
				micr sec					micr sec	
			Mx	Z 1.9 20				PKP	Z' 0.2 1.5	
		KIR	iPKP	12 09 24.0			UME	iPKP	07 46 29.8	
			i	12 09 29.8			South Sandwich Islands region			
				micr sec			(h = N).			
			PKP	0.1 1.0		"	9	UPP iP	21 03 09.1	
			Mx	Z 0.9 16				KIR iP	21 02 23.8	
		UME	iPKP	12 09 26.4				UME iP	21 02 45.7	
			i	12 09 32.9			Kuril Islands region			
		Easter Islands region					(h = 45 km).			
		(h = 10 km).			"	10	UPP	iPKP	22 37 45.6	
		M = 5.6 (UPP,KIR).					KIR	iPKP	22 37 33.6	
"	8	UPP	iP	12 50 53.1			UME	iPKP	22 37 40.0	
		UME	iP	12 50 53.2				ipPKP	22 38 08.1	
		Afghanistan-USSR border					Santa Cruz Islands			
		region (h = 230 km).					(h = 120 km).			
"	8	KIR	eP	18 11 12		"	10	UPP	iPKP1	01 44 59.4
		Alaska (h = 10 km).					South of Fiji Islands			
"	8	UME	iP	19 32 26.6			(h = 40 km).			
		Near Islands, Aleutian								
		Islands (h = N).								

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
July	10	KIR	iPg1	04 38 03.2	July	11	(cont.)		
			iSg1	04 38 07.9					
		Lappland, Sweden, 67.8°N, 19.4°E.					micr sec		
		Origin time = 04 37 57.				P	Z' 0.7 1.0		
		M _L (UPP) = 2.0 1.				UME	iP 06 20 31.6		
		By combination with TRO, LOF and SO station readings.					iS 06 24 19.1		
						Near north coast of Greenland (h = 10 km). m = 5.7 (UPP,KIR).			
"	10	UPP	iP	18 42 07.2	"	11	KIR	iP 10 06 19.6	
		Kuril Islands (h = N).					i	10 06 21.2	
								micr sec	
"	10	UPP	iP	19 00 12.8 C			i	Z' 0.1 1.2	
			i	19 00 13.8			UME	iP 10 07 01.5	
			i	19 00 35.9			Near north coast of Greenland (h = 10 km).		
			iS	19 08 43					
				micr sec					
			i	Z' 0.5 1.1	"	11	KIR	eP 13 42 35	
			Mx	Z 18 17			UME	iP 13 42 51.1	
		KIR	iP	18 59 19.6 C			Off east coast of Honshu, Japan (h = 40 km).		
			i	18 59 20.8					
				micr sec	"	11	KIR	iP 14 02 01.8	
			i	Z' 0.5 1.1			Dodecanese Islands (h = 160 km).		
		UME	iP	18 59 45.4					
			i	18 59 46.9	"	11	KIR	iP 15 01 53.0	
			iS	19 07 46.1				micr sec	
		Komandorsky Islands region (h = N).					P	Z' 0.1 1.1	
		m = 6.5 (UPP,KIR).				Komandorsky Islands region (h = N).			
"	10	KIR	iP	20 35 16.5	"	11	UPP	iP 23 13 09.1	
		Komandorsky Islands region (h = N).					UME	iP 23 13 58.0	
"	10	UPP	iSg1	22 34 24.7			Yugoslavia (h = 15 km).		
		UDD	iSg1	22 33 29.4	"	12	UPP	iP 04 42 52.7	
		MYV	iPg1	22 32 44.2			UME	iP 04 42 32.6 C	
			iSg1	22 33 30.6			Honshu, Japan (h = 70 km).		
		Southern Norway, near 61 3/4°N, 7 1/2°E.							
		Origin time = 22 31 41.				"	12	UPP	iP 08 32 26.5
		M _L (UPP) = 2.5 1.						KIR	iP 08 32 11.9
"	11	UPP	iP	05 23 46.8				UME	iP 08 32 15.1
		KIR	iP	05 22 57.1			Molucca Passage (h = N).		
		Kuril Islands (h = 80 km).		"	12	UPP	iP 16 07 42.6		
"	11	UPP	iP	06 21 07.2			KIR	iP 16 08 27.5	
			iS	06 25 42			UME	iP 16 08 00.7	
				micr sec			i	16 08 05.2	
			P	Z' 0.2 1.0			Western Iran (h = 50 km).		
			Mx	Z 3.6 22	"	12	UPP	iP 20 30 07.7	
		KIR	iP	06 19 48.3			Taiwan (h = 10 km).		
			iS	06 23 04.3					
		(cont.)							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987			1987		
July	12	UPP iP 21 09 31.9 KIR iP 21 09 40.3 UME iP 21 09 30.7 Afghanistan-USSR border region (h = 110 km).	July	15	KIR iP 06 45 09.5 UME iP 06 45 18.2
"	13	UPP iPKP1 02 05 14.5 D South of Fiji Islands (h = 110 km).	"	15	UPP iP 07 28 49.2 D ipP 07 29 07.7 iSKS 07 39 10 iS 07 39 24 P Z' 0.1 0.7 Mx Z 3.8 23
"	13	UPP iP 16 44 44.5 UME iP 16 44 27.3 South of Honshu, Japan (h = 480 km).	"	15	KIR iP 07 28 36.9 D ipP 07 28 54.9 iPP 07 32 10.9 P Z' 2.8 2.5 Mx Z 1.7 22
"	14	UPP iP 23 55 37.0 D ipP 23 57 36.1 iScP 23 59 11.8 iS 24 03 24.6 iScS 24 04 28.6 P Z' 0.9 0.9 KIR iP 23 54 51.6 D ipP 23 56 46.2 iScP 23 58 41.8 iS 24 02 00.3 UME iP 23 55 12.6 D ipP 23 57 09.7 iScP 23 58 56.1 iS 24 02 39.0 iScS 24 04 00.1 Sea of Okhotsk. h = 620 km (UPP,KIR,UME).	"	15	UME iP 07 28 46.4 D ipP 07 29 05.0 iPP 07 32 26.3 iS 07 39 19.3 Oaxaca, Mexico. h = 70 km (UPP,KIR,UME). m = 6.5, M = 5.5 (UPP,KIR). M uncorrected for focal depth.
"	15	Increased rockburst activity at the Dannemora iron ore mines, about 40 km north of Uppsala.	"	15	KIR eP 08 00 16 UME eP 08 00 22
"	15	UME iP 04 14 48.8	"	15	UPP iP 11 17 17.0 KIR iP 11 16 47.8 UME iP 11 17 00.0 Ryukyu Islands region (h = N).
"	15	UPP iP 04 25 15.8 iS 04 34 48 micr sec Mx Z 7.7 13 KIR eP 04 24 48 micr sec Mx Z 2.3 18 UME iP 04 25 57.6 Ryukyu Islands (h = 50 km). M = 5.8 (UPP,KIR).	"	15	UPP iP 14 44 07.1 KIR iP 14 44 04.4 UME iP 14 44 10.3 Costa Rica (h = 50 km).
"	15	UPP iP 04 25 15.8 iS 04 34 48 micr sec Mx Z 7.7 13 KIR eP 04 24 48 micr sec Mx Z 2.3 18 UME iP 04 25 57.6 Ryukyu Islands (h = 50 km). M = 5.8 (UPP,KIR).	"	15	UME iP 15 23 23.0 Turkey (h = 10 km).
"	15	UPP iP 04 25 15.8 iS 04 34 48 micr sec Mx Z 7.7 13 KIR eP 04 24 48 micr sec Mx Z 2.3 18 UME iP 04 25 57.6 Ryukyu Islands (h = 50 km). M = 5.8 (UPP,KIR).	"	15	UPP iP 16 07 02.6 UME iP 16 06 38.6
"	15	UPP iP 04 25 15.8 iS 04 34 48 micr sec Mx Z 7.7 13 KIR eP 04 24 48 micr sec Mx Z 2.3 18 UME iP 04 25 57.6 Ryukyu Islands (h = 50 km). M = 5.8 (UPP,KIR).	"	15	UPP iP 16 21 55.8 micr sec P Z' 0.2 1.0 KIR iP 16 21 08.7 UME iP 16 21 31.3 Kuril Islands region (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
July				July			
15	UPP	i	22 11 37.0	17	(cont).		
		iSg1	22 11 48.8			micr sec	
	KIR	iSg1	22 14 00.1		PKP	Z' 0.1	1.5
	UME	iSg1	22 12 37.1		UME PKP	01 22	24.6
	UDD	iPg1	22 10 20.3		South Sandwich Islands region (h = 100 km).		
		iSg1	22 10 50.8				
		iRg	22 11 04.2				
	MYV	iSg1	22 11 11.0	17	UPP	iP	01 24 00.0 C
	Southern Norway, near 61°N, 9 1/2°E.					iPn	01 25 05.1
	Origin time = 22 09 39.					iPP	01 25 16.4
	M _L (UPP) = 2.6 1.						micr sec
"	16	KIR	iPKP 00 42 04.3		P	Z' 0.2	0.9
		UME	iPKP 00 42 09.6		Mx	Z 1.1	10
		i	00 42 19.4	KIR	iP	01 23	46.3 C
	Vanuatu Islands (h = 40 km).					iPn	01 24 40.7
"	16	UPP	iP 01 41 16.9				micr sec
			micr sec		P	Z' 1.0	0.5
		Mx	Z 0.7 14		Mx	Z 0.3	10
	Ryukyu Islands (h = 50 km).			UME	iP	01 23	47.0
"	16	UPP	iP 05 57 37.4			iPn	01 24 49.2 C
		ipP	05 58 48.7			iPP	01 25 01.5
		iS	06 06 48		Eastern Kazakh SSR. Underground explosion. m = 6.5, M = 4.6 (UPP,KIR).		
			micr sec	"	17	UPP	iP 02 11 01.4
		P	Z' 0.1 0.8				micr sec
	KIR	iP	05 57 04.1 C			Mx	Z 5.2 25
		ipP	05 58 13.1	KIR	eP	02 11	01
		iS	06 05 44.3				micr sec
			micr sec		Mx	Z 1.0	17
		P	Z' 0.1 1.0	UME	iP	02 11	04.8
	UME	iP	05 57 19.1 C		Off coast of Ecuador (h = 10 km). M = 5.6 (UPP,KIR).		
		ipP	05 58 28.7	"	17	UPP	iPKP1 04 10 36.9
		iS	06 06 12.5			Kermadec Islands (h = N).	
	South of Honshu, Japan. h = 320 km (UPP,KIR,UME). M = 5.5 (UPP,KIR).			"	17	UPP	iP 16 56 22.4
"	16	UME	iP 15 34 12.9			UME	iP 16 56 12.0
	South of Honshu, Japan (h = 490 km).				Philippine Islands region (h = 35 km).		
"	16	UME	iP 18 07 43.4	"	17	UPP	iPKP1 21 45 57.4
"	16	UPP	iP 19 11 47.2		South of Fiji Islands (h = 520 km).		
		KIR	iP 19 11 14.9	"	18	UPP	iP 15 45 45.9
		UME	iP 19 11 34.0			KIR	iP 15 45 20.3
	Southern Nevada. Underground explosion.					UME	iP 15 45 31.6
"	17	UPP	iPKP 01 22 14.9		Mariana Islands (h = 440 km).		
		KIR	iPKP 01 22 32.2				
	(cont.)						

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1987				1987			
July	18	UPP	iP	16 37 58.5	July	20	(cont.)
			iP	16 38 05.5			UME iP 16 55 00.8
		Tibet-India border region					i 16 55 17.0
		(h = 55 km).					Iran (h = 35 km).
"	18	UME	iP	17 12 45.7	"	20	UME iP 18 47 00.0
		Near east coast of Honshu,					Southern Honshu, Japan
		Japan (h = 100 km).					(h = 40 km).
	19	UME	iP	02 06 15.6	"	20	UPP iSg1 19 06 00.4
"	19	UPP	Ip	02 22 26.7			UDD iPg1 19 05 18.7
			j	02 25 12.4			iSg1 19 06 05.1
		KIR	iP	02 23 56.2			MYV iSg1 19 06 05.0
		UME	iP	02 23 09.8			Southern Norway, near
		Romania (h = 40 km).					61 3/4°N, 7 1/2°E.
"	19	UPP	iP	11 00 29.7			Origin time = 19 04 16.
			i	11 00 41.0			M _L (UPP) = 2.6 1.
"	19	KIR	iP	11 00 09.6	"	20	UPP iP 20 41 04.1
			i	11 00 20.8			Philippine Islands region
		Taiwan (h = 20 km).					(h = 35 km).
"	19	UPP	iP	22 59 23.0	"	20	UME iPKP 22 13 10.9
		KIR	iP	22 59 17.4			Solomon Islands (h = 55 km).
		UME	iP	22 59 16.6	"	21	UPP iP 04 05 50.4
		Burma (h = 120 km).				KIR iP 04 05 24.8	
"	20	UPP	iP	01 38 44.5			micr sec
		KIR	iP	01 37 52.8			P Z' 0.1 1.0
		Unimak Island region (h = N).				UME iP 04 05 36.6	
"	20	UME	iP	08 06 52.4			Mariana Islands region
		Talaud Islands (h = 80 km).					(h = N).
"	20	UPP	iP	08 24 45.1	"	21	UPP iP 08 04 12.7
		KIR	iP	08 24 03.5			KIR iP 08 04 48.6
		UME	iP	08 24 23.3			UME iP 08 04 35.4
		Kuril Islands (h = 70 km).					Central Mid-Atlantic Ridge
"	20	UPP	iPKP2	13 03 30.9			(h = 10 km).
		UME	iPKP1	13 03 14.3	"	21	KIR iP 12 21 27.3
		South of Kermadec Islands				UME iP 12 22 04.7	
		(h = 170 km).				Jan Mayen Island region	
"	20	UPP	iP	13 07 38.5			(h = 10 km).
		KIR	iP	13 06 50.9	"	21	UME iPKP 13 46 26.5
		UME	iP	13 07 15.7			West Chile Rise (h = 10 km).
		Kuril Islands (h = N).		"	21	KIR iP 13 59 49.6	
"	20	UPP	iP	16 54 49.9			Philippine Islands region
		KIR	iP	16 55 21.0			(h = 25 km).
		(cont.)					

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1987						1987						
July	24	(cont.)				July	28	UPP	Mx	05 33		
										micr sec		
			P	Z'	0.1				Mx	Z	2.8 19	
			UME	iP	02 07				Northern Italy (h = 10 km).			
			Central Siberia.									
			Underground explosion.				"	28	UDD	iPg1	07 30 56.1	
"	24		UPP	iP	05 35 41.4				iSg1	07 31 41.7		
				iS	05 44 16			DEL	iSg1	07 33 12.8		
					micr sec			MYV	iSg1	07 31 42.2		
				P	Z'	0.1		Southwestern Norway, near				
				Mx	Z	0.9		61 3/4°N, 7 1/2°E.				
			KIR	iP	05 34 47.5			Origin time = 07 29 54.				
					micr sec			M _L (UPP) = 2.6 1.				
				P	Z	0.3		"	28	KIR	iPKP1	10 09 32.7
			UME	iP	05 35 15.0			West of Macquarie Island				
				iS	05 43 30.3			(h = 10 km).				
			Kodiak Island region (h = N).					28	KIR	iPKP1	10 10 38.4	
			m = 6.1 (UPP, KIR).					West of Macquarie Island				
"	25		KIR	iP	01 20 42.7			(h = 10 km).				
					micr sec			"	28	UME	iPKP1	20 17 43.3
				P	Z'	0.1		South of Kermadec Islands				
			UME	iP	01 21 12.9			(h = 180 km).				
			Southern Alaska (h = 170 km).					"	28	UPP	iP	22 47 56.2
"	25		UPP	iPg1	05 31 44.5			28	UME	iP	22 47 36.1	
				iSn	05 32 12.5			"	29	UPP	i(P)	00 20 24.0
				iSg1	05 32 18.8			"	29	UPP	iPKP1	10 20 56.8
			KIR	eSg1	05 35 09			29	UME	iPKP1	10 20 45.3	
			UME	iSg1	05 33 42.1			Kermadec Islands (h = 10 km).				
			UDD	iPg1	05 31 08.7			"	29	UPP	iP	17 43 10.9
				iSg1	05 31 17.0			Near east coast of Kamchatka				
			MYV	iPg1	05 31 50.2			(h = N).				
				iSg1	05 32 32.2			"	29	UME	iPKP	20 55 17.6
			Sweden-Norway border					iSKP1				
			region, 60.0°N, 12.4°E.					20 57 50.1				
			Origin time = 05 30 57.					Fiji Islands region				
			M _L (UPP) = 3.1 (0.19) 4.					(h = 630 km).				
			Felt.					"	29	UPP	iPKP1	21 50 35.7
"	26		KIR	iP	00 35 01.9			KIR	iPKP	20 50 28.8		
				ipP	00 35 23.7			UME	i(PKP)	21 50 31.8		
			Guerrero, Mexico (h = 70 km).						iPKP	21 50 35.3		
"	26		KIR	iPKP1	22 19 08.6				iSKP1	21 53 07.0		
			Northwest of New Zealand					Fiji Islands region				
			(h = N).					(h = 640 km).				
"	28		UPP	eP	01 55 08			"	29	UME	iP	22 26 17.3
					micr sec							
				Mx	Z	2.3						
			KIR	iP	01 55 49.0							
			Central Mid-Atlantic Ridge									
			(h = 10 km).									

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987

July 30 UME iP 05 19 02.9
Adriatic Sea (h = 10 km).

" 30 UPP iP 13 39 26.8
UME iP 13 39 08.9
Kyushu, Japan (h = 55 km).

" 30 UPP iP 17 57 21.1
Kuril Islands (h = N).

" 30 UME iP 19 40 02.2

" 30 UME iP 19 50 20.4
Mariana Islands region
(h = N).

" 30 UME iP 22 09 30.1

30 UPP iP 22 18 11.3
i 22 18 25.4
UME iP 22 18 47.6
Southern Greece (h = 40 km).

" 30 UPP ePKP1 00 04 47
UME iPKP1 00 04 35.0
South of Kermadec Islands
(h = N).

" 31 UPP iP 00 40 46.6
KIR iP 00 40 33.7
micr sec
P Z' 0.1 1.0
UME iP 00 40 37.6 C
iPP 00 44 34.2
Minahassa Peninsula
(h = 170 km).

" 31 UME iPKP1 11 33 29.0
South of Kermadec Islands
(h = N).

" 31 UPP iP 16 46 29.3
UME iP 16 46 16.5
Taiwan (h = 40 km).

" 31 UPP iP 19 15 01.5
KIR iP 19 14 20.5
UME iP 19 14 38.8
i 19 14 47.8
Hokkaido, Japan region
(h = 120 km).

October 28, 1988

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SEISMOLOGICAL DEPARTMENT
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SEISMOLOGISKA AVDELNINGEN
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SEISMOLOGICAL BULLETIN

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDH)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

AUGUST 1 - 31, 1987

1987				1987			
Aug.	1	UPP	iP	00 08 39.3	Aug.	2	(cont.)
			iS	00 18 18			
				micr sec			micr sec
			P	Z' 0.2 1.0			i Z' 0.7 0.7
			Mx	Z 8.5 18			Mx Z 1.1 12
		KIR	iP	00 08 01.3		KIR	iP 02 02 56.8
				micr sec			micr sec
			P	Z' 0.2 0.9			Mx Z 0.8 5
			Mx	Z 5.2 21		UME	iP 02 03 33.6
		UME	iP	00 08 22.5			Novaya Zemlya.
				Near coast of Northern Calif.			Underground explosion.
				(h = 15 km).		"	2
				m = 6.2, M = 5.9 (UPP,KIR).		UPP	iP 09 19 01.0
						KIR	iP 09 18 39.6
						UME	iP 09 18 45.8
"	1	UPP	iP	03 32 54.0			Near southeastern coast of
				Andreanof Islands, Aleutian			China (h = 30 km).
				Is. (h = N).		"	2
						UPP	iPKP1 11 38 18.6
"	1	UPP	iP	14 02 52.1			iPKP2 11 38 23.8
				Southern Iran (h = 15 km).		UME	iPKP 11 38 06.4
							Kermadec Islands region
"	2	UPP	iP	01 05 04.4 C			(h = 380 km).
			i	01 06 11.3		"	2
				micr sec		KIR	iP 19 06 14.0
			P	Z' 0.6 0.6		UME	iP 19 06 26.5
			Mx	Z 0.4 8			Mariana Islands region
		KIR	iP	01 04 49.0			(h = N).
				micr sec		"	2
			Mx	Z 0.5 8		UPP	iP 22 23 33.8
		UME	iP	01 04 49.7			micr sec
				Eastern Kazakh SSR.			Mx Z 0.6 14
				Underground explosion.		KIR	eP 22 23 55
							micr sec
"	2	UPP	iP	02 04 26.3 D			Mx Z 0.7 14
			i	02 04 26.8		UME	eP 22 23 39
			i	02 04 27.7			i 22 23 43.4
			iS	02 08 03			Pakistan (h = N).
				(cont.)			M = 4.7 (UPP,KIR).

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1987				1987			
Aug.	3	KIR iP	03 20 46.6	Aug.	5	(cont.)	
		UME iP	03 20 49.9			UME iP	15 58 52.9
		Panama-Colombia border region (h = N).				Mariana Islands region (h = 320 km).	
"	3	KIR iP	07 42 09.4	"	6	UPP eP	06 26 15
			micr sec				micr sec
		P	Z' 0.4 1.4			Mx	Z 1.0 11
		North of Franz Josef Land (h = 10 km).				UME iP	06 26 51.7
						Turkey (h = 25 km).	
"	3	UPP iP	11 15 53.3	"	6	UPP iP	09 14 15.8
		Greece (h = 10 km).					micr sec
"	3	KIR iP	21 41 15.7			P	Z' 0.1 1.0
"	4	UPP iSg1	11 11 28.4			KIR iP	09 14 21.7
		UDD iPg1	11 09 41.8				micr sec
		iSg1	11 10 30.2			P	Z' 0.1 0.8
		MYV iSg1	11 10 30.2			UME iP	09 14 13.3
		Southwestern Norway, near 61 3/4°N, 7°E.				Jajik SSR (h = 140 km).	
		Origin time = 11 08 38.				m = 5.5 (UPP,KIR).	
		M _L (UPP) = 2.6 1.		"	6	UDD iPg1	15 30 07.2
"	4	UME iP	12 27 06.5			iSg1	15 30 37.6
		Near north coast of Greenland (h = 10 km).				Southern Norway, 61.0°N, 9.6°E.	
"	4	UPP iPKP	15 23 33.0			Origin time = 15 29 26.	
		KIR iPKP	15 23 42.5			Solution from Bergen bulletin.	
		UME iPKP	15 23 39.6	"	6	UPP iP	23 22 28.8
		Near coast of central Chile (h = 40 km).					micr sec
"	4	UPP iP	22 35 20.0			Mx	Z 1.1 16
		i	22 35 34.3			UME eP	23 22 46
		KIR ePKP	22 35 05			Central Mid-Atlantic Ridge (h = 10 km).	
		UME iPKP	22 35 09.0	"	7	KIR iSg1	07 50 24.8
		i	22 35 23.1			Central Norway, 66.4°N, 14.4°E.	
		Kermadec Islands region (h = N).				Origin time = 07 49 06.	
						Solution from Bergen bulletin.	
"	5	UPP iP	10 32 17.8	"	7	UPP iP	16 02 48.0
			micr sec			KIR iP	16 03 33.8
		Mx	Z 0.9 9			Southern Greece (h = 50 km).	
		KIR iP	10 32 09.7	"	8	KIR iPKP2	06 02 25.6
		Southern Xinjiang, China (h = N).				Macquarie Islands region (h = N).	
"	5	UPP iP	15 59 08.5	"	8	UPP iPKP1	08 07 59.5
		KIR iP	15 58 41.0			iPKP2	08 08 08.7
			micr sec			KIR iPKP1	08 07 39.1
		P	Z' 0.1 0.6			(cont.)	
		(cont.)				(cont.)	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Aug.				Aug.			
8	(cont.)			10	(cont.)		
	UME	iPKP1	08 07 48.3		KIR	iPKP1	05 12 58.8
		iPKP2	08 07 55.5		UME	iPKP1	05 13 07.0
	Off E. coast of N. Island, N.Z. (h = N).					iPKP2	05 13 13.1
"	8	UPP	i2	"	10	UPP	Mx
			16 03 26.0				05 49
			16 07 17.7				micr sec
			micr sec				Mx Z 1.1 26
			Z 41 20		Fiji Islands region (h = N).		
		KIR	iP	"	10	UPP	eP
			16 03 06.1				09 28 53
			16 03 20.5				micr sec
			16 07 11.2				Mx Z 2.2 20
		UME	i2		KIR	iP	09 28 25.8
	Northern Chile (h = 70 km).				UME	iP	09 28 37.3
"	8	UPP	Mx	"	10	Mariana Islands (h = 40 km).	
			22 29	"	10	KIR	iP
			micr sec			UME	iP
			Mx Z 0.9 10		"	10	UPP
	Aegean Sea (h = 10 km).						iP
"	9	KIR	iP	"	10		iP
			08 31 10.1				10 10 56.2
	Molucca Passage (h = 50 km).						micr sec
"	9	UPP	iP				P Z' 0.1 0.8
			09 04 16.9		KIR	iP	10 10 40.7
"	9	KIR	iP				micr sec
			09 25 20.9				P Z' 0.3 1.1
	Luzon, Philippine Islands (h = 70 km).				UME	iP	10 10 45.7
"	9	UPP	iP		Mindanao, Philippine Islands (h = 200 km). m = 6.0 (UPP,KIR).		
		KIR	iP	"	10	UPP	iP
		UME	iP				11 00 03.6 D
	Near north coast of Colombia (h = 45 km).						iS 11 06 19
"	9	UPP	iP				micr sec
			21 24 13.2 C				P Z' 0.4 0.7
			21 31 34				Mx Z 1.4 13
			micr sec		KIR	iP	11 00 26.8 D
			P Z' 0.1 0.6			ipP	11 01 02.9
			Mx Z 0.6 14				micr sec
		KIR	iP				P Z' 0.9 1.0
			21 24 13.7 C		UME	iP	11 00 09.0 D
			micr sec			ipP	11 00 45.3
			P Z' 0.2 0.8		Pakistan. h = 170 km (KIR,UME). m = 6.3 (UPP,KIR).		
		UME	iP	"	10	UPP	eP
	Nepal (h = 50 km). m = 6.1 (UPP,KIR).						12 22 05
"	9	UME	iP				micr sec
			23 21 09.0				Mx Z 1.2 13
	Southern Honshu, Japan (h = 350 km).				KIR	eP	12 21 38
"	10	UPP	iP		UME	eP	12 21 47
			05 13 07.2		Northern China (h = 10 km).		
			05 13 15.0				
	(cont.)						

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Aug.	10	KIR	iP	12 29 24.5	Aug.	12	UPP	iP	01 37 55.7
		UME	iP	12 29 15.6			KIR	iP	01 37 05.4
							UME	iP	01 37 26.9
"	10	UPP	iP	12 36 38.5			Central Siberia.		
		UME	iP	12 36 22.1			Underground explosion.		
		Northern China (h = 10 km).			"	12	UPP	iP	03 21 14.8
"	10	UPP	iP	12 56 27.1				ipP	03 21 27.5
		KIR	iP	12 56 03.5					micr sec
		UME	iP	12 56 11.0				Mx	Z 1.2 18
		North China (h = 10 km).					KIR	iP	03 21 26.3
"	10	UPP	iP	18 08 43.6				ipP	03 21 39.5
				micr sec			UME	iP	03 21 24.2
		P	Z'	0.1 0.7				ipP	03 21 37.4
		KIR	iP	18 07 58.8			Windward Islands.		
				micr sec			h = 50 km (UPP,KIR,UME).		
		P	Z'	0.1 0.7	"	12	UPP	iP	04 44 48.7
		UME	iP	18 08 19.1					micr sec
		Kuril Islands (h = 55 km).						Mx	Z 0.5 13
		m = 6.0 (UPP,KIR).					KIR	iP	04 43 54.2
"	10	UPP	iP	18 28 59.2			UME	iP	04 44 21.0
		KIR	iP	18 28 58.3			Near east coast of Kamchatka		
				micr sec			(h = 45 km).		
		P	Z'	0.1 0.8	"	13	UPP	iP	07 27 02.6
		UME	iP	18 28 56.4			KIR	iP	07 28 17.5
		Sunda strait (h = N).					UME	iP	07 27 40.9
"	11	UME	iP	02 16 17.1			Sicily (h = 40 km).		
"	11	UPP	iP	02 26 26.9	"	13	UPP	ePKP2	09 03 53
		Southwestern Ryukyu Islands					UME	iPKP1	09 03 36.8
		(h = 60 km).					Kermadec Islands (h = 55 km).		
"	11	UPP	iPKP	04 53 11.3	"	13	UPP	iP	14 11 49.0 C
		KIR	iPKP	04 52 58.3				i	14 11 50.9
		UME	iPKP	04 53 05.5					micr sec
			iSKP1	04 55 40.3				P	Z' 0.2 0.9
		Fiji Islands region					KIR	iP	14 11 15.1 C
		(h = 600 km).						i	14 11 16.5
"	12	UPP	iPKP	00 25 19.5					micr sec
		KIR	iPKP	00 25 06.5				P	Z' 0.2 0.9
		UME	iPKP	00 25 12.6			UME	iP	14 11 34.5 C
		Santa Cruz Islands						i	14 11 36.3
		(h = 110 km).					Southern Nevada.		
"	12	UPP	Mx	01 19	"	13	UME	iSg1	15 09 34.7
				micr sec			UDD	iSg1	15 08 12.4
		Mx	Z	0.7 18			MYV	iSn	15 08 05.8
		Mindanao, Philippine Islands					Southwestern Norway, near		
		(h = N).					62°N, 7 1/2°E.		
							Origin time = 15 06 25.		
							(cont.)		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987	
Aug.	13	(cont.) M _L (UPP) = 2.6 1. By combination with Bergen bulletin.	Aug. 14 (cont.) UME iP 06 28 38.9 Yugoslavia (h = 15 km).
"	13	UPP iP 15 37 12.3 micr sec Mx Z 15 22 Near coast of Peru (h = 35 km).	" 14 UPP iP 17 50 12.4 ipP 17 50 40.3 micr sec P Z' 0.3 1.1 Mx Z 1.5 22 KIR iP 17 49 19.1 ipP 17 49 46.5 micr sec P Z' 0.4 1.1 UME iP 17 49 45.7 ipP 17 50 13.7 Fox Islands, Aleutian Islands. h = 120 km (UPP,KIR,UME). m = 6.2 (UPP,KIR).
"	13	KIR eSg1 16 42 09 Norrbotten, Sweden, 66.3°N, 22.7°E. Origin time = 16 41 15. By combination with Finnish station reading.	" 15 UPP iP 00 41 19.0 micr sec P Z' 0.1 0.9 KIR iP 00 40 28.7 micr sec P Z' 0.2 0.9 UME iP 00 40 52.0 Northwest of Kuril Islands (h = 530 km). m = 5.3 (UPP,KIR).
"	13	UPP iPKP 20 51 48.4 KIR iPKP 20 51 35.1 UME iPKP 20 51 41.4 Santa Cruz Islands (h = 25 km).	" 15 UPP iP 09 17 40.3 KIR iP 09 18 47.0 UME iP 09 18 12.0 Crete (h = 30 km).
"	13	KIR iPKP 22 05 46.9 UME iPKP 22 05 52.8 Vanuatu Islands (h = N).	" 15 KIR iP 13 03 06.4 UME iP 13 03 05.9 Leeward Islands (h = 150 km).
"	14	KIR eP 02 20 12 UME iP 02 19 46.8 Eastern Caucasus (h = N).	" 15 KIR iPKP 14 08 01.3 UME iPKP 14 08 07.6 Tonga Islands (h = 200 km).
"	14	UPP eP 03 11 01 KIR iP 03 10 22.8 UME iP 03 10 39.1 Honshu, Japan (h = 210 km).	" 15 KIR iP 16 19 19.8 ipP 16 19 32.4 UME iP 16 19 37.2 ipP 16 19 50.0 Near east coast of Honshu, Japan (h = 55 km).
"	14	UPP iPKP 06 18 05.2 micr sec Mx Z 2.4 22 KIR iPKP 06 17 52.6 micr sec Mx Z 1.7 22 UME iPKP 06 17 59.0 Santa Cruz Islands (h = 30 km). M = 5.7 (UPP,KIR).	" 15 UPP micr sec Mx Z 9.5 20 KIR ePKP 18 23 01 Central Chile (h = 35 km).
"	14	UPP iP 06 27 53.0 micr sec Mx Z 3.0 15 KIR iP 06 29 22.1 micr sec Mx Z 3.6 15 (cont.)	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Aug.	15	KIR	iP	18 34 35.6	Aug.	19	(cont.)
		UME	iP	18 33 48.7			Norwegian Sea, near 70 1/2°N, 12 1/2°E.
"	16	KIR	eP	01 15 17			Origin time = 03 08 17.
		UME	iP	01 15 24.6			M _L (UPP) = 2.9 1.
				Off coast of central America (h = 70 km).			By combination with Finnish and Norwegian station readings.
"	16	UME	iP	20 18 44.7	"	20	UPP iPKP 05 59 19.7
				Near s. coast of Honshu, Japan (h = 340 km).			South of Fiji Islands (h = 530 km).
"	16	UPP	iPKP1	21 58 34.0	"	20	KIR iP 07 26 11.4
			iPKP2	21 58 46.3	"	20	UPP iP 21 27 30.4
				micr sec	"	20	UME iP 21 27 13.7
			Mx	Z 4.9 27			Volcano Islands region (h = 120 km).
		KIR	iPKP1	21 58 15.6	"	21	UPP iP 00 34 56.7
			i	21 58 29.7			UME iP 00 34 50.0
		UME	iPKP1	21 58 24.7			Tibet (h = 55 km).
				South of Kermadec Islands (h = 70 km).	"	21	UPP iP 05 08 28.3
"	18	UME	iP	02 04 08.9	"	21	UME iP 05 08 24.8
				Banda Sea (h = 140 km).			Northern Sumatra (h = 100 km).
"	18	UPP	iP	02 21 39.5	"	21	UPP eP 15 43 38
				micr sec	"	21	KIR eP 15 43 19
			P	Z' 0.1 1.1			Luzon, Philippine Islands (h = N).
		KIR	iP	02 21 47.9	"	21	UPP Mx 19 30
		UME	iP	02 21 37.7			micr sec
				Afghanistan-USSR border region (h = 210 km).			Mx Z 1.9 20
"	18	UPP	Mx	03 30	"	21	KIR Mx 19 32
				micr sec			micr sec
			Mx	Z 1.9 18			Mx Z 1.4 20
				New Britain region (h = 50 km).			New Britain region (h = 35 km).
"	18	UPP	iP	18 05 09.7			M = 5.6 (UPP,KIR).
		KIR	iP	18 04 51.4	"	21	UPP iPKP 20 02 57.8
				Mindanao, Philippine Islands (h = 55 km).	"	21	KIR iPKP 20 02 43.3
"	19	UPP	ePKP1	00 45 20			Solomon Islands region (h = 60 km).
		KIR	ePKP1	00 44 59	"	21	UPP iPKP1 22 48 11.8
		UME	iPKP1	00 45 09.1			Kermadec Islands region (h = 440 km).
				South of Kermadec Islands (h = N).			
"	19	KIR	iPn	03 09 19.2			
			iSn	03 10 05.1			
			iSg1	03 10 19.8			
		UME	iSn	03 11 26.3			
				(cont.)			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Aug.	21	UPP	iP	23 13 40.5	Aug.	24	UPP	iP	19 09 30.9
		KIR	iP	23 13 15.9			KIR	iP	19 09 56.0
		UME	iP	23 13 30.4			UME	iP	19 09 14.4
		Gulf of California (h = 10 km).							
"	22	UPP	iP	05 20 02.5	"	24	UPP	iP	23 54 01.3
				micr sec			KIR	iP	23 53 09.1
		P	Z'	0.3 1.0			UME	iP	23 53 34.3
		KIR	iP	05 19 08.5			Andreanof Islands, Aleutian Is. (h = N).		
				micr sec	"	25	UPP	iP	03 31 50.7
		P	Z'	0.2 0.8			KIR	iP	03 32 58.3
		UME	iP	05 19 34.9			UME	iP	03 32 25.9
		New Islands, Aleutian Islands (h = N). m = 6.3 (UPP,KIR).					Crete (h = 25 km).		
"	22	UPP	iP	15 24 49.5	"	25	UPP	iP	09 57 57.6
		KIR	iP	15 24 03.5			UME	iP	09 57 32.4
		UME	iP	15 24 25.8			Hokkaido, Japan region (h = 80 km).		
		Kuril Islands (h = 55 km).			"	26	UPP	eP	01 53 26
"	23	UPP	iP	12 03 06.2			KIR	iP	01 53 11.5
		KIR	iP	12 03 28.0			UME	iP	01 53 15.0
		UME	iP	12 03 13.2			Negros, Philippine Islands (h = 25 km).		
		Mid Indian Rise (h = 10 km).			"	26	UPP	iP	01 57 39.8
"	23	KIR	iP	14 25 09.9			KIR	iP	01 57 24.4
		Kuril Islands (h = 150 km).					UME	iP	01 57 29.5
"	23	UPP	iP	23 19 05.1			Negros, Philippine Islands (h = 30 km).		
		KIR	iP	23 18 16.7	"	26	UPP	iP	02 13 31.0
		UME	iP	23 18 39.0			KIR	iP	02 13 16.5
		Kuril Island (h = N).					UME	iP	02 13 21.8
"	24	UPP	iP	00 04 56.5			Negros, Philippine Islands (h = N).		
		KIR	iP	00 04 08.0	"	26	UPP	iPKP	07 15 02.2
		UME	iP	00 04 30.7				iSKP1	07 17 51.7
		Kuril Island (h = N).							micr sec
"	24	UPP	iP	09 35 03.9				PKP	Z' 0.1 0.9
			ipP	09 35 28.4			KIR	iPKP	07 14 53.2
		KIR	iP	09 34 58.3				iSKP1	07 17 29.3
			ipP	09 35 23.4			UME	iPKP	07 14 59.8
		UME	iP	09 34 56.7				iSKP1	07 17 40.0
			ipP	09 35 21.8			Fiji Islands region (h = 570 km).		
		Burma-India border region. h = 100 km (UPP,KIR,UME).			"	26	UPP	iSg1	17 05 49.5
"	24	UPP	iP	10 43 07.7			UDD	iPg1	17 04 23.1
		KIR	iP	10 43 15.6				iSg1	17 04 51.7
		UME	iP	10 43 05.5			MYV	iSg1	17 05 12.6
		Afghanistan-USSR border region (h = 45 km).					(cont.)		

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Aug.	26	(cont.) Southern Norway, near 61 1/4°N, 10°E.		Aug.	29	UPP iP	19 27 44.3
						KIR iP	19 26 30.5
						UME iP	19 27 08.0
						Jan Mayen Island region (h = 10 km).	
"	26	UPP iPKP1	17 15 54.9	"	29	KIR iP	22 22 11.0
		UME iPKP1	17 15 39.5			UME iP	22 22 39.1
		Kermadec Islands (h = N).				Fox Islands, Aleutian Islands (h = N).	
"	26	KIR iP	19 46 03.5				
		UME iP	19 46 08.8				
		Molucca Passage (h = 45 km).		"	30	UPP iP	06 05 02.2
"	27	UPP iP	16 49 15.4			KIR iP	06 05 31.7
		KIR iP	16 49 21.3			UME iP	06 05 07.1
		UME iP	16 49 11.9			Iran (h = N).	
		Tajik SSR (h = 130 km).		"	30	UPP iPKP1	12 35 15.4
"	27	UPP iP	16 51 34.4			KIR iPKP	12 34 56.7
		ipP	16 51 38.6			UME iPKP1	12 35 03.2
		iS	16 55 30			Kermadec Islands (h = 55 km).	
			micr sec	"	31	KIR iSg1	04 59 52.4
		Mx	Z 1.5 14			Norrbotten, Sweden, 66.9°N, 23.3°E.	
		KIR epP	16 52 50			Origin time = 04 59 07.	
		UME eP	16 52 10			By combination with Finnish station readings.	
		ipP	16 52 14.5	"	31	UPP iPKP1	07 11 52.5
			micr sec			Kermadec Islands region (h = 310 km).	
		Mx	Z 0.8 10	"	31	UPP iP	09 00 04.1
		Greece (h = 25 km).				KIR iP	09 00 07.4
		M = 4.5 (UPP,KIR).				UME iP	09 00 00.4
"	28	KIR iSg1	10 52 52.1			Kashmir-Xinjiang border region (h = N).	
		UME iSg1	10 53 20.1				
		UDD iSg1	10 54 50.2				
		MYV i	10 53 06.8				
		iSg1	10 53 21.8				
		Central Norway, near 66 1/2°N, 15 °E.					
		Origin time = 10 51 34.					
		M _L (UPP) = 2.7 (0.08) 2.					
"	28	KIR iP	16 57 23.3				
		Philippine Islands region (h = 50 km).					
"	29	KIR eP	13 04 05				
		Mindanao, Philippine Islands (h = N).					
"	29	KIR iPKP	15 33 11.5				
		South Sandwich Islands region (h = N).					
"	29	UPP iP	18 06 39.7				
		Kashmir-Tibet border region (h = N).					

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM

DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

SEPTEMBER 1 - 30, 1987

1987					1987				
Sep.	1	UPP	iP	02 13 04.9	Sep.	1	UME	iP	21 45 54.2
		Andreanof Islands, Aleutian					Hindu Kush region (h = N).		
		Is. (h = N).							
"	1	UPP	iP	03 52 38.0	"	1	UPP	i(PKP)	23 05 06.5
							KIR	iPKP	23 04 57.3
							UME	iPKP	23 04 59.2
"	1	UPP	iS	04 51 41			Fiji Islands region		
		Juyjuy Province, Argentina					(h = 590 km).		
		(h = 200 km).							
"	1	UPP	Mx	04 55	"	2	UPP	iP	00 48 55.5
				micr sec			KIR	iP	00 48 30.7
		Mx	Z	1.1 17			UME	iP	00 48 36.9
		KIR	Mx	04 55			i		00 48 47.7
				micr sec			Southwestern Ryukyu Islands		
		Mx	Z	0.6 12			(h = 80 km).		
		Fox Islands, Aleutian Islands			"	2	UPP	iPKP2	05 43 05.7
		(h = N).					KIR	iPKP2	05 42 39.2
		M = 5.1 (UPP,KIR).					UME	iPKP1	05 42 43.2
"	1	UPP	iSg1	13 09 10.2			iPKP2	05 42 51.4	
		UDD	iPg1	13 07 47.3			North Island, New Zealand		
			iSg1	13 08 10.4			(h = 200 km).		
		DEL	iSg1	13 09 48.7	"	3	UPP	iP	00 16 18.4
		MYV	iSg1	13 08 32.2			KIR	iP	00 16 18.4
		Southern Norway, near 61 1/4°N,					UME	iP	00 16 22.8
		10 1/2°E.					Dominican Republic region		
		Origin time = 13 07 16.					(h = 35 km).		
		M _L (UPP) = 2.3 1.			"	3	UPP	iP	01 03 30.9
"	1	UME	iP	13 48 05.7			KIR	iP	01 03 26.5 C
		South of Honshu, Japan					UME	iP	01 03 23.6
		(h = 60 km).					Burma (h = 55 km).		
"	1	UDD	iSg1	17 16 24.2	"	3	KIR	iP	01 29 15.9
							UME	iP	01 29 21.2
							Ceram (h = 20 km).		

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1987				1987			
Sep.	3	UPP iP	04 12 26.4	Sep.	3	UPP iP	12 45 19.4
		KIR iP	04 12 10.8			KIR iP	12 46 22.4 C
		UME iP	04 12 15.8				micr sec
		Talaud Islands (h = 170 km).				P	Z' 0.3 0.9
"	3	UPP iP	04 23 03.6			UME iP	12 45 47.5
		KIR iP	04 22 48.0			Eastern Mediterranean Sea	
		UME iP	04 22 53.6			h = 45 km).	
		Negros, Philippine Islands		"	3	UPP iP	18 29 42.5
		(h = 50 km).				UME iP	18 29 47.1
"	3	UPP i	07 00 16.1			Off coast of northern Peru (h = N).	
		iPKP2	07 00 48.7	"	3	UPP iP	20 48 10.5
		i	07 04 43.6			KIR iP	20 47 54.5
			micr sec			UME iP	20 47 59.5
		Mx	Z 71 24			Negros, Philippine Islands (h = N).	
		KIR iPKP	07 00 06.9	"	3	UPP iPKP1	23 30 58.8
		iPKP2	07 00 47.2			UME iPKP1	23 30 44.9
			micr sec			Kermadec Islands region (h = N).	
		Mx	Z 44 20	"	4	UPP iP	01 31 21.9
		UME iPKP	07 00 09.1			UME iP	01 31 02.4
		iPKP2	07 00 48.4			i	01 31 06.1
		Macquarie Islands region (h = N).				Taiwan region (h = N).	
		M = 7.3 (UPP,KIR).		"	4	KIR i	01 33 06.3
"	3	UPP iPKP	08 21 31.4			iSg1	01 33 28.8
		iPKP2	08 22 14.8			Norwegian Sea, near 69 1/2°N, 13°E.	
		KIR iPKP	08 21 31.9 C			Origin time = 01 31 44.	
		iPKP2	08 22 12.4			By combination with Finnish and	
		i(PP)	08 25 11.4			Norwegian station readings.	
		iPP	08 25 58.7	"	4	UPP iP	01 43 54.3
			micr sec			iPP	01 44 08.7
		PKP	Z' 9.9 4.5				micr sec
		UME iPKP	08 21 32.6 C			PP	Z' 0.1 1.0
		iPKP2	08 22 13.2			KIR iP	01 45 16.4
		i(PP)	08 25 15.1			iPP	01 45 47.0
		Macquarie Islands region (h = N).					micr sec
		Very clear PKP2 phases observed at				PP	Z' 0.1 0.9
		KIR and UME show significantly				UME iP	01 44 33.7
		higher frequency when compared with				iPP	01 44 52.0
		those of PKP.				Romania (h = 160 km).	
"	3	UPP iP	09 15 56.7	"	4	UPP iP	04 37 53.3
		KIR iP	09 15 57.3			iS	04 46 32
		Southern Xinjiang, China (h = N).					micr sec
"	3	KIR iPKP2	10 03 05.0			P	Z' 0.1 1.0
		i	10 03 14.1			Mx	Z 37 16
		Macquarie Islands region (h = N).				KIR iP	04 37 01.9
"	3	UME iP	12 33 09.2				micr sec
		Near east coast of Honshu, Japan				Mx	Z 20 15
		(h = 80 km).				(cont.)	

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1987				1987			
Sep.	6	KIR eP	02 45 51	Sep.	7	(cont.)	
		Near coast of Chiapas, Mexico				KIR iP	11 39 10.1 C
		(h = 100 km).				i(PP)	11 40 14.9
"	6	KIR iP	09 13 44.2			iPP	11 40 25.8
		UME iP	09 13 10.0				micr sec
		Red Sea (h = 10 km).				P	Z' 0.6 1.2
"	6	UPP iP	15 38 05.0			UME iP	11 38 48.8
			micr sec			Turkmen SSR (h = 35 km).	
		Mx	Z 6.2 16			m = 6.2 (UPP,KIR).	
		KIR iP	15 37 13.8	"	7	UPP iP	12 08 50.6
		UME iP	15 37 37.7	"	7	UPP iPKP1	12 16 51.8
		Kuril Islands (h = 45 km).				i	12 16 55.4
"	6	KIR iP	20 09 26.0				micr sec
		Kuril Islands (h = 50 km).				i	Z' 0.9 1.0
"	6	UPP iP	22 04 43.4			Mx	Z 15 23
			micr sec			KIR i(PKP)	12 16 32.1
		Mx	Z 6.6 17			iPKP	12 16 37.6
		KIR iP	22 03 55.0				micr sec
		UME iP	22 04 18.4			PKP	Z' 0.2 1.3
		Kuril Islands (h = N).				UME i(PKP)	12 16 39.6
"	6	UPP iP	23 48 57.9 C			iPKP	12 16 41.5
		ipP	23 49 12.5			Kermadec Islands region (h = N).	
		KIR iP	23 48 51.1 C	"	7	UPP iPKP1	12 24 06.8
		ipP	23 49 04.6			UME iPKP	12 23 55.4
			micr sec			Kermadec Island region.	
		P	Z' 0.2 0.9	"	7	UME iP	14 38 21.3 C
		UME iP	23 48 49.9 C	"	7	UPP iPKP1	18 03 24.2
		ipP	23 49 02.2			i	18 03 27.5
		Eastern India.				i	18 03 33.8
		h = 50 km (UPP,KIR,UME).					micr sec
"	7	UPP iP	02 59 07.2			PKP1	Z' 0.1 1.5
		UME iP	02 58 51.3			KIR i(PKP)	18 03 02.9
"	7	KIR iP	05 57 06.6			UME iPKP1	18 03 12.4
		Negros, Philippine Islands (h = N).				Kermadec Islands region	
"	7	KIR iP	10 13 19.3			(h = 40 km).	
		Hindu Kush region (h = 200 km).		"	7	UPP iP	18 47 22.9
"	7	UPP iP	11 38 41.8 C			UME iP	18 47 06.5
		ipP	11 38 50.8			i	18 47 10.1
		i(PP)	11 39 35.9	"	7	UPP iPKP2	19 32 18.4
		iS	11 43 40			UME iPKP1	19 32 02.7
			micr sec			Kermadec Islands region (h = N).	
		P	Z' 0.2 1.2			Late arrivals when compared with	
		Mx	Z 7.3 18			NEIC solutions.	
		(cont.)		"	7	UPP iPKP2	20 53 27.6
						UME iPKP1	20 53 11.1
						Kermadec Islands region (h = N).	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Sep.	7	UME	iP	21 02 18.4	Sep.	8	UPP iSg1	17 09 21.5	
"	8	UPP	iP	03 11 53.3			UME iSg1	17 10 08.8	
			iS	03 22 41			UDD iPg1	17 07 51.8	
				micr sec			iSg1	17 08 19.8	
		Mx	Z	2.2 23			MYV iSg1	17 08 41.2	
		KIR	eP	03 11 46			Southern Norway, near 61°N, 5°E.		
		UME	iP	03 11 49.3			Origin time = 17 07 14.		
				South of Panama (h = 10 km).				$M_L(\text{UPP}) = 2.6$ 1.	
"	8	UPP	ipP	03 21 06.2	"	8	UPP iP	19 40 42.7	
		KIR	ipP	03 21 06.2			KIR iP	19 40 23.7 C	
		UME	iP	03 21 04.8			UME iP	19 40 29.6 C	
			ipP	03 21 10.6			Luzon, Philippine Islands		
				South of Panama (h = 10 km).				(h = 30 km).	
"	8	UDD	iSg1	03 36 33.6	"	8	UPP iPKP2	21 56 50.7	
		MYV	iSn	03 36 27.4			KIR ePKP	21 56 30	
				Southern Norway, 61.8°N, 7.2°E.				UME iPKP1	21 56 34.4
				Origin time = 03 34 45.				Kermadec Islands region (h = N).	
				Solution from Bergen bulletin.				"	9
"	8	UPP	iSg1	09 09 54.2			UPP iPKP1	00 01 19.8	
		UDD	iSg1	09 08 51.3			UME iPKP1	00 01 10.6	
		MYV	iSg1	09 08 52.2			South of Kermadec Islands		
				Coast of southwestern Norway, near				(h = 420 km).	
				61 3/4°N, 5°E.				"	9
				Origin time = 09 06 34.				UPP iPKP2	06 54 48.3
				$M_L(\text{UPP}) = 2.7$ 1.				UME iPKP1	06 54 31.5
				By combination with Bergen bulletin.				Kermadec Islands (h = N).	
"	8	KIR	iSg1	09 50 59.9	"	9	KIR ePKP	10 34 47	
		UME	iSn	09 51 15.9			UME iPKP1	10 34 57.8	
			iSg1	09 51 28.7			Kermadec Islands (h = N).		
		UDD	iSg1	09 52 56.4	"	9	UPP iP	12 56 02.1	
		MYV	iSn	09 51 15.4			KIR iP	12 55 54.9	
				Central Norway, near 66 1/2°N, 15°E.				UME iP	12 55 53.2
				Origin time = 09 49 41.				i	12 55 54.1
				$M_L(\text{UPP}) = 2.7$ (0.12) 3.				Burma (h = 120 km).	
				By combination with Bergen bulletin.				"	9
"	8	UPP	iP	13 45 52.9			KIR iP	18 41 15.9	
				micr sec			Volcano Islands region (h = 90 km).		
		P	Z'	0.1 1.1	"	9	KIR iPKP2	19 41 15.3	
		Mx	Z	2.4 25			Macquarie Islands region (h = N).		
		KIR	iP	13 45 01.4	"	9	KIR iP	23 36 38.3 C	
		UME	iP	13 45 26.2			Western Iran (h = 70 km).		
				Kuril Islands (h = 80 km).				"	10
"	8	UPP	ePKP2	16 51 41			UPP iP	00 49 56.4	
		UME	iPKP1	16 51 21.2				micr sec	
				Kermadec Islands region (h = N).				P	Z' 0.1 1.0
								(cont.)	

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1987				1987			
Sep.	10	(cont.)		Sep.	11	KIR iP	00 57 31.0 C
		KIR iP	00 48 26.1				Red Sea (h = 10 km).
		i	00 48 27.4				
			micr sec	"	11	UPP iPKP2	01 49 44.1
		P Z'	0.3 1.5			UME iPKP1	01 49 27.6
		UME iP	00 49 16.1				Kermadec Islands region (h = N).
			North of Svalbard (h = 10 km).				
			m = 5.2 (UPP,KIR).	"	11	UME iP	10 32 24.6
"	10	UPP iP	00 58 57.1	"	11	UPP iSg1	17 29 49.4
		KIR eP	00 58 30			UDD iPg1	17 28 22.6
		UME iP	00 58 42.4			i	17 28 47.1
			Ryukyu Islands (h = N).			iSg1	17 28 50.6
			Late arrivals when compared with	"	12	UPP iP	00 19 08.3
			NEIC solutions.				Greece (h = 20 km).
"	10	KIR iP	02 39 10.6	"	12	UPP iP	00 49 35.1
		UME iP	02 39 14.0			KIR iP	00 49 13.9
			Banda Sea (h = 600 km).				Gansu Province, China (h = 15 km).
"	10	UPP iP	03 59 39.1				Late arrivals when compared with
		KIR iP	03 58 45.9				NEIC solutions.
			Andreanof Islands (h = 50 km).	"	12	KIR iP	04 36 37.8
"	10	UPP eP	04 09 07				North Atlantic Ridge (h = 10 km).
		KIR eP	04 10 15	"	12	KIR iP	08 27 22.0
		UME iP	04 09 40.2			UME iP	08 26 38.0
			Crete (h = N).	"	12	KIR iSg1	16 44 21.8
"	10	UME iP	08 56 18.9				Norwegian Sea, near 70 1/2°,
"	10	UPP iP	10 44 32.4				14 1/2°E.
"	10	KIR iP	13 29 47.0				Origin time = 16 42 44.
		UME iP	13 29 07.0				By combination with Finnish station
			Central Italy (h = 10 km).				readings.
"	10	KIR iP	14 56 51.3	"	12	KIR iP	19 12 53.1
		i	14 57 09.5				Talau Islands (h = N).
			Talau Islands (h = 70 km).	"	12	UPP eP	22 06 21
"	10	KIR eP	18 11 26			KIR iP	22 07 25.9
			Talau Islands (h = 70 km).			UME ipP	22 07 00.4
"	10	UPP iP	22 04 16.4				Crete (h = 20 km).
		KIR iP	22 03 29.8	"	13	UPP iP	01 28 29.4
		UME iP	22 03 51.0			UME iP	01 28 49.1
			Kuril Islands (h = 35 km).			i	01 28 58.4
"	10	UME iPKP1	22 14 53.5				Turkey (h = 10 km).
			Kermadec Islands (h = N).	"	13	UME iP	02 29 14.8
"	11	KIR iP	00 14 03.2 C				North of Ascensian Island
			Greenland Sea (h = 10 km).				(h = 10 km).

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Year	Month	Day	Station	Type	Time (micr sec)	Location	Other	
1987	Sep.	17	UPP	Mx	05 54	Near N coast of Papua new Guinea (h = 15 km). M = 6.0 (UPP,KIR).		
					micr sec			
			Mx	Z	6.4 17			
			KIR	Mx	05 52			
					micr sec			
			Mx	Z	2.8 20			
"	17		UPP	iP	14 34 07.2	Mindanao, Philippine Islands (h = 40 km).		
					micr sec			
			Mx	Z	1.2 18			
			KIR	iP	14 33 47.8			
			UME	iP	14 33 53.3			
"	18		UPP	iP	07 36 43.5	Andreanof Islands, Aleutian Is. (h = N).		
"	18		KIR	iPKP1	17 24 15.4	North Island, New Zealand (h = 190 km).		
"	18		UPP	iSg1	17 58 04.9	Southern Norway, near 61 1/4°N, 9 1/2°E. Origin time = 17 55 54. M _L (UPP) = 3.0 (0.29) 2.		
			KIR	iSg1	18 00 11.4			
			UDD	iPg1	17 56 34.5			
				iSg1	17 57 04.4			
			MYV	iSn	17 57 22.6			
				iSg1	17 57 25.4			
"	18		UPP	iP	22 06 31.5	Northern Xinjiang, China (h = N). m = 6.0 (UPP,KIR).		
					micr sec			
			P	Z'	0.3 1.0			
			Mx	Z	3.2 9			
			KIR	iP	22 06 09.0			
				i	22 06 12.5			
				iPP	22 07 40.6			
					micr sec			
				i	Z' 0.4 1.0			
			UME	iP	22 06 16.9			
"	19		KIR	iP	16 48 24.4	Hokkaido, Japan region (h = 70 km).		
1987	Sep.	19	KIR	iPg1	18 06 39.8	Northern Norway, near 68 1/4°N, 16°E. Origin time = 18 06 09. M _L (UPP) = 2.4 1. By combination with TRO and LOF readings.		
					iSg1		18 07 02.4	
"	19		KIR	iP	19 09 19.2		Tibet (h = N).	
"	19		KIR	iP	21 32 12.5	Off coast of northern Peru (h = 70 km).		
"	19		KIR	ipP	22 08 07.2	Kuril Islands (h = 90 km).		
"	20		KIR	eP	01 46 08	Kuril Islands (h = N).		
"	20		KIR	iP	04 01 28.6	Alma-Ata region (h = 40 km).		
"	20		UPP	iP	05 18 52.5	Central Mid-Atlantic ridge (h = 10 km). m = 6.1 (UPP,KIR).		
					micr sec			
				P	Z' 0.1 1.1			
			KIR	iP	05 19 26.0			
					micr sec			
				P	Z' 1.1			
"	20		UME	iP	05 19 12.3			
"	20		KIR	iPg1	06 38 19.1	Northern Norway, near 67 3/4°N, 15°E. Origin time = 06 37 42. M _L (UPP) = 2.4 1. By combination with LOF, MOR and TRO readings.		
					iSg1		06 38 46.8	
"	20		UPP	iP	11 46 35.3			
					micr sec			
			Mx	Z	1.5 10			
			KIR	iP	11 47 42.4			
					micr sec			
			Mx	Z	0.8 10			
			UME	iP	11 47 09.2	Crete (h = 20 km). M = 4.7 (UPP,KIR).		

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1987				1987			
Sep.	21	UME	iPKP1	14 34 22.8	Sep.	22	(cont.)
				Kermadec Islands (h = 70 km).			KIR eP 16 34 54
"	21	KIR	iPn	18 32 24.2			i 16 34 57.9
			iSn	18 33 31.5			micr sec
		UME	iP	18 33 09.9			i Z' 0.2 1.8
			i	18 35 34.4			Mx Z 1.7 19
				Greenland Sea (h = 10 km).			Ecuador (h = 10 km).
"	21	UPP	iPKP2	23 07 46.7	"	22	UPP iP 22 12 35.4
		KIR	iPKP1	23 07 13.6			i 22 14 51.8
		UME	iPKP2	23 07 33.1			micr sec
				South Island, New Zealand			P Z' 0.3 1.3
				(h = 90 km).			Mx Z 2.6 19
"	22	UPP	iP	01 34 08.8			KIR iP 22 11 27.5
		KIR	iP	01 34 09.7			micr sec
		UME	iP	01 34 03.2			P Z' 0.2 1.0
				Eastern Kashmir (h = 50 km).			Mx Z 1.4 15
"	22	UPP	iP	07 29 29.5 D			UME iP 22 12 00.7
			iPcP	07 29 41.6			Laptev Sea (h = 15 km).
				micr sec			m = 5.9, M = 4.8 (UPP,KIR).
			P	Z' 0.1 0.9	"	23	UPP iP 07 26 23.1
		KIR	eP	07 29 40 D			i 07 26 39.6
				micr sec			i 07 26 51.5
			P	Z' 0.1 1.0			micr sec
		UME	iP	07 29 32.3 D			P Z' 0.2 1.0
			iPcP	07 29 44.5			KIR iP 07 25 37.4
				South Indian Ocean (h = 10 km).			i 07 26 22.1
				m = 5.8 (UPP,KIR).			micr sec
"	22	UPP	iS	14 08 04			P Z' 0.3 1.3
				micr sec			UME iP 07 25 57.3
			Mx	Z 9.5 20			Kuril Islands (h = 130 km).
		KIR	iP	13 56 57.2			m = 6.0 (UPP,KIR).
				micr sec	"	23	UDD iSn 08 02 27.7
			P	Z' 0.3 1.7			Southern Norway, 60.7°N, 5.5°E.
			Mx	Z 7.1 24			Origin time = 09 01 31.
		UME	iP	13 56 59.0			Solution from Bergen bulletin.
			i	13 57 01.2	"	23	UPP iPKP1 15 34 37.5 C
				Ecuador (h = 10 km).			micr sec
				M = 6.1 (UPP,KIR).			PKP1 Z' 0.5 1.5
"	22	KIR	iP	14 32 41.7			Mx Z 4.8 22
				Southern Iran (h = 30 km)			KIR iPKP 15 34 34.5
"	22	KIR	iP	16 07 43.8			iPKP1 15 34 36.2
				Talaud Islands (h = 120 km).			micr sec
"	22	UPP		micr sec			PKP1 Z' 3.4 2.7
			Mx	Z 3.4 18			Mx Z 5.1 26
		(cont.)					UME iPKP 15 34 33.1
							iPKP1 15 34 34.5
							South of Australia (h = 10 km).
							M = 6.2 (UPP,KIR).

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1987				1987			
Sep.	23	UPP KIR	iPKP1 ePKP iPKP1 iPKP1	15 42 27.5 15 42 25 15 42 27.5 15 42 23.5			
				South of Australia (h = 10 km).			
"	23	UME	iSg1	15 50 49.0			
				Västerbotten, Sweden 65.0°N, 20.9°E. Origin time = 15 50 10. $M_L(\text{UPP}) = 2.1$ 1. By combination with Finnish station readings.			
"	23	UPP UME	iP iP	19 27 27.6 19 27 25.6			
				Hindu Kush region (h = 120 km).			
"	23	UPP KIR	i(PKP) iPKP	22 54 17.5 22 54 06.6			
				South of Fiji Islands (h = 510 km).			
	24	UPP	iP ipP	05 06 48.6 C 05 07 01.1			
				micr sec			
			P	Z' 0.1 0.9			
			pP	Z' 0.1 1.0			
			Mx	Z 4.3 20			
		KIR	iP ipP	05 06 09.7 C 05 06 22.3			
				micr sec			
			P	Z' 0.1 0.9			
			pP	Z' 0.1 1.0			
			Mx	Z 3.8 17			
		UME	iP i ipP	05 06 26.4 C 05 06 33.1 05 06 38.9			
				Near east coast of Honshu, Japan. h = 45 km (UPP,KIR,UME). m = 5.8, M = 5.7 (UPP,KIR).			
"	24	UME	iP	08 05 11.6			
				Unimak Island region (h = N).			
"	24	UME	iP	11 19 03.2			
				Near east coast of Kamchatka (h = N).			
"	24	UPP KIR	iP iP	15 11 48.5 C micr sec P Z' 0.1 0.7 15 11 14.2 C micr sec			
				P Z' 0.1 1.0			
				(cont.)			
	24	(cont.)					
Sep.	24	UME	iP	15 11 33.3 C			
				Southern Nevada. m = 5.9 (UPP,KIR). Underground explosion.			
"	24	UDD	iSg1	17 09 11.1			
"	24	KIR UME	iP iP	19 33 11.1 19 33 34.7			
				Northwest of Kuril Islands (h = 360 km).			
"	24	UPP KIR UME	iPKP iPKP iPKP	21 35 25.6 21 35 40.3 21 35 33.7			
				South Sandwich Islands region (h = N).			
"	25	UPP KIR	iP eP	04 39 19.6 04 38 46			
				Utah (h = 10 km).			
"	25	UPP	eP	07 58 41			
				micr sec			
			P	Z' 0.1 1.1			
		KIR	iP	08 00 03.5			
			i	08 00 04.9			
			i	08 00 10.1			
				micr sec			
			i	Z' 0.1 0.7			
		UME	iP	07 59 21.4			
				Romania (h = 140 km). m = 5.2 (UPP,KIR).			
"	25	UME	iPg1 iSg1 i	19 13 34.9 19 13 48.7 19 13 50.7			
				Lapland, Sweden, 64,7°N, 18.9°E. Origin time = 19 13 16. $M_L(\text{UPP}) = 1.7$ 1. By combination with Finnish station readings.			
"	25	UPP	iP	23 26 09.0			
				micr sec			
			Mx	Z 1.3 11			
		KIR	iP	23 26 03.4			
				micr sec			
			Mx	Z 1.0 12			
		UME	iP	23 26 01.3			
				Tibet (h = N). M = 5.1 (UPP,KIR).			

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Year	Day	Station	Type	Time	Unit	Year	Day	Station	Type	Time	Unit		
1987	Sep. 26	UPP	iP	05 40	53.6	1987	Sep. 28	KIR	iPKP	10 30	49.0		
											Fiji Islands region (h = 540 km).		
			P	Z' 0.1	1.3		" 28	UPP	i(PKP)	12 06	16.1		
		KIR	iP	05 40	02.4				i	12 06	28.2		
									iSKP1	12 09	55.4		
			P	Z' 0.1	1.1						micr sec		
		Komandorsky Islands region (h = 35 km). m = 5.8 (UPP,KIR).							KIR	Mx	Z 34	20	
									iPKP	12 06	08.2		
									i	12 06	09.6		
"	26	KIR	iP	10 51	02.1						micr sec		
		Fox Islands, Aleutian Islands (h = N).								Mx	Z 26	22	
"	26	UPP	iP	21 33	42.7 C			UME	iPKP	12 06	14.0		
		KIR	iP	21 32	52.6 C				iSKP1	12 09	38.6		
		UME	iP	21 33	15.7			Vanuatu Islands (h = 30 km). M = 6.9 (UPP,KIR).					
		Kuril Islands (h = N).					"	28	UPP	iPKP	14 05	27.6	
"	27	UME	iPg1	03 28	14.1						micr sec		
			iSg1	03 28	23.2				Mx	Z 15	21		
		Västerbotten, Sweden, 64.5°N, 20.1°E. Origin time = 03 28 02. By combination with Finnish station readings.							KIR	ePKP	14 05	12	
"	27	UPP	iP	06 21	18.2 D						micr sec		
		KIR	iP	06 21	17.9 D				PKP	Z' 0.3	1.6		
		UME	iP	06 21	12.0				Mx	Z 12	22		
		Tibet (h = N).							UME	iPKP	14 05	20.9	
"	27	UPP	iP	08 42	52.1			Vanuatu Islands (h = 25 km). M = 6.6 (UPP,KIR).					
		KIR	iP	08 42	36.0			"	29	KIR	iP	00 53	48.9
		New coast of Michoacan, Mexico (h = N).										micr sec	
"	27	UPP	iP	16 44	40.5				P	Z' 0.1	1.0		
		Southern Greece (h = N).							Molucca Passage (h = 40 km).				
"	27	UPP	iPKP	21 41	55.6				UME	iPg1	04 04	09.1	
		KIR	iPKP	21 41	40.8					iSg1	04 04	18.7	
		UME	iPKP	21 41	48.2			Västerbotten, Sweden, 64.5°N, 20.9°E. Origin time = 04 03 56. M _L (UPP) = 1.9 1. By combination with Finnish station readings.					
		Loyalty Islands region (h = N).					"	29	UPP	iP	18 43	40.7 C	
"	28	UPP	Mx	08 33							micr sec		
									P	Z' 0.1	1.0		
			Mx	Z 6.0	23			KIR	iP	18 44	17.7 C		
		KIR	Mx	08 28				UME	iP	18 44	54.3 C		
								Southern Iran (h = 35 km).					
			Mx	Z 2.4	20			"	29	UPP	iP	21 22	41.4
		Vanuatu Islands (h = 30 km). M = 6.0 (UPP,KIR).							Tibet (h = N).				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987

Sep. 30 UPP ePKP 01 58 39
 iSKP1 02 02 08.7
 micr sec
 Mx Z 11 21
 KIR iPKP 01 58 21.5
 micr sec
 Mx Z 9 23
 UME iPKP 01 58 32.0
 Vanuatu Islands (h = 50 km).
 M = 6.4 (UPP,KIR).

" 30 UPP iP 05 44 17.8

" 30 UDD iSg1 14 15 38.1
 Southern Norway, 58.4°N, 6.3°E.
 Origin time = 14 13 37.
 Solution from Bergen bulletin.

February 20, 1989

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

OCTOBER 1 - 31, 1987

1987					1987				
Oct.	1	UPP iP	03 27 11.3		Oct.	3	UPP iP	01 09 57.4	
		Kuril Islands (h = 50 km).					UME i	01 09 32.9	
							Kuril Islands (h = 50 km).		
"	1	UPP iP	03 35 13.5		"	3	UPP iP	01 23 57.4	
		Near east coast of Kamchatka (h = N).							
"	1	UPP iP	14 54 25.4		"	3	UPP iPdiff	03 48 56.5	
			15 04 36				Peru-Bolivia border region (h = 150 km).		
			micr sec						
		P	Z' 0.2 1.2		"	3	UPP iPdiff	10 30 30.7	
		Mx	Z 5.4 15				i(PP)	10 33 44.0	
		UME iP	14 54 11.4				iPP	10 34 54	
		Southern California (h = 10 km).						micr sec	
"	2	UPP iP	07 49 53.0 D				Pdiff	Z' 0.2 0.9	
		ipP	07 51 37.2			KIR	iPdiff	10 30 14.9	
			micr sec					micr sec	
		P	Z' 0.3 0.9				Pdiff	Z' 0.8 1.4	
		KIR iP	07 49 21.9 D			UME	iPdiff	10 30 19.9	
			micr sec			Banda Sea (h = 70 km). m = 7.1 (UPP,KIR).			
		P	Z' 0.4 1.0		"	3	UPP iP	11 07 41.7	
		UME iP	07 49 35.4 D				i	11 07 43.0	
		Bonin Islands region. h = 460 km (UPP). m = 6.0 (UPP,KIR).					i	11 07 43.6	
"	3	UPP i	00 32 10.1				iS	11 13 46	
		Kuril Islands (h = 40 km).						micr sec	
"	3	UPP iP	00 50 13.3				i	Z' 0.1 0.6	
		KIR i	00 50 18.5				i	Z' 1.1 1.0	
		UME iP	00 50 09.9 D			KIR	iP	11 07 49.8	
		Tajik SSR (h = 120 km).					i	11 07 50.8	
							i	11 07 51.6	
								micr sec	
							i	Z' 1.0 1.3	
						UME	iP	11 07 39.6 C	
							i	11 07 40.7	

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987	
Oct.		Oct.	
3	(cont.) UME i 11 07 41.3 Afghanistan-USSR border region (h = 100 km). m = 6.6 (UPP,KIR). Multiple event with successively increasing amplitudes.	4	(cont.) Near east coast of Honshu, Japan (h = 45 km). m = 6.2 (UPP,KIR).
"	3 UPP iP 15 20 28.0 i 15 20 38.6 i 15 20 48.8 KIR iP 15 20 44.7 i 15 21 00.4 UME iP 15 20 27.9 Western Kazakh SSR. Underground explosion.	"	4 UPP iP 10 57 13.8 UME iP 10 57 11.5 Afghanistan-USSR border region (h = 180 km).
"	3 UME iP 18 34 51.9 Volcano Islands region (h = 260 km).	"	4 UPP iP 11 11 49.5 KIR eP 11 11 11 Southern California (h = 10 km).
"	4 UPP iSg1 02 29 24.8 UDD iSg1 02 28 30.0 North Sea, 58.8°N, 1.6°E. Origin time = 02 25 10. M _L (UPP) = 2.7 1. Solution from Bergen bulletin.	"	4 UPP iP 18 44 34.0 C i 18 44 53.0 iS 18 52 50 iP'P' 19 13 35.2 micr sec P Z' 1.1 1.3 Mx Z 4.0 26 KIR iP 18 43 38.7 C micr sec P Z' 1.9 1.4 UME iP 18 44 04.9 C Near east coast of Kamchatka (h = 55 km). m = 6.9 (UPP,KIR).
"	4 UPP iP 03 00 01.1 KIR iP 02 59 49.9 micr sec P Z' 0.1 1.1 UME iP 02 59 59.3 Near coast of Chiapas, Mexico (h = 90 km).	"	5 UPP eP 09 32 23 iS 09 36 54 micr sec Mx Z 1.6 17 Dodecanese Islands (h = 30 km).
"	4 UPP iP 08 28 02.2 iPP 08 31 18.3 iS 08 38 28 micr sec Mx Z 6.0 21 KIR micr sec Mx Z 11 19 UME iP 08 28 01.8 Costa Rica (h = 50 km). M = 6.1 (UPP,KIR).	"	5 UME iPKP1 13 50 54.4 Kermadec Islands region (h = 460 km).
"	4 UPP iP 10 38 44.5 C micr sec P Z' 0.3 1.3 KIR iP 10 38 04.7 micr sec Z' 0.3 1.1 UME iP 10 38 22.2 C (cont.)	"	5 UDD iSn 15 50 08.8 Southern Norway, 61.9°N, 7.3°E. Origin time = 15 48 28. Solution from Bergen bulletin.
		"	5 UPP iSg1 22 52 49.9 i 22 52 55.8 KIR iSg1 22 54 58.8 UME iPg1 22 52 29.7 iSg1 22 52 58.9 MYV iPg1 22 52 20.6 iSg1 22 52 44.0 i 22 52 49.6 (cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Oct.	5	(cont.) Hälsingland, Sweden, 61.9°N, 17.3°E. Origin time = 22 51 49. $M_L(\text{UPP}) = 2.5 (0.19) 3$. Felt. By combination with Finnish station readings.		Oct.	7	UPP	iP	06 29 57.5	
						KIR	iP	06 29 10.5	
							P	Z' 0.1 1.0	
						UME	iP	06 29 32.0	
						Kuril Islands region (h = 55 km).			
"	6	UPP	iP	01 02 58.8	"	7	UME	iPg1	08 33 17.0
		KIR	iP	01 02 31.0				iSg1	08 33 17.9
				micr sec					
			P	Z' 0.1 1.0					
		Mariana Islands (h = 510 km).							
"	6	UPP	i(PKP)	04 38 19.5	"	8	UPP	iP	02 41 19.1
			iPKP	04 38 29.3				i	02 41 45.3
			iSKP	04 41 13.5					micr sec
			iSKKP	04 50 21.9				P	Z' 0.1 1.0
				micr sec			KIR	iP	02 40 35.7 C
			PKP	Z' 0.1 1.3			UME	iP	02 40 54.8 C
			Mx	Z 41 19			Hokkaido, Japan region (h = 180 km).		
		KIR	i(PKP)	04 38 04.9	"	8	UPP	i(PKP)	03 39 59.1
			iPKP	04 38 15.0				iPKP	03 40 06.7
				micr sec			KIR	i(PKP)	03 39 45.8
			PKP	Z' 2.5 2.4				iPKP	03 39 53.5
			Mx	Z 27 20			UME	iPKP	03 40 00.9
		UME	i(PKP)	04 38 11.3			Tonga Islands (h = 40 km).		
			iPKP	04 38 21.4	"	8	UPP	iP	04 52 42.5
		Tonga Islands region (h = 15 km). M = 7.0 (UPP,KIR).					KIR	iP	04 51 48.1
							UME	iP	04 52 14.5
"	6	KIR	iP	13 14 14.2	"	9	UPP	iP	01 21 26.0
		UME	iP	13 14 16.4			KIR	iP	01 21 33.5
			i	13 14 29.3			Afghanistan-USSR border region (h = 100 km).		
		Northern Xinjiang, China (h = 30 km).			"	10	UPP	iSg1	13 58 16.4
"	6	UPP	iP	20 22 02.7 C			UDD	iPg1	13 56 28.0
			i	20 22 06.1				iSg1	13 57 10.9
			iS	20 30 32.7			MYV	iPg1	13 56 27.2
				micr sec				iSg1	13 57 14.8
			i	Z' 0.5 0.9			Southern Norway, near 61 3/4°, 7°E. Origin time = 13 55 26. $M_L(\text{UPP}) = 2.3 1$.		
			Mx	Z 34 22					
		KIR	iP	20 21 08.8 C	"	11	KIR	iP	17 10 47.0
				micr sec			UME	iP	17 11 21.8
			P	Z' 0.5 1.0			Jan Mayen Island region (h = 10 km).		
			Mx	Z 14 20					
		UME	iP	20 21 33.6 C					
		Off east coast of Kamchatka (h = 35 km). m = 6.5, M = 6.2 (UPP,KIR).							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Oct.	11	UPP	iPKP1	18 22 41.5	Oct.	14	UPP	iP	19 18 37.7
			i	18 22 56.1				iS	19 29 12
		KIR	iPKP1	18 22 22.6					micr sec
				micr sec			Mx	Z	1.9 20
			PKP1	Z' 0.1 1.2			KIR	eP	19 18 28
		UME	iPKP1	18 22 32.1					micr sec
			i	18 22 46.9				Mx	Z 1.0 21
		Off e. coast of N. Island, N.Z. (h = N).					El Salvador (h = 80 km). M = 5.3 (UPP,KIR).		
"	12	UPP	iPKP	14 15 50.7	"	14	UPP	iP	23 42 31.3
			iPP	14 17 05			KIR	iP	23 42 32.9
				micr sec			UME	iP	23 42 28.3
			Mx	Z 43 26			Northern Sumatera (h = 60 km).		
		KIR	iPKP	14 15 38.5	"	15	UPP	iP	07 37 56.2 D
				micr sec			Andreanof Islands, Aleutian Is. (h = 60 km).		
			Mx	Z 43 26					
		UME	iPKP	14 15 46.2	"	16	UPP	iP	01 16 09.7
			iPP	14 16 40.6			Ionian Sea (h = 50 km).		
		Solomon Islands (h = 25 km). M = 6.8 (UPP,KIR).							
"	14	UPP	iPKP1	02 31 02.5 C	"	16	UPP	iSg1	20 08 25.8
			iPKP2	02 31 12.8			UDD	iSg1	20 08 09.5
		KIR	iPKP1	02 30 42.8			DEL	iSg1	20 06 34.6
		UME	iPKP1	02 30 52.8 C			Halland, Sweden, 56.6°N, 13.3°E. Origin time = 20 06 25. M _L (UPP) = 2.2 1. Felt. By combination with Danish station readings.		
		South of Kermadec Islands (h = 70 km).							
"	14	UPP	iP	07 49 18.5	"	16	UPP	iPdiff	21 02 48
		UME	iP	07 49 03.6				iPKP	21 06 38.4
		Taiwan region (h = 110 km).						iPP	21 07 38
"	14	UDD	iSg1	09 00 40.4					micr sec
		MYV	iPg1	08 59 54.8				Mx	Z 169 20
			iSg1	09 00 39.0			KIR	iPKP	21 06 26.7
		Southern Norway, 61.9°N, 7.2°E. Origin time = 08 58 55. M _L (UPP) = 2.7 1. Solution from Bergen bulletin.							micr sec
								Mx	Z 165 24
							New Britain region (h = 50 km). M = 7.5 (UPP,KIR).		
"	14	UPP	iP	12 25 45.1	"	17	UPP	iP	01 21 04.0
		Hindu Kush region (h = 150 km).					KIR	iP	01 21 14.1
"	14	UDD	iSg1	14 09 36.2			Hindu Kush region (h = 220 km).		
		Southern Norway, 61.1°N, 9.9°E. Origin time = 14 08 34. M _L (UPP) = 2.4 1. Solution from Bergen bulletin.			"	17	UME	iPg1	07 29 25.5
								iSg1	07 29 33.4
							MYV	iSg1	07 30 53.4
"	14	KIR	iP	17 17 04.9			Västerbotten, Sweden, 64.4°N, 20.7°E. Origin time = 07 29 15. (cont.)		
		Luzon, Philippine Islands (h = 60 km).							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987	
Oct.		Oct.	
17	(cont.) $M_L(\text{UPP}) = 2.7$ 1. By combination with Finnish station readings.	20	(cont.) KIR iP 09 33 26.4 C micr sec P Z' 0.2 0.9 Mx Z 3.8 18 UME iP 09 33 52.2 C Near Islands, Aleutian Islands (h = N). M = 5.6 (UPP,KIR).
"	17 UPP iP 18 52 38.0 KIR iP 18 52 00.4 UME iP 18 52 16.7 Near s. coast of Honshu, Japan (h = 55 km).	"	21 KIR iPdiff 07 39 03.8 UME iPdiff 07 39 08.5 Banda Sea (h = 130 km).
"	18 UPP iP 03 21 27.5 UME iP 03 21 27.4 Hindu Kush region (h = 45 km).	"	21 UPP iSg1 16 28 24.9 UME eSg1 16 28 57 UDD iPg1 16 26 41.6 iSg1 16 27 27.7 MYV iPg1 16 26 39.8 i 16 27 01.0 iSg1 16 27 25.2 Southwestern Norway, near 61 3/4°N, 7°E. Origin time = 16 25 39. $M_L(\text{UPP}) = 2.8$ 1.
"	18 UPP iP 22 34 46.6 KIR iP 22 33 53.1 UME iP 22 34 19.6 Fox Islands, Aleutian Islands (h = N).	"	21 UPP iP 16 38 23.5
"	19 UPP iP 02 11 58.2 Ryukyu Islands (h = 50 km).	"	21 UPP iP 17 58 17.0 ipP 17 58 45.1 KIR iP 17 57 24.0 ipP 17 57 50.3 Rat Islands, Aleutian Islands h = 110 km (UPP,KIR).
"	19 UPP iSg1 05 37 01.0 KIR iSg1 05 39 24.9 UME iSg1 05 38 01.6 UDD iPg1 05 35 12.6 iSg1 05 35 58.3 DEL iSg1 05 36 40.0 MYV iPg1 05 35 35.8 iSg1 05 36 39 Southwestern Norway, near 59 3/4°N, 7°E. Origin time = 05 34 10. $M_L(\text{UPP}) = 3.2$ (0.25) 6. Felt.	"	22 UPP iP 00 34 32.8 KIR iP 00 34 32.4 UME iP 00 34 27.7 Southern Sumatera (h = 25 km).
"	19 KIR iP 07 07 30.2 UME iP 07 07 27.4 Southern Sumatera (h = 160 km).	"	22 UPP iP 05 10 33.8 KIR iP 05 10 03.2 UME iP 05 10 15.6 Ryukyu Islands (h = 20 km).
"	20 UPP iP 04 03 12.2 KIR iP 04 02 28.8 UME iP 04 02 48.3 Hokkaido, Japan region (h = 40 km).	"	22 UPP iP 12 31 46.8 micr sec PKP1 Z' 0.2 1.0 South of Tonga Islands (h = 35 km).
"	20 UPP iP 09 34 20.5 C iS 09 43 10 micr sec P Z' 0.2 0.9 Mx Z 4.3 20 (cont.)	"	22 UPP i(P) 13 32 03.5

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987						
Oct.	23	UPP	iP	01 10 12.0	Oct.	25	UPP	eP	16 55 56	C
				micr sec				iS	17 03 47	
			P	Z' 0.1 1.0					micr sec	
		KIR	iP	01 09 18.1				P	Z' 0.1 1.1	
				micr sec				Mx	Z 11 17	
			P	Z' 0.1 1.1			KIR	iP	16 56 43.7	C
		UME	iP	01 09 44.3					micr sec	
		Off east coast of Kamchatka (h = N).						P	Z' 0.4 1.8	
		m = 5.8 (UPP,KIR).						Mx	Z 7.0 16	
		Ethiopia (h = 10 km).								
		m = 6.0, M = 5.9 (UPP,KIR).								
"	23	UPP	eP	05 06 43	"	25	UPP	iPdiff	17 08 17.4	
		KIR	iP	05 06 22.8					micr sec	
			P	Z' 0.1 1.1				Mx	Z 43 19	
		UME	iP	05 06 27.5			KIR	iPdiff	17 08 01.5	
		Mindanao, Philippine Islands							micr sec	
		(h = 80 km).						Pdiff	Z' 1.0 2.5	
								Mx	Z 34 19	
		West Irian (h = N).								
		M = 6.9 (UPP,KIR).								
"	23	UPP	iP	06 55 43.8	"	27	UPP	i(PKP)	13 16 17.9	
		KIR	eP	06 56 34				iSKP1	13 19 11.0	
		UME	iP	06 56 01.1					micr sec	
		Western Caucasus (h = N).						SKP1	Z' 0.7 1.4	
"	23	UDD	iSn	15 15 59.4			KIR	iPKP	13 16 10.9	
		Southern Norway, 61.9°N, 7.1°E.						iSKP1	13 18 49.0	
		Origin time = 15 14 16.							micr sec	
		Solution from Bergen bulletin.						SKP1	Z' 0.7 1.4	
"	23	UPP	iP	16 11 49.1			UME	i(PKP)	13 16 12.7	
		KIR	iP	16 11 14.5				iPKP	13 16 17.6	
		UME	iP	16 11 34.4				iSKP1	13 19 00.4	
		Southern Nevada.						Fiji Islands region (h = 530 km).		
		Underground explosion.								
"	24	UPP	iP	01 35 21.4	"	27	UPP	iPKP	22 15 41.5	
		KIR	iP	01 35 41.9			KIR	iPKP	22 15 49.4	
		UME	iP	01 35 26.5			UME	iPKP	22 15 44.8	
		Pakistan (h = N).					Santiago del Estero Prov., Arg.			
							(h = 610 km).			
"	24	KIR	iP	12 43 45.0	"	28	UPP	iP	09 08 08.2	
		Jordan-Syria region.						i	09 08 18.0	
		Possible explosion.						iS	09 16 00	
"	24	KIR	iPKP	14 55 44.5					micr sec	
		UME	iPKP	14 55 50.5				P	Z' 0.1 1.0	
		Santa Cruz Islands (h = 170 km).					KIR	iP	09 08 56.5	
"	24	KIR	iP	19 22 18.5					micr sec	
		UME	iP	19 22 24.1				P	Z' 0.2 1.0	
		Gansu Province, China (h = N).						Mx	Z 3.0 15	
"	25	KIR	iP	01 14 38.3			Ethiopia (h = 10 km).			
		Molucca Sea (h = 80 km).					m = 6.0 (UPP,KIR).			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987

Oct.	28	UPP	iPKP1	18 40 07.7
			Kermadec Islands region (h = 35 km).	
Oct.	29	UPP	iP	20 36 48.4
			iS	20 47 50
				micr sec
			P	Z' 0.3 1.0
			Mx	Z 11 26
		KIR	iP	20 36 31.1
				micr sec
			P	Z' 1.4 1.6
			Mx	Z 10 25
		UME	iP	20 36 37.1
			Talaud Islands (h = 150 km). m = 6.8, M = 6.1 (UPP,KIR).	
"	31	KIR	iP	01 37 02.5
			Kenai Peninsula (h = 60 km).	
"	31	UPP	ePn	10 10 51
			iSn	10 12 03.1
			iSg1	10 12 42.8
		KIR	iSn	10 13 23.7
			iSg1	10 14 13.3
		UME	iPn	10 11 06.5
			iSn	10 12 31.0
			iSg1	10 13 17.2
		UDD	iPn	10 10 22.9
			iPg1	10 10 36.4
			iSg1	10 11 39.1
		MYV	iPn	10 10 28.8
			iSg1	10 11 50.4
			Off coast of southwestern Norway, near 61°N, 4°E. Origin time = 10 09 06. M _L (UPP) = 4.3 (0.18) 5. Felt.	

March 2, 1989

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

NOVEMBER 1 - 30, 1987

1987						1987				
Nov.	1	UPP	iPKP1	09 01 41.8		Nov.	2	UPP	iP	17 56 27.1
			iPKP2	09 01 44.7						Near east coast of Kamchatka
				micr sec						(h = N).
			Mx	Z 4.7	24					
"	1	KIR	iPKP1	09 01 22.0		"	3	KIR	ePKP	08 34 04
			i	09 01 30.7				UME	iPKP	08 34 06.0
"	1	UME	iPKP1	09 01 29.9						Tonga Islands (h = 90 km).
						"	3	UPP	eP	18 33 55
										Tibet (h = N).
"	1	UPP	ePg1	20 41 17		"	3	UME	iPg1	22 36 45.8
			iSn	20 42 02.3					iSg1	22 37 50.0
			iSg1	20 42 34.6					i	22 37 54.5
"		KIR	iPn	20 40 41.7				MYV	iSg1	22 38 01.4
			iSg1	20 41 50.0						Northwestern Norway, near
		UME	iPn	20 40 32.5						68 1/4°N, 15 1/2°E.
			iPg1	20 40 41.3						Origin time = 22 35 17.
			iSn	20 41 16.2						M _L (UPP) = 2.6 1.
			iSg1	20 41 32.9						By combination with Bergen
		UDD	iPn	20 40 49.7						bulletin.
			iSn	20 41 44.9		"	4	UDD	iSg1	11 14 28.7
			iSg1	20 42 11.8						Off coast of southwestern Norway,
		MYV	iPn	20 40 12.0						60.1°N, 4.7°E.
			iPg1	20 40 15.0						Origin time = 11 12 01.
			eSn	20 40 44						M _L (UPP) = 2.6 1.
										Solution from Bergen bulletin.
						"	4	UPP	iP	13 33 17.2
						"	5	UPP	eP	05 39 47
										Near coast of Venezuela
										(h = 100 km).
"	2	UPP	iP	10 01 02.7						
"	2	UPP	iP	13 24 09.9						

Off coast of central Norway,
 near 65 1/4°N, 11 1/2°E.
 Origin time = 20 39 30.
 M_L(UPP) = 3.8 (0.13) 5.
 Felt.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987		1987	
Nov.	5	UDD iSg1 Southern Norway, 61.2°N, 9.9°E. Origin time = 13 34 27. $M_L(\text{UPP}) = 2.0$ 1. Solution from Bergen bulletin.	13 35 28.0
"	6	UPP iP KIR eP UME eP Kuril Islands (h = 60 km).	22 38 11.9 22 37 29 22 37 49
"	7	UPP iP	01 41 42.7
"	7	UPP iP iSKS P Z' 0.2 1.0 Mx Z 8.6 30 KIR iP P Z' 0.8 1.0 UME iP Mindanao, Philippine Islands (h = 80 km). m = 6.7 (UPP,KIR).	16 37 08.4 16 47 34 16 36 50.6 C 16 36 56.3 C
"	8	UPP iPKP1 Kermadec Islands region (h = 70 km).	04 58 32.0
"	8	KIR iP Southeast of Shikoku, Japan (h = 450 km).	10 10 54.2
"	9	KIR iP Luzon, Philippine Islands (h = 55 km).	06 22 32.4
"	9	KIR iP Cyprus (h = 25 km).	07 56 58.4
"	9	UPP iPKP East Papua New Guinea region (h = 110 km).	12 47 16.8
"	9	UDD iSg1 Southern Norway, 58.1°N, 6.6°E. Origin time = 14 12 16. $M_L(\text{UPP}) = 2.5$ 1. Solution from Bergen bulletin.	14 14 26.7
"	9	UPP i (cont.)	16 50 20.6
Nov.	9	(cont.) KIR iP UME Ip Iran-Iraq border region (h = 40 km).	16 51 00.9 16 50 35.8
"	9	KIR eP Western Iran (h = N).	17 18 21
"	9	KIR iP Iran-Iraq border region (h = N).	17 36 56.7
"	10	UPP iP KIR iP Near Islands, Aleutian Islands (h = N).	04 38 09.7 04 37 16.3
"	10	UPP iP KIR iP UME iP Taiwan (h = 40 km).	04 44 51.8 04 44 27.4 04 44 42.3
"	10	UPP iP i UME iP i i Near east coast of Honshu, Japan (h = 55 km).	17 49 26.3 17 49 38.8 17 49 03.4 C 17 49 15.6 17 49 25.7
"	11	UME iPKP iSKP1 South of Fiji Islands (h = 510 km).	01 15 50.8 01 18 35.7
"	11	UME iPKP Vanuatu Islands region (h = 570 km).	03 34 09.0
"	11	UME iP Bonin Islands region (h = 120 km).	04 25 18.1
"	11	UME iP Hindu Kush region (h = 210 km).	08 17 24.1
"	11	UPP iP i KIR iP i P Z' 0.2 1.5 UME iP i Northern Colombia (h = 30 km).	15 17 34.8 15 17 48.1 15 17 35.4 15 17 37.5 15 17 34.7 15 17 39.6
"	11	KIR iP	15 29 36.1

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Nov.	11	KIR iP UME iP Near coast of Jalisco, Mexico (h = 80 km).	15 44 41.6 15 44 51.9	Nov.	14	(cont.) UME iP i Molucca Sea (h = 60 km).	21 34 06.6 21 34 19.9
"	12	UPP i(PKP) iPKP iSKP1 KIR iPKP UME i(PKP) iPKP iSKP1 Fiji Islands region (h = 390 km).	00 43 03.6 00 43 15.4 00 46 18.2 00 43 00.1 00 43 01.6 00 43 06.6 00 45 59.2	"	14	UPP Mx Z KIR iP i Mx Z Revilla Gigedo Islands region (h = N). M = 6.0 (UPP,KIR).	micr sec 7.2 22 22 28 42.5 22 28 50.9 micr sec 6.8 17
"	12	KIR iPKP2 UME iPKP2 Auckland Islands region (h = 10 km).	01 20 08.6 01 20 16.7	"	14	KIR iP P Revilla Gigedo Islands region (h = N).	22 35 37.9 micr sec Z' 0.4 2.3
"	12	KIR iPg1 iSg1 UME iSg1 Northern Finland, 68.2°N, 26.6°E. Origin time = 05 52 56. M _L (UPP) = 2.9 (0.19) 3. Felt. By combination with Finnish station readings.	05 53 31.7 05 54 01.6 05 55 28.0	"	15	UPP iP P Mx Z KIR iP P Mx Z UME iP Eastern Kazakh SSR. m = 7.0, M = 4.9 (UPP,KIR). Underground explosion.	03 38 04.1 C micr sec Z' 0.8 0.6 Z 2.0 11 03 37 48.7 C micr sec Z' 2.0 0.6 Z 0.9 11 03 37 49.1 C
"	12	UPP iP KIR eP UME iP i Kuril Islands (h = 45 km).	13 03 27.1 13 02 46 13 03 02.1 13 03 14.8	"	16	UPP iP i KIR iP i UME iP i Andaman Islands region (h = 20 km).	03 37 32.8 03 37 37.0 03 37 30.2 03 37 34.1 03 37 27.0 03 37 37.5
"	14	UPP iP KIR iP UME iP Near west coast of Honshu, Japan (h = 250 km).	02 28 12.9 02 27 35.7 02 27 51.1 C	"	16	UPP iP KIR iP UME iP i Mindanao, Philippine Islands (h = 70 km).	06 12 57.4 06 12 40.9 06 12 46.1 06 13 00.7
"	14	UPP iPKP1 Kermadec Islands (h = 100 km).	07 15 54.4	"	16	UPP iP KIR iP UME iP i Unimak Islands region (h = N).	11 29 05.2 11 28 12.2 11 28 39.1
"	14	UPP iP KIR eP UME iP i Southeastern Alaska (h = 5 km).	15 58 35.1 15 57 42 15 58 09.6 15 58 21.7	"	16	UPP iP KIR iP UME iP i Unimak Islands region (h = N).	11 29 05.2 11 28 12.2 11 28 39.1
"	14	UPP iP KIR iP i (cont.)	21 34 17.1 21 34 02.4 21 34 12.2	"	16	UPP iP KIR iP UME iP i Unimak Islands region (h = N).	11 29 05.2 11 28 12.2 11 28 39.1

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Nov.	16	UPP KIR UME	iP iP iP	12 18 12 18 12 18	55.5 D 19.9 D 35.0 D		
		South of Honshu, Japan (h = 290 km).					
"	16	UPP KIR	iP eP	14 30 14 30	28.7 44		
		Uzbek SSR (h = N).					
"	16	KIR	iP	15 01	21.5		
		Kuril Islands region (h = N).					
"	17	UPP	iP ipP iPP iSKS iS	03 52 03 53 03 56 04 02 04 02	45.6 04.7 08.2 40 57		
						micr sec	
			P	Z'	0.1	1.0	
			Mx	Z	11.3	24	
		KIR	iP ipP iPP i	03 52 03 52 03 55 03 56	35.9 C 57.8 54.4 12.3		
						micr sec	
			P	Z'	0.5	2.2	
		UME	iP ipP	03 52 03 53	42.0 C 03.7		
		Near coast of Nicaragua. h = 80 km (UPP,KIR,UME). m = 5.6 (UPP,KIR).					
"	17	UPP KIR UME	iP iP iP	08 50 08 50 08 50	28.5 C 30.6 C 25.4 C		
		Northern Sumatera (h = 55 km).					
"	17	UPP	iP i iS iP'P'	08 57 08 57 09 05 09 26	01.5 17.8 18 24.4		
						micr sec	
			P	Z'	1.2	1.3	
			i	Z'	3.0	1.7	
			Mx	Z	67	19	
		KIR	iP i iS	08 56 08 56 09 03	08.0 23.2 41.8		
						micr sec	
			P	Z'	2.4	1.6	
			i	Z'	4.4	1.6	
		UME	iP	08 56	35.5		
		(cont.)					
Nov.	17						(cont.)
		Gulf of Alaska (h = 10 km). m = 7.2 (UPP,KIR).					
		This event and the following events from the Gulf of Alaska area, exhibit surprising travel time anomalies of P-waves of the Swedish stations. For the world-wide average observed P-arrival times at Swedish stations and those expected according to the J.B. model (SWE-J.B.) differ by about +1 s to +3 s. However, the Gulf of Alaska events provides residuals (SWE-J.B.) of about -1 s to -4 s.					
"	17	UPP KIR	iP iP	09 48 09 47	20.6 26.6		
		Gulf of Alaska (h = 10 km).					
"	17	KIR	iP	13 35	23.9		
		Southeastern Alaska (h = 15 km).					
"	18	UPP KIR UME	iP iP iP	00 17 00 16 00 17	47.2 59.3 21.3		
		Kuril Islands (h = 120 km).					
"	18	UPP KIR UME	iP iP iP	01 47 01 47 01 47	28.4 23.9 23.2		
		Java (h = 70 km).					
"	18	KIR	iP	04 54	13.0		
		Southern Sumatera (h = N).					
"	18	UPP KIR UME	iP iP iP	05 37 05 36 05 37	15.1 57.9 03.0		
		Mindanao, Philippine Islands (h = 140 km).					
"	18	UPP KIR	iP iP	06 29 06 29	01.9 08.5		
		Gulf of Alaska (h = 10 km).					
"	18	UPP UME	iP iP	10 37 10 37	25.1 41.3		
"	18	UPP KIR UME	iP iP iP	12 16 12 16 12 16	26.8 00.8 10.5		
		Southwestern Ryukyu Islands (h = 120 km).					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Nov.	18	UPP	iP	13 12 06.8	Nov.	19	UME	iP	23 51 32.7
			i	13 12 23.4			Volcano Islands region (h = N).		
		KIR	iP	13 11 10.8		20	UPP	iP	16 10 50.6
			i	13 11 23.9			KIR	iP	16 11 06.3
		UME	eP	13 11 40			Uzbek SSR (h = 45 km).		
			i	13 12 03.7		20	UPP	eP	16 39 37
		Gulf of Alaska (h = 10 km).					UME	iP	16 39 26.1
"	18	UPP	i(P)	13 16 34.8			Philippine Islands region (h = 55 km).		
"	18	UPP	i(P)	14 15 50.3		20	KIR	eP	17 09 45
"	18	UDD	iSg1	14 34 12.4			Mindanao, Philippine Islands (h = 70 km).		
		Skagerrak, 58.7°N, 10.3°E.				20	KIR	iPKP	21 38 50.8
		Origin time = 14 33 06.							micr sec
		M ₁ (UPP) = 2.1 1.							Z' 0.1 1.0
		Solution from Bergen bulletin.					South Sandwich Islands region (h = 30 km).		
"	18	UPP	iP	16 39 50.7 C		21	KIR	ipP	13 59 35.0
			iPP	16 43 10.8				iP	13 58 12.5
			iS	16 50 26				ipP	14 00 03.5
				micr sec			E. USSR-N.E. China border region (h = 560 km).		
			P	Z' 0.4 1.5		22	UPP	iP	03 47 52.6
			Mx	Z 10.8 20					micr sec
		KIR	iP	16 39 31.4 C				P	Z' 0.2 1.0
				micr sec			KIR	iP	03 47 05.3 C
			P	Z' 0.7 1.7				i	03 47 18.2
		UME	iP	16 39 38.8 C					micr sec
		Samar, Philippine Islands (h = 20 km).						P	Z' 0.1 0.9
		m = 6.5 (UPP,KIR).					UME	iP	03 47 27.7
"	19	UPP	i(P)	06 45 46.6				i	03 47 37.8
"	19	KIR	iP	14 35 37.6 C			Kuril Islands (h = 35 km).		
				micr sec			m = 6.2 (UPP,KIR).		
			P	Z' 0.1 1.2		23	KIR	iP	00 30 10.9
		North Atlantic Ocean (h = 10 km).					UME	iP	00 30 22.8
"	19	UPP	iP	16 28 06.2			Mariana Islands region (h = 300 km).		
				micr sec		23	UPP	iP	07 28 13.5
			P	Z' 0.4 1.4					micr sec
			Mx	Z 4.9 19				P	Z' 0.1 1.4
		KIR	iP	16 27 34.6			KIR	iP	07 27 17.1 C
			iPP	16 30 32.0					micr sec
				micr sec				P	Z' 0.5 1.0
			P	Z' 0.4 1.4			UME	iP	07 27 45.9
		UME	iP	16 27 47.4			Southern Alaska (h = 5 km).		
		Volcano Islands region (h = 40 km).					m = 6.0 (UPP,KIR).		
		m = 6.3 (UPP,KIR).							
"	19	KIR	iPKP	16 50 15.4					
		Tuamotu Archipelago region.							
		Underground explosion.							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987					
Nov.	24	UPP	iP	02 06 28.0	Nov.	27	UPP	iP	01 48 35.4
			iS	02 16 30			KIR	iP	01 48 03.8
				micr sec			UME	iP	01 48 17.1
			Mx	Z 14.3 16			Bonin Islands region (h = 470 km).		
		KIR	eP	02 05 56	"	27	UME	iP	08 34 10.7
		Southern California (h = 5 km).					Iran (h = N).		
"	24	KIR	iPKP	07 58 54.7	"	27	UME	iP	17 16 29.3 C
		South Sandwich Islands region (h = 90 km).					Near s. coast of Honshu, Japan (h = 50 km).		
"	24	UPP	iP	11 30 35.8	"	28	UPP	iP	04 17 22.0
		KIR	iP	11 31 02.3					micr sec
		UME	eP	11 30 44				P	Z' 0.1 1.0
		Iran (h = 40 km).						Mx	Z 6.4 19
"	24	UPP	iP	13 28 06.6			KIR	iP	04 17 06.9
			i	13 28 11.2				i	04 17 11.4
			iS	13 38 14					micr sec
				micr sec				i	Z' 0.3 1.4
			i	Z' 0.2 1.4			UME	iP	04 17 11.6
			Mx	Z 37 19			Molucca Sea (h = 35 km).		
		KIR	iP	13 27 35.1			m = 6.5 (UPP,KIR).		
			i	13 27 40.0	"	28	UME	iP	08 47 29.8
				micr sec			Hindu Kush region (h = 220 km).		
			i	Z' 0.4 1.6	"	28	UDD	iSn	12 49 12.1
		UME	iP	13 27 54.9				iSg1	12 49 30.1
			i	13 27 57.9			Norwegian Sea, 59.6°N, 2.1°E.		
		Southern California (h = 2 km).					Origin time = 12 46 24.		
		m = 6.1 (UPP,KIR).					M _L (UPP) = 2.8 1.		
"	25	UME	iPP	16 27 38.0			Solution from Bergen bulletin.		
		New Britain region (h = 140 km).			"	28	KIR	iP	15 41 12.0
"	25	UME	iP	23 01 24.3			UME	iP	15 41 38.5 C
		Southern Iran (h = N).					Fox Islands, Aleutian Islands (h = N).		
"	26	UPP	iS	02 09 12	"	30	KIR	iP	00 57 56.5
			iPKKP	02 10 48			UME	iP	00 58 05.7
				micr sec	"	30	UPP	iP	03 19 38.6
			Mx	Z 18.1 22			KIR	eP	03 20 19
		Timor (h = N).					UME	eP	03 19 55
"	27	UPP	iP	00 15 44.6			Iran (h = 40 km).		
				micr sec	"	30	UPP	iP	04 24 06.0
			Mx	Z 5.1 20			Greece (h = 35 km).		
		KIR	iP	00 15 30	"	30	UPP	iP	19 33 26.8
				micr sec				i	19 33 38.5
			P	Z' 0.4 16				i	19 33 53.6
		UME	iP	00 15 35.0 C			(cont.)		
		Molucca Sea (h = N).							
"	27	UPP	iP	00 17 37.0					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987

Nov. 30 (cont.)

	iS	19 41 57
	iP'P'	20 02 52.2
		micr sec
	P	Z' 2.1 1.9
	i	Z' 1.6 1.0
	i	Z' 2.5 1.0
KIR	iP	19 32 32.8
	i	19 32 39.2
	i	19 32 50.4
		micr sec
	P	Z' 1.6 1.6
	i	Z' 2.1 1.6
	i	Z' 4.0 1.0
UME	iP	19 33 01.2
	iP'P'	20 02 44.8

Gulf of Alaska (h = 10 km).

m = 7.3 (UPP,KIR).

M = 7.4 (UPP, Wiechert records).

Multiple event with successively increasing amplitudes. Extremely well recorded Love-waves, periods around 1 min, especially on the E-W component of the Wiechert instrument of Uppsala.

"	30	UPP	iP	19 58 36.5
				micr sec
			P	Z' 0.2 0.9
		UME	iP	19 58 12.2

Gulf of Alaska (h = 10 km).

"	30	UPP	iP	23 58 32.6
			i	23 58 40.9
		UME	iP	23 58 07.2

Gulf of Alaska (h = 10 km).

May 30, 1989

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SEISMOLOGICAL BULLETIN
 UPPSALA, KIRUNA, UMEÅ, UDDEHOLM
 DELARY and MYRVIKEN

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

DECEMBER 1 - 31, 1987

1987					1987				
Dec.	1	UPP iP	04 10 09.2		Dec.	2	UDD iSg1	13 47 06.6	
		KIR iP	04 09 15.9				Southern Norway, 61.1°N,		
			micr sec				10.1°E.		
		P	Z' 0.1 1.0				Origin time = 13 46 08.		
		UME iP	04 09 42.4				M _L (UPP) = 1.9 1.		
		Fox Islands, Aleutian Islands					Solution from Bergen bulletin.		
		(h = N).							
"	1	KIR iP	04 34 34.9		"	2	UPP iPKP1	14 42 21.0	
		Gulf of Alaska (h = 10 km).					Kermadec Islands region		
							(h = 70 km).		
"	1	UPP iP	09 00 46.5		"	3	UPP iP	04 10 50.8	
		KIR iP	09 00 39.8				Andreanof Islands (h = 230 km).		
		UME iP	09 00 38.3		"	3	UPP iP	09 30 26.2	
		Eastern India (h = 50 km).					KIR iP	09 29 32.4	
"	1	UPP iP	12 14 14.9		"	3	Gulf of Alaska (h = 10 km).		
		iS	12 22 36		"	4	UPP ePKP	20 11 07	
			micr sec				Solomon Islands (h = 150 km).		
		Mx	Z 3.8 19		"	5	UPP iP	06 39 39.0	
		KIR iP	12 13 21.6				Kuril Islands (h = N).		
		UME iP	12 13 49.3		"	5	UPP iP	08 49 41.0	
		Gulf of Alaska (h = 10 km).					KIR iP	08 48 48	
"	1	UPP iSKP1	18 45 24.1		"	5	Rat Islands, Aleutian Islands		
		KIR iSKP1	18 45 01.2				(h = N).		
		UME iPKP	18 42 10.2		"	5	KIR iP	18 29 05.6	
		South of Fiji Islands					Unimak Island region (h = N).		
		(h = 390 km).			"	6	UPP iPKP1	03 42 58.9	
"	2	UPP iP	02 03 36.1				South of Fiji Islands (h = 510 km).		
		UME iP	02 03 13.7						
		Gulf of Alaska (h = 10 km).							

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Dec.	7	KIR iP	00 14 00.4	Dec.	12	(cont.)	
		Turkey (h = N).				UME iP	05 03 17.5 D
"	7	UPP	micr sec			South of Honshu (h = 160 km).	
		Mx	Z 12 24			m = 7.0 (UPP,KIR).	
		UME iPKP	12 45 06.1	"	12	UME iPKP1	08 29 54.1
		Vanuatu Islands (h = 50 km).				South of Fiji Islands (h = 250 km).	
"	7	UPP	micr sec	"	12	UME iP	12 27 04.4
		Mx	Z 7.2 21			Fox Islands, Aleutian Islands	
		UME iPKP	13 33 34.4			(h = 100 km).	
		Vanuatu Islands (h = N).		"	13	UPP iP	03 00 19.0
"	9	KIR iP	07 40 50.3			KIR iP	02 59 45.8
		UME iP	07 40 54.0			UME iP	03 00 00.1
		North Atlantic Ocean (h = 10 km).				South of Honshu, Japan	
"	9	KIR eP	15 47 27			(h = 460 km).	
		UME iP	15 46 58.0	"	13	UPP iP	03 28 02.0 C
		Strait of Gibraltar (h = 30 km).				micr sec	
"	10	UPP iP	01 47 34.9			P	Z' 1.1 0.8
		UME iP	01 47 16.0			Mx	Z 2.9 11
		South of Honshu, Japan				KIR iP	03 27 45.8 C
		(h = 490 km).				micr sec	
"	10	UPP iP	05 50 03.9			P	Z' 2.4 0.6
		UME iP	05 50 35.2			UME iP	03 27 47.2 C
		Crete (h = 15 km).				Eastern Kazakh SSR.	
"	10	UPP iP	22 56 18.6			m = 7.1 (UPP,KIR).	
		KIR eP	22 57 33			Underground explosion.	
		UME eP	22 57 01	"	13	UPP iP	12 25 58.9
		Southern Greece (h = 40 km).				KIR iP	12 25 06.5
"	11	KIR iP	19 30 05.9			UME iP	12 25 31.8
		North of Svalbard (h = 10 km).				Near east coast of Kamchatka	
"	11	UPP iP	23 40 21.0			(h = N).	
		KIR iP	23 40 02.3	"	13	UPP iP	21 12 25.9
		Samar, Philippine Islands				KIR iP	21 11 29.3
		(h = 80 km).				Queen Elizabeth Islands (h = 10 km).	
"	12	UPP iP	05 03 36.5 D	"	13	UPP iP	21 27 14.3
		iPP	05 06 40.4			i	21 27 20.6
		iS	05 13 20			Ionian Sea (h = 30 km).	
		micr sec		"	14	UPP iPKP1	23 40 51.0
		P	Z' 4.0 1.3			iPKP2	23 40 57.5
		Mx	Z 4.8 15			UME iPKP1	23 40 40.7
		KIR iP	05 03 03.4 D			South of Kermadec Islands	
		iPP	05 05 35.7			(h = 90 km).	
		micr sec		"	15	UPP ePKP1	03 28 19
		P	Z' 2.8 1.1			UME iPKP1	03 28 08.5
		(cont.)				South of Kermadec Islands (h = N).	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1987				1987			
Dec.	15	UPP iP UME iP Southern Italy (h = 250 km).	07 40 03.8 07 40 43.1	Dec.	17	UPP iPdiff Pdift Z' 7.5 29 KIR iPdiff South of Baii Island (h = 45 km).	20 36 47.2 micr sec 20 36 40.6
"	15	UPP iP iS P Mx KIR iP i P Mx UME iP Volcano Islands region (h = 40 km). m = 6.1, M = 5.8 (UPP,KIR).	15 10 14.4 C 15 20 37 micr sec Z' 0.1 1.0 Z 4.7 24 15 09 45.2 C 15 09 51.8 micr sec Z' 0.3 1.0 Z 5.8 23 15 09 57.9 C	"	18	UME iP Yugoslavia (h = 10 km).	04 56 10.6
"	17	UPP iP iPP iS P Mx KIR iP P Mx UME iP Near east coast of Honshu, Japan (h = 60 km). m = 6.4, M = 6.9 (UPP,KIR).	02 19 49.2 C 02 22 33.6 02 29 16 micr sec Z' 0.5 1.0 Z 44 15 02 19 11.9 C micr sec Z' 0.4 0.9 Z 69 16 02 19 28.3 C	"	18	UPP iP iS P Mx KIR iP i i Z' UME iP i Southern Iran (h = 20 km). m = 6.1 (UPP,KIR).	16 31 47.5 16 37 52 micr sec Z' 0.2 1.0 Z 8.9 17 16 32 18.8 16 32 20.3 micr sec Z' 0.6 1.0 16 31 58.5 16 31 59.3
"	17	UME iP Near east coast of Honshu, Japan (h = 40 km).	05 18 19.1	"	19	UPP iP KIR iP Turkmen SSR (h = 90 km).	08 33 25.4 08 33 57.5
"	17	UPP iP UME iP Volcano Islands region (h = N).	11 57 42.1 11 57 24.5	"	20	KIR iP UME iP Eastern Kazakh SSR. Underground explosion.	03 01 46.2 03 01 47.3
"	17	UPP iP P KIR iP UME iP Southern Xinjiang, China (h = 50 km).	12 25 21.6 micr sec Z' 0.2 1.0 12 25 11.2 12 25 10.1	"	20	UPP iPKP1 South of Fiji Islands (h = 600 km).	13 02 49.2
"	17	KIR iSg1	19 38 58.4	"	20	UPP eP KIR iP UME iP North of Svalbard (h = 10 km).	15 12 10 15 10 44.6 15 11 31.2
"	17	KIR iSg1	19 38 58.4	"	21	UPP iP Mx Z KIR eP (cont.)	04 35 51.4 micr sec Z 2.0 10 04 35 58

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1987				1987			
Dec.	21	(cont.) UME eP	04 35 49	Dec.	25	UPP iP	12 09 28.2
		Afghanistan-USSR border region (h = 15 km).		"	25	UME iPKP Tonga Islands (h = 200 km).	23 15 43.9
"	21	UPP iPKP2 KIR iPKP1 UME iPKP1	09 43 05.6 09 42 34.5 09 42 44.0	"	26	UPP iSg1 KIR iPg1 iSg1 UME iPn iPg1 iSn iSg1	08 33 14.9 08 29 14.3 D 08 29 18.9 08 30 11.5 08 30 18.5 08 30 55.1 08 31 10.4
		East of North Island, N.Z. (h = 60 km).				UDD iSg1 MYV iSg1	08 33 23.2 08 31 52.4
"	21	KIR iPKP UME iPKP	14 53 12.8 14 53 19.2			Lapland, Sweden, 67.9°N, 19.4°E. Origin time = 08 29 08. M _L (UPP) = 3.4 (0.21) 4.	
		Fiji Islnds region (h = 390 km).		"	26	UME iP	12 00 42.2
"	21	UPP iP UME eP	21 00 21.5 21 01 02			Yugoslavia (h = 10 km).	
		Greece-Albania border region (h = 60 km).		"	26	UPP iSg1 KIR iSg1 UME iSg1 UDD iPn iSg1 DEL iSn i MYV iSg1	00 25 08.1 C 00 25 14.5 micr sec P Z' 0.8 1.0 Mx Z 3.8 12 00 24 52.3 C 00 24 58.9 micr sec P Z' 0.5 1.0 Mx Z 2.1 11 00 24 54.5 C 00 25 00.7
"	22	UPP iP ipP	00 25 08.1 C 00 25 14.5			Southwestern Norway, near 60°N, 5 1/2°E. Origin time = 16 57 33. M _L (UPP) = 3.4 (0.42) 4.	
		Southern Xinjiang, China. h = 20 km (UPP,KIR,UME). m = 6.5, M = 5.4 (UPP,KIR).		"	27	UPP iP	03 12 02.4 C
"	23	UPP iP KIR iP UME iP	10 23 52.3 10 23 38.9 10 23 42.6			P Z' 2.3 1.0 KIR iP	03 11 46.0 C
		Molucca Sea (h = 60 km).				micr sec P Z' 1.5 1.0 UME iP	03 11 47.1 C
"	23	UPP eP KIR iP i	20 46 49 20 46 20.4 20 46 28.6			Eastern Kazakh SSR. m = 7.0 (UPP,KIR). Underground explosion.	
		Mariana Islands (h = 90 km).		"	27	UPP iP	14 45 59.7
"	23	UPP iP UME iP	22 18 29.5 22 18 02.5	"	28	KIR iPKP UME iPKP	13 43 07.0 13 43 13.1
		Rat Islands, Aleutian Islands (h = N).				Vanuatu Islands (h = 230 km).	
"	23	UPP iPKP1	22 47 51.7	"	28	UPP iP i	14 52 15.1 14 52 21.0
		South of Fiji Islands (h = 540 km).				(cont.)	

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1987

Dec.	28	(cont.)			
		KIR	iP	14 51	54.6
		Philippine Islands region (h = 30 km).			
"	30	UPP	iPKP1	20 38	49.7
		South of Fiji Islands (h = 100 km).			
"	31	UPP	iPKP	06 48	31.8
		KIR	ePKP	06 48	47
		UME	iPKP	06 48	38.4
		South Sandwich Islands region (h = 15 km).			
"	31	UME	iP	19 14	56.6
		Shikoku, Japan (h = 70 km).			

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