AD-756 894

P AND PKP CODA DECAY CHARACTERISTICS FOR EARTHQUAKES

T. J. Cohen, et al

Teledyne Geotech

Prepared for:

Advanced Research Projects Agency
Air Force Technical Applications Center

20 November 1972

P AND PKP CODA DECAY CHARACTERISTICS FOR EARTHQUAKES

T. J. COHEN
E. I. SWEETSER
T. J. OUTTERER
SEISMIC DATA LABORATORY

20 NOVEMBER 1972

Prepared for
AIR FORCE TECHNICAL APPLICATIONS CENTER
Washington, D.C.

Under
Project VELA UNIFORM

Sponsored by
ADVANCED RESEARCH PROJECTS AGENCY
Nuclear Monitoring Research Office
ARPA Order No. 1714

TELEDYNE GEOTECH
ALEXANDRIA LABORATORIES

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)
Teledyne Geotech
Alexandria, Virginia

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE
P AND PKP CODA DECAY CHARACTERISTICS FOR EARTHQUAKES

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
Scientific

5. AUTHOR(S) (Last name, first name, initial)
Cohen, T.J.; Sweetser, E.I.; Dutterer, T.J.

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
20 November 1972	~~196~~ 197	1

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
F33657-72-C-0009	301
b. PROJECT NO. VELA T/2706	
c. ARPA Order No. 1714	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d. ARPA Program Code No. 2F-10	

10. AVAILABILITY/LIMITATION NOTICES

APPROVED FOR PUDLIC RELEASE; DISTRIBUTION UNLIMITED.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
Details of illustrations in this document may be better studied on microfiche.	Advanced Research Projects Agency Nuclear Monitoring Research Office Washington, D.C.

13. ABSTRACT

P and PKP coda characteristics are determined for earthquakes from 15 seismic regions as recorded at 17 World Wide Standard Seismograph Stations (WWSSS). In determining the coda characteristics for an event, amplitude measurements, scaled relative to the largest excursion in the coda, are made in successive time windows, and the coda envelope obtained by connecting successive observations. The individual coda, average coda, and standard deviations about the average coda as a function of time into the coda (in units of m_b) are given for each set of measurements. The coda for events in a given region recorded at a given distance are found to be very similar to the coda for events from another region recorded at the same distance. That is, coda characteristics are determined primarily by the arrival times and amplitude of significant secondary phases. Further, the coda characteristics determined for large events ($6.0 < m_b < 7.0$) appear applicable to smaller events ($5.0 < m_b < 6.0$) as well. Using data in the range $45° < \Delta < 80°$, the long-term P-coda decay constant λ for elapsed times greater than four minutes is .0017 per second ($e^{-\lambda t}$). In the range $80° < \Delta < 105°$, the decay constant is somewhat larger, being on the order of .0037 per second.

14. KEY WORDS
Earthquake Coda
P-Coda
PKP-Coda
Coda Decay Characteristics

I

Unclassified

Security Classification

P AND PKP CODA DECAY CHARACTERISTICS FOR EARTHQUAKES

SEISMIC DATA LABORATORY REPORT NO. 301

AFTAC Project No.:	VELA T/2706
Project Title:	Seismic Data Laboratory
ARPA Order No.:	1714
ARPA Program Code No.:	2F-10
Name of Contractor:	TELEDYNE GEOTECH
Contract No.:	F33657-72-C-0009
Date of Contract:	01 July 1971
Amount of Contract:	$ 1,736,000
Contract Expiration Date:	31 October 1972
Project Manager:	Robert R. Blandford (703) 836-3882

P. O. Box 334, Alexandria, Virginia 22314

II

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF FIGURES (Cont'd.)

LIST OF TABLES

LIST OF TABLES (Cont'd.)

INTRODUCTION

In this report we examine coda characteristics for earthquakes from 15 seismic regions as recorded at 17 World Wide Standard Seismograph Station (WWSSS). Whenever possible, events with body wave magnitude $m_b \geq 6.0$ were examined, since the coda for large events stay above the ambient noise level for relatively longer time periods.

In this report, we present the average coda determinations and their standard deviations, and some general observations on coda characteristics. These data can be used, for example, to determine how often the signals from one event are masked in the coda of another event.

DATA

Using the list of seismic events compiled by the National Oceanic and Atmospheric Administration (NOAA), earthquakes with $m_b \geq 6.0$ were selected for each region shown in Figure 1 (Table I). Film chips of seismograms recorded for these events by 17 WWSSS stations (Figure 2, Table II) were then ordered from NOAA for study. For reasons related to seismogram quality and station outage, the original list of events was supplemented with events of $m_b < 6$. Summary lists of the events studied, together with the stations used with each event, are given in Tables III through XVII. Table XVIII summarizes the data analyzed by station, region, and phase (P or PKP).

ANALYSIS TECHNIQUES

The method used to determine coda decay characteristics is shown in Figure 3. Amplitude measurements, scaled relative to the largest excursion in the P or PKP coda, are made in a specified set of successive time windows. Measurements are made until the coda decays into the pre-existing ambient noise level, or until a period of 15 minutes has elapsed from the time of coda onset. In a few cases, measurements terminated with the arrival of a second event.

The principal coda maxima are next plotted on log-linear paper, and the coda envelope obtained by connecting successive determinations. For example, the coda measurements of Figure 3 yield the coda envelope shown in Figure 4a. If the coda measurements for a set of events from a given region are plotted for a station, a graph similar to that in Figure 4b may be obtained. The coda characteristic for events from a given region as recorded at a particular station may then be defined in several ways. One might construct an envelope which allows 5% (or one) of the coda determinations to fall below the curve specified. Alternatively, as is done in this report, the average coda can be determined and a statistic associated with the spread in data.

RESULTS

Coda decay characteristics for events in the 15 regions studied are given in Figures 6 through 272 (see List of Figures for a breakdown of figure numbers by region and station). The individual coda are shown by dotted lines, while the solid line shows the average coda decay curve. The table accompanying each graph lists the average coda values and their corresponding standard deviations (in units of m_b) as a function of elapsed time. In determining the average coda decay curve, coda observations for a given event were terminated at the minimum coda value observed for that event.

Whether the P or PKP coda is given for a station depends on the station's distance from the events analyzed. In some cases a station will see P for events in one portion of a region, while PKP will arrive first from events in another portion. Where this occurs, two graphs of coda characteristics are given. One observation to be drawn from these data is that coda characteristics are not strongly influenced by epicentral region, they are controlled primarily by the arrival times of significant secondary phases. To illustrate this, we cite below several types of coda characteristics, grouped by epicentral distance:

I	20° - 45°
II	45° - 80°
III	80° - 105°

In the first distance range, 20° to 45°, reference to the travel-time curves for P phases (Figure 5) shows

that the secondary phase PP should arrive up to 2 minutes after the P phase. Further, one might expect a third arrival, PcP 4 to 2 minutes into the P coda. Between 35° and 45°, ScP is observed 5 to 6 minutes after the arrival of P. Though not shown in Figure 5, between 6 and 20 minutes into the P coda, surface-wave arrivals should be observed. This characterization is seen, for example, in the coda determined for California-Western United States events recorded at CMC (Figure 48, 25-42°), for Solomon Islands-New Hebrides events recorded at ADE (Figure 149, 30-34°) and for Iran-Turkey events recorded at NDI (Figure 235, 19-35°). These data, together with other well-determined coda characteristics for events recorded at epicentral distances between 20° to 45° (Table XIX) yield the results shown in Figure 274. The average coda decay curve has a representative standard deviation of about $\pm$ .25 m_b units.

One caution should be noted in using the coda determined for the range 20° to 45°. While high coda levels are observed in the P coda due to the arrival of surface waves, these arrivals have periods on the order of 1 to 3 seconds, and sometimes greater. As such, despite the high amplitude of the surface wave arrival, the arrival from an explosion, due to its shorter period, may be distinguishable in the surface-wave background. Use of coda where large-amplitude suface-wave arrivals are present therefore, will lead one to overestimate the number of masking opportunities. We suggest that in computing masking opportunities, large-amplitude surface-wave arrivals should be omitted, and the coda allowed to

decay at rates determined elsewhere in this report.

In the distance interval 45° to 80°, PcP is the first secondary arrival which is both predictable and significant. This phase arrives between 2 and 0 minutes after the P arrival in the distance range considered, and precedes the arrival of the somewhat less significant PP phase by 0 to 3 minutes. Representative coda for epicentral distances of from 45° to 80° include the coda for Kamchatka-Kurile Island events recorded at BOZ (54-63°) for Japan events recorded at NDI (51-61°), and for Philippine Island events recorded at SHI (60-78°). These coda sets, together with those listed in Table XX were used to produce the 45°-to-80° coda representation shown in Figure 275. The average curve determined from the composite data set has a standard deviation of about $\pm$ .25 m_b units. For elapsed times between 4 and 10 minutes, the coda decay constant λ is .0017 per second ($e^{-\lambda t}$; t in seconds).

With respect to the distance interval 80° to 105°, we find, first, that between 80° and 90°, P and PcP arrive almost simultaneously; the largest coda amplitude, therefore, is generally found in the first 30 seconds of the short-period record. An example of coda in this range is the data for Kamchatka-Kurile Island events recorded at WES (Figure 112). Beyond 90°, P becomes weaker, and both P and PP, the latter delayed 3 to 4 minutes relative to P, control the coda characteristics (see, for example, the data for South American events recorded at CMC (Figure 11)). Using the data given in Table XXI, we obtain the average 80° to 105° coda representation shown

in Figure 276. The nominal standard deviation is $\pm$ .25 m_b units. At elapsed times between 4 and 9 minutes, the average coda decay constant is .0037 per second.

Beyond 105° a great variation in coda characteristics as a function of distance is observed. For example, between 105° and 110°, the first arrival, which may or may not be observed due to its low amplitude, is diffracted P. This arrival is followed about 4.5 minutes later by PP, which is the largest-amplitude phase in the P coda in this distance interval. The coda decay curve shown in Figure 6, obtained from a South American event recorded at ADE (Δ~107°), exhibits these characteristics.

In the distance interval 110° to 120°, it may be possible to observe weak diffracted P signals as the first arrival. The arrival of this phase, if it is observed, will be followed about 4 minutes later by the arrival of PKIKP, the largest-amplitude phase in the short-period seismogram. Approximately 1 minute after the arrival of PKIKP, PP will arrive, followed approximately 3 minutes later by the arrival of SKP (PKIKP-SKP~4 minutes). The coda characteristics observed at DAL for a large (m_b = 6.6) Tadzhik event (Figure 244) display these features.

Between 120° and 140°, the first arrival, PKIKP, is the largest amplitude phase on the short-period vertical record. Following this arrival by approximately 3.5 minutes is the phase SKP. SKP is also of large amplitude, and is more readily observable than PP, which can arrive up to 2 minutes earlier than SKP in

this distance interval. Examples of these characteristics are seen in the coda determined for Central American events recorded at NDI (Figure 40).

In the distance interval 140° to 150°, PKP_1 and PKP_2 arrive almost simultaneously, producing a large-amplitude first arrival. Approximately 3 minutes into the PKP coda, PP arrives, followed shortly thereafter (~0.5 minutes) by the arrival of SKP. Several of the PKP coda observed for Central American events recorded at CHG exhibit these characteristics (Figure 29). Though not apparent in Figure 29 (due to the manner in which the coda are quantified), PP is dominant over SKP in this distance interval.

Beyond 150°, the first arrival is PKP_1, followed up to 2 minutes later by the arrival of PKP_2. Of the two, PKP_2 is stronger. PKP_2, in turn, is followed approximately 3.5 minutes later by the arrival of PP. The coda for South American events recorded at CHG (Figure 10) exhibit these characteristics.

A second finding of this study is that coda determined from large events ($6.0 \leq m_b \leq 7.0$) appear applicable to smaller events as well. To see this, we show in Figures 277 through 279 some earlier coda determinations for Kamchatka-Kurile Islands events recorded at NP-NT, RK-ON, and WMO. These coda were determined for events in the magnitude range $5.0 \leq m_b \leq 5.8$. Compare the NP-NT coda with the coda obtained at MUN ($6.0 \leq m_b \leq 6.7$; Figure 162) for Solomon Islands-New Hebrides events. Both sets of determinations have their peak values in the first 30 seconds of the seismogram, thereafter

falling to a relative minima (10% to 40%) at an elapsed time of about one minute. A relative maxima (20% to 50%) is observed for both data sets between 1.5 and 2.5 minutes, most probably related to the arrival of PcP. Following this relative maxima, the coda decay to values on the order of 5% to 20% at an elapsed time of 5 minutes. For comparison, the average coda decay curve determined for the MUN data is superimposed on the NP-NT data. Given the spread in observations observed for the MUN coda (~.3 m_b units), we can not reject the hypothesis that the average coda decay curve determined from the MUN coda is representative of the average decay characteristics for the NP-NT data.

Similar observations can be made using the Kamchatka-Kurile Islands coda decay curves determined at RK-ON (Figure 278) and the Alaskan data obtained for KON ($5.7 \leq m_b \leq 6.8$; Figure 71) and using Kamchatka-Kurile Islands data from WMO (Figure 279) and IST ($5.8 \leq m_b \leq 7.0$; Figure 103). These comparisons suggest that the average coda decay curves presented in this report should be applicable over a magnitude range of at least $5.0 \leq m_b \leq 7.0$.

CONCLUSIONS

From an examination of P and PKP coda for earthquakes from 15 seismic regions as recorded at 17 World Wide Standard Seismograph Stations, we conclude:

1. Coda for events in a given region recorded at a given distance are found to be very similar to the coda for events from another region recorded at the same distance. That is, coda characteristics are determined primarily by the arrival times and amplitudes of significant secondary phases.

2. Coda characteristics determined for large events ($6.0 \leq m_b \leq 7.0$) appear applicable to smaller events ($5.0 \leq m_b \leq 6.0$) as well. The average coda determinations presented in this report, therefore, are representative of coda for events in the range $5.0 \leq m_b \leq 7.0$.

3. Using data in the range $45° < \Delta < 80°$, the long-term P-coda decay constant λ for elapsed times greater than 4 minutes is .0017 per second ($e^{-\lambda t}$). In the range $80° < \Delta < 105°$, the decay constant is somewhat larger, being on the order of .0037 per second.

REFERENCE

Herrin, E. (Editor), 1968, 1968 Seismological tables for P phases: Bull. Seis. Soc. Am., v. 58, No. 4, August.

TABLE I

Earthquake Epicentral Regions

REGION	LOCATION	LATITUDE (RANGE DEGREES)	LONGITUDE (RANGE DEGREES)
I	South America	10N-40S	65W- 81W
II	Central America	5N-20N	81W-109W
III	California and Western United States	20N-45N	109W-131W
IV	Alaska	55N-65N	143W-160W
V	Aleutian Is.	50N-55N	160W-170E
VI	Kamchatka-Kurile Is.	42N-57N	145E-167E
VII	Japan	9N-45N	136E-145E
VIII	Philippine Is.-Taiwan	10S-33N	120E-132E
IX	Solomon Is.-New Hebrides	1S-23S	136E-175E
X	Sumatra-Java	15S-20N	90E-120E
XI	Tonga Is.-Fiji Is.	15S-38S	171 -175W
XII	Turkey-Greece	33N-47N	8E- 36E
XIII	Iran-Turkey	25N-45N	36E- 66E
XIV	Tadzhik-Hindu Kush	27N-42N	66E- 80E
XV	China-Nepal-Burma	20N-50N	80E-110E

TABLE II

Station Information-Worldwide Network

STATION	LOCATION	LATITUDE (Deg Min Sec)	LONGITUDE (Deg Min Sec)	ELEVATION Meters	DATES OF OPERATION	
ADE	Adelaide, Australia	34 58 01.0S	138 42 32.0E	655	01 Apr 62	31 Dec 68
AQU	Aquila, Italy	42 21 14.0N	13 24 11.0E	720	02 Apr 62	30 Nov 67
BOZ	Bozeman, Montana	45 36 00.0N	111 38 00.0W	1575	29 Aug 63	01 Mar 68
CHG	Chiengmai, Thailand	18 47 24.0N	98 58 37.0E	416	02 Mar 63	08 Jun 69
CMC	Copper Mine, Canada	67 50 00.0N	115 05 00.0W	31	07 Apr 63	31 Mar 69
DAL	Dallas, Texas	32 50 46.0N	96 47 02.0W	187	18 Sep 61	30 May 67
DAV	Davao, Philippine Is.	7 05 [illegible].0N	125 34 29.0E	85	01 Sep 64	31 May 69
IST	Istanbul, Turkey	41 02 36.0N	28 59 06.0E	65	10 Jan 62	20 May 69
KBL	Kabul, Afganistan	34 32 27.0N	69 02 35.4E	1920	08 Jun 68	31 Apr 69
KON	Kongsberg, Norway	59 38 57.0N	9 37 55.0E	200	26 May 62	24 May 69
MAL	Malaga, Spain	36 43 39.0N	4 24 40.0W	60	07 Mar 62	01 Jun 69
MAT	Matsushiro, Japan	36 32 30.0N	138 12 32.0E	440	01 Aug 65	30 Jun 68
MUN	Mundaring, Australia	31 53 30.0S	116 12 24.0E	235	30 May 62	31 Mar 68
NDI	New Delhi, India	28 41 00.0N	77 13 00.0E	230	04 Apr 63	31 Oct 67
SEO	Seoul, Korea	37 34 00.0N	126 58 00.0E	86	07 Mar 63	05 Mar 69
SHI	Shiraz, Iran	29 48 39.0N	52 51 34.0E	1595	04 May 63	30 Apr 69
WES	Westoa, Massachusetts	42 23 04.9N	71 19 19.5W	60	08 Oct 61	30 Nov 68

TABLE III

Events Analyzed

AREA I

SOUTH AMERICA

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
25 Jul 64	19	31	07.0	27.9S	70.9W	26	6.1			82°		101°	65°					90°			152°	162°	131°	70°
18 Aug 64	04	44	58.0	26.4S	71.5W	8	6.4		104°	80°		99°	64°					89°					131°	68°
28 Mar 65	16	33	14.6	32.4S	71.2W	61	6.4	107°	107°			105°			118°		113°					164°		74°
11 Sep 65	22	15	14.8	7.0N	71.0W	14	6.0			51°														
03 Nov 65	01	39	02.5	9.1S	71.4W	583	6.2	128°			167°			163°			93°			139°				51°
27 Jul 66	04	40	59.4	24.2S	70.3W	35	6.0						62°	157°				87°		124°	151°	160°	129°	66°
10 Nov 66	03	02	32.5	31.9S	68.4W	113	6.0			87°	163°	105°	70°					91°	158°	116°	150°			74°
09 Feb 67	15	24	47.2	2.9N	74.9W	58	6.3	131°		58°	163°			159°	102°		90°	76°	135°		143°	140°	124°	
15 Feb 67	16	11	11.8	9.0S	71.3W	597	6.2	128°						163°			93°		142°	139°			124°	51°
11 May 67	15	05	16.8	20.3S	68.5W	67	6.1			76°				161°						128°			127°	
29 Jul 67	10	24	24.6	6.8N	73.0W	161	6.0	129°	92°				45°	161°	103°		92°	77°	139°	140°	144°	144°	124°	49°
03 Sep 67	21	07	30.8	10.6S	70.8W	38	6.5	122°	99°		172°		46°	155°	111°		99°			135°	152°		132°	53°
04 Nov 67	16	26	48.2	2.8S	77.7W	99	6.0	129°	93°	57°	164°			156°				78°	133°	143°	145°	139°	126°	45°
15 Nov 67	21	31	51.5	28.7S	71.2W	15	6.2		105°	83°	167°	102°		153°	115°			90°			152°		132°	
21 Dec 67	02	25	21.6	21.8S	70.8W	33	6.3	117°			169°	95°		159°	111°		103°			126°				64°
27 Dec 67	09	17	55.7	21.2S	68.3W	135	5.4	119°			168°	95°		161°					152°	127°			127°	
30 Jul 68	20	38	42.0	6.9S	80.5W	37	5.8									141°								
22 Sep 68	21	52	59.2	24.1S	66.9W	194	5.5									140°								
28 Sep 68	13	53	35.3	13.2S	76.4W	70	6.0									142°								
17 Nov 68	00	16	08.6	9.5N	72.6W	172	5.7									123°								
04 Feb 69	04	10	13.3	8.3S	80.2W	16	6.0									141°								
Total Events by Station:								9	6	8	8	7	6	11	6	5	7	8	6	10	8	7	11	11

TABLE IV

Events Analyzed

AREA I.
CENTRAL AMERICA

DATE	ORIGIN TIME Hr Min Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
06 Jul 64	07 22 11.7	18.3N	100.4W	100	6.3	125°							105°					144°	133°			34°
21 Mar 65	09 42 41.3	11.7N	86.4W	36	5.2						23°											
23 Aug 65	19 46 02.9	16.3N	95.8W	28	6.7	128°			142°			133°			84°		107°	147°	135°		125°	33°
24 Aug 65	00 56 21.4	15.9N	96.2W	12	5.5						17°											
18 Oct 65	22 50 41.9	15.7N	95.4W	36	5.3						17°											
09 Dec 65	06 07 48.6	17.3N	100.8W	57	6.0	125°		30°	140°				105°			84°	103°	144°				35°
15 Dec 65	23 05 20.7	7.5N	82.2W	15	6.0			46°	154°	64°		149°				76°		150°	139°		123°	36°
09 Apr 66	02 34 23.0	9.4N	84.2W	40	5.3						26°											
09 Apr 66	02 42 08.7	9.6N	84.1W	30	5.7			43°	152°	62°	26°	145°			84°	76°			138°			35°
11 Apr 66	17 17 33.8	18.4N	102.3W	72	5.7			28°	138°	50°	15°				85°				133°		126°	36°
25 Sep 66	06 02 26.4	18.3N	100.8W	60	6.1	125°		29°	138°						84°	84°		144°	133°			
03 Oct 67	18 16 03.2	10.9N	85.9W	21	5.8	133°	90°	41°	150°	60°		144°						151°	137°		123°	34°
15 Oct 67	08 00 50.3	11.9N	86.0W	162	6.2	133°	89°	40°				143°	100°				116°	151°	137°	122°	123°	33°
02 Jul 68	03 44 48.9	17.6N	100.3W	41	5.9									127°								
02 Aug 68	14 06 43.9	16.6N	97.7W	40	6.3	127°			141°									146°	135°		126°	
25 Sep 68	10 38 38.4	15.6N	92.6W	138	5.7									127°								
16 Dec 68	03 07 24.1	7.1N	82.2W	16	5.3									130°								
10 Mar 69	08 15 08.4	12.3N	87.3W	62	5.3									128°								
14 Mar 69	08 47 16.3	12.9N	86.8W	178	5.6									128°								
Total Events by Station:						7	2	7	8	4	6	5	3	5	4	4	3	8	9	1	6	8

TABLE V

Events Analyzed

AREA III

CALIFORNIA AND WESTERN UNITED STATES

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
05 Jul 64	19	07	57.8	26.2N	110.2W	29	6.0					42°									125°			
22 Dec 64	20	54	35.3	31.9N	117.1W	14	6.3			14°	119°	36°					79°							38°
29 Apr 65	15	28	43.3	47.4N	122.4W	57	6.5	120°							88°					133°	102°	75°	103°	
16 Sep 65	04	10	22.6	40.4N	125.7W	33	5.6						24°											
09 Mar 66	14	02	12.8	27.6N	115.0W	33	5.4			18°		40°												
10 Apr 66	22	27	01.8	41.4N	125.5W	33	5.6			11°		27°	24°											
21 Jun 66	09	46	20.1	34.5N	120.7W	5	5.6			13°														
07 Aug 66	17	36	26.7	31.8N	114.5W	33	6.3				120°							86°	83°			90°		36°
16 Aug 66	18	02	36.1	37.4N	114.2W	33	6.1				116°	30°						82°				86°		33°
10 Dec 67	12	06	50.3	40.5N	124.6W	5	5.8		89°	11°		28°	24°					73°	86°					
28 Dec 67	06	26	15.8	44.2N	128.8W	33	5.4			12°		25°	27°						85°	67°				41°
09 Apr 68	02	28	58.9	33.1N	116.1W	20	6.1								99°				82°			88°		
08 May 68	12	17	13.4	43.6N	127.9W	33	6.1								93°		71°	85°				74°		
25 Nov 68	00	53	01.3	20.3N	109.3W	33	5.0									125°								
04 Apr 69	16	16	17.2	24.4N	109.8W	31	5.6									121°								
28 Apr 69	23	20	42.9	33.3N	116.3W	20	5.7									112°								
Total Events by Station:								1	1	6	3	7	4	0	3	3	3	5	3	1	2	5	1	4

TABLE VI

Events Analyzed

AREA IV
ALASKA

DATE	ORIGIN TIME Hr Min Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
06 Feb 64	13 07 25.2	55.7N	155.8W	33	6.8						46°		84°		64°	85°			85°		91°	54°
28 May 64	16 18 04.2	58.3N	150.6W	25	5.4			27°														
05 Jul 64	03 14 33.3	60.8N	144.9W	30	5.0			25°														
06 Feb 65	16 50 29.0	53.3N	161.8W	33	6.1							74°										
16 Apr 65	23 22 18.6	64.7N	160.1W	5	5.8															50°		
23 Jun 65	12 02 46.2	56.7N	152.8W	29	4.8					20°										49°		
23 Jun 65	12 23 22.2	56.6N	152.8W	25	6.0					20°												
23 Jun 65	14 22 45.2	56.8N	152.3W	33	5.0					20°					63°							
11 Aug 65	18 29 40.1	59.6N	145.8W	25	5.5			25°														
04 Sep 65	14 32 47.9	58.2N	151.6W	19	6.1				84°			80°	81°		62°	82°	52° 49°	117°	84°		90°	51°
08 Sep 65	03 26 20.7	57.5N	152.1W	25	5.5			27°									49°					
22 Dec 65	19 41 23.0	59.4N	153.0W	50	6.5				83°			80°	81°		62°			117°	84°		90°	
22 Jan 66	14 27 07.9	56.8N	153.7W	33	5.8			28°	84°			79°	83°		63°				85°	54°	91°	52°
08 Apr 66	09 19 09.6	56.8N	152.6W	33	4.7					20°												
09 Apr 66	18 51 45.0	60.2N	147.1W	34	4.7			25°														
09 Apr 66	20 08 39.0	56.7N	152.0W	33	5.5			27°														
11 Apr 66	18 26 11.8	57.2N	153.1W	33	4.9					20°												
11 Apr 66	23 00 24.0	56.6N	152.0W	33	5.4			27°		20°												
16 Apr 66	01 27 15.3	57.0N	153.6W	33	5.7			28°	84°	20°	45°		82°		63°						91°	52°
22 Apr 66	10 15 51.0	56.9N	151.8W	33	4.9			27°														
22 Apr 66	23 27 20.5	57.1N	152.1W	22	5.9			27°		20°	45°	80°				82°			85°		91°	51°
22 Jun 66	11 38 53.7	61.4N	147.6W	53	5.2			26°														
07 Aug 66	14 11 51.2	59.6N	144.4W	4	5.5			24°		15°												
15 Aug 66	10 58 51.7	58.2N	153.1W	41	4.9					19°												
15 Aug 66	13 36 23.7	60.4N	146.0W	9	5.3				85°													
30 Aug 66	20 20 54.0	61.3N	147.5W	36	5.9				84°						58°							
07 Oct 66	20 55 56.0	61.6N	150.1W	56	5.7				83°				77°		58°	78°	50° 47° 48° 51°		83° 82°	56° 55°	88° 87°	48° 49°
07 Feb 67	14 53 13.9	56.7N	157.2W	67	5.6																	
10 Apr 67	19 57 34.4	58.6N	154.3W	86	5.5																	
21 Jun 67	18 04 49.5	64.8N	147.4W	17	5.4																	
01 Jul 67	23 10 07.2	54.4N	158.0W	33	6.2		83°						85°									
28 Sep 67	15 44 55.7	59.5N	147.1W	28	5.6												52°					
23 Apr 68	20 29 14.5	58.7N	150.0W	23	6.3				85°			81°	80°			81°		119°	85°	55°		
29 Oct 68	22 16 15.6	65.4N	150.1W	7	6.0									76° 81° 82° 81°								
11 Nov 68	08 53 52.0	57.3N	155.3W	59	5.3																	
15 Nov 68	00 07 09.7	58.3N	150.4W	26	5.1																	
27 Nov 68	12 55 56.1	56.6N	157.6W	61	5.3																	
Total Events by Station:						0	1	13	8	10	3	6	8	4	8	5	8	3	8	6	8	7

TABLE VII

Events Analyzed

AREA V
ALEUTIAN ISLANDS

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
04 Feb 65	05	01	21.8	51.3N	178.6E	40	7.5	93°						82°						99°				
07 Feb 65	02	17	09.2	51.4N	173.4E	40	6.0	91°	85°	48°	66°		65°				69°				72°			71°
17 Mar 65	14	27	12.4	52.8N	171.9E	23	6.0		83°	48°		37°									70°	35°	82°	
30 Mar 65	02	27	07.2	50.6N	177.9E	51	6.5	92°						81°	85°			93°		99°		38°		
23 May 65	23	46	12.0	52.2N	175.0E	22	6.1	92°	84°				64°		83°		68°				72°		84°	70°
30 Jun 65	08	33	31.8	51.7N	176.5E	60	6.0		85°	46°		36°	63°				69°					37°	85°	69°
02 Jul 65	20	58	40.0	53.1N	167.7W	59	6.6							70°	85°									
02 Sep 65	04	26	37.3	51.9N	175.5E	31	5.6				67°								30°					
27 Sep 65	05	09	13.3	51.9N	175.5E	41	5.5												30°					
01 Oct 65	08	52	05.8	50.1N	178.3E	32	6.3	92°					63°	61°	85°		70°	94°		98°	75°	38°	87°	70°
19 Oct 65	20	48	47.4	52.3N	174.3E	48	5.6				68°	36°							30°					
23 Oct 65	06	00	48.5	53.8N	165.5W	16	5.5				78°								42°					
22 Nov 65	14	00	27.0	52.0N	176.1W	49	5.5				72°													
23 Nov 65	02	17	49.4	51.4N	179.7W	48	5.6				70°													
04 Dec 65	02	11	49.9	51.3N	170.6W	18	5.5												39°					
16 Jan 66	09	11	50.0	52.9N	171.9E	25	5.7												29°					
15 May 66	14	46	06.5	51.5N	178.4W	31	5.8				71°													
02 Jun 66	03	27	53.3	51.1N	176.0E	41	6.0	92°		47°		36°			84°		69°				73°	37°	85°	
04 Jul 66	18	33	35.7	51.7N	179.9E	13	6.2	94°						63°			69°					39°	86°	68°
11 Aug 66	10	45	59.6	52.8N	169.7W	61	6.5				76°							90°			80°	46°	90°	62°
29 Apr 67	03	55	20.8	51.4N	178.3W	50	6.0			43°		34°	60°		85°		69°		34°		76°		87°	
03 Oct 68	11	08	38.9	51.6N	174.1W	46	5.0									78°								
07 Nov 68	00	48	33.6	54.3N	164.6W	37	5.1									80°								
07 Dec 68	15	40	57.9	51.6N	175.7E	33	5.3									73°								
07 Dec 68	15	46	45.2	51.6N	175.8E	33	5.0									73°								
01 Jan 69	09	07	04.3	51.2N	179.4W	34	5.4									76°								
14 May 69	19	32	54.2	51.3N	179.9W	21	6.2								85°									
Total Events by Station:								7	4	5	8	5	5	5	7	5	7	3	7	3	7	7	8	6

TABLE VIII

Events Analyzed

AREA VI

Kamchatka-Kurile Islands

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
01 Jan 64	17	26	43.5	45.4N	151.9E	45	6.1	81°	85°						80°		71°				60°		75°	84°
31 May 64	00	40	36.4	43.5N	146.8E	48	6.3								79°			96°		80°				88°
23 Jun 64	01	26	37.0	43.3N	146.1E	77	7.0	78°							79°									88°
30 Jun 64	15	48	43.0	45.9N	150.4E	33	6.0								79°		70°							85°
28 Mar 65	13	22	57.6	55.1N	162.1E	33	5.9		78°															
11 Jun 65	03	33	44.9	44.7N	148.7E	47	6.0	80°						43°	79°		71°	95°		82°				86°
18 Nov 65	21	58	12.4	53.9N	160.7E	12	6.0	91°		54°		40°		55°	77°			89°			64°	28°	76°	
13 Jan 66	12	24	44.3	51.4N	156.9E	110	4.6												20°					
16 Jan 66	19	44	39.5	54.9N	165.8E	15	5.6				61°												78°	
22 Jan 66	18	31	01.0	51.4N	156.9E	151	4.7												20°					
28 Jan 66	22	38	12.2	51.6N	157.0E	107	5.6																76°	
29 Jan 66	07	52	08.8	45.8N	151.5E	33	5.1				51°													
01 Feb 66	15	59	41.9	45.4N	150.0E	24	4.-												12°					
05 Feb 66	14	24	45.0	52.8N	158.8E	44	5.2												22°					
05 Feb 66	16	16	01.0	50.2N	155.1E	98	5.8			59°			76°		78°		67°	92°			61°	24°		79°
10 Feb 66	20	13	33.0	47.2N	150.8E	162	5.3				51°													
03 Mar 66	03	25	28.0	48.3N	154.3E	45	5.9	84°		60°		47°			79°		69°				61°	23°	75°	
19 Mar 66	08	11	40.0	43.3N	145.8E	11	5.6				46°													
08 Apr 66	01	46	44.9	51.2N	157.7E	47	5.9	87°		57°		43°	74°		78°		67°					26°		78°
11 May 66	14	17	34.1	48.9N	156.2E	13	5.8								79°								76°	
04 Jun 66	23	48	17.8	46.5N	152.5E	27	5.9	82°						45°			70°				60°			83°
21 Jun 66	23	06	25.9	50.1N	157.8E	14	5.8					44°					68°							78°
07 Dec 66	17	17	42.0	44.3N	151.7E	26	5.8					51°					72°		13°		60°	20°	76°	85°
01 Apr 67	12	23	35.5	45.7N	151.8E	40	5.9			63°		50°	80°				71°				60°			84°
01 Dec 67	13	57	02.4	49.5N	154.4E	136	5.9		82°	59°			77°	49°				92°		88°				
28 Jul 68	21	12	38.1	55.4N	166.6E	33	5.4									66°								
28 Jul 68	21	23	06.7	55.3N	166.8E	22	5.1									66°								
14 Aug 68	01	13	45.2	55.6N	162.1E	71	5.3									64°								
18 Aug 68	11	54	59.4	48.2N	157.3E	27	5.2									64°								
30 Aug 68	05	24	41.6	51.3N	157.7E	21	5.1									63°								
08 Sep 68	20	09	51.2	46.0N	151.4E	31	5.0									61°								
07 Nov 68	14	36	38.8	45.0N	150.0E	59	5.0									61°								
19 Dec 68	15	15	55.7	53.3N	160.1E	33	5.4									64°								
10 Feb 69	21	47	55.9	44.2N	148.5E	33	5.1									60°								
Total Events by Station:								7	3	6	4	6	4	4	10	9	10	5	5	3	7	5	7	11

TABLE IX

Events Analyzed

AREA V[illegible]

JAPAN

DATE	ORIGIN TIME Hr Min Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	1ST	KBL	KON	MAL	MAT	MUX	ND1	SEO	SH1	WES
15 Jan 64																						
07 May 64	21 36 05.0	29.1N	140.8E	70	6.7	64°	94°				98°				83°			65°	55°		75°	
16 Jun 64	07 58 14.3	40.4N	139.9E	33	6.2	75°					91°					96°		75°	51°			93°
12 Jul 64	04 01 44.3	38.3N	139.1E	57	6.1	73°							79°					73°				95°
29 Mar 65	01 45 25.6	38.6N	139.2E	13	6.0														52°		69°	95°
14 Aug 65	10 47 37.6	40.8N	142.8E	33	6.1	75°	85°	71°		57°	88°		79°		73°			7[illegible]°		13°		92°
25 Oct 65	11 39 29.0	40.9N	141.2E	93	4.7												5°					
12 Nov 65	22 34 24.3	44.2N	145.3E	180	6.2	79°						41°	78°		70°	95°		80°				88°
02 Jan 66	17 52 24.1	30.5N	140.2E	40	6.6	65°		80°		67°		27°	85°		81°				54°	13°	73°	
08 Jan 66	04 04 45.4	31.5N	139.2E	394	5.2				37°											11°		
08 Jan 66	22 22 32.8	31.7N	137.7E	423	4.7									60°						9°		
21 Jan 66	22 39 17.9	37.3N	138.5E	10	5.6			76°		62°												
27 Jan 66	09 43 26.7	43.2N	145.6E	37	4.7												9°					
09 Feb 66	12 00 29.1	40.2N	140.5E	65	5.1				41°											6°		
18 Feb 66	14 24 23.2	37.2N	134.9E	357	5.0																	
20 Feb 66	19 02 51.5	44.3N	143.1E	225	5.2				45°													
28 Feb 66	00 12 25.0	41.9N	142.6E	71	4.3												6°					
10 Mar 66	02 02 13.6	43.7N	139.4E	225	5.5			71°		56°			75°									
29 Mar 66	04 26 19.6	32.2N	137.5E	382	5.6								82°									
05 Apr 66	02 17 38.5	23.7N	142.1E	79	5.9	58°				73°								61°	58°	19°	78°	
16 Apr 66	08 51 16.4	37.0N	138.2E	4	5.1				39°													
21 Apr 66	10 13 28.0	35.0N	141.5E	63	5.2				41°													
07 Jun 66	15 45 25.4	36.1N	141.8E	30	5.5				41°													
23 Jun 66	13 59 36.0	11.3N	139.6E	50	6.5	46°						14°	98°		99°			49°		29°		
20 Aug 66	05 01 42.4	43.8N	139.9E	218	5.5				42°				75°									
12 Nov 66	09 32 31.7	43.1N	140.6E	161	5.8			71°		56°												
17 Jan 67	12 49 43.6	41.8N	144.1E	33	5.8			70°			87°		79°		72°			78°	55°		72°	90°
07 Feb 67	11 59 31.5	38.5N	142.1E	44	5.9	73°				60°		34°			75°	99°			54°			
21 Jun 67	08 28 57.9	13.5N	144.8E	138	5.4												22°					
21 Jun 67	12 09 54.0	35.8N	135.6E	32	4.2												2°					
26 Aug 67	16 51 06.3	27.5N	144.0E	94	4.9												14°					
09 Apr 68	00 36 42.1	12.2N	140.7E	33	6.1	47°						16°						50°	61°		82°	
12 Jun 68	21 17 51.0	32.4N	141.2E	63	4.1												5°					
15 Jun 68	13 41 50.7	39.1N	142.7E	44	6.0	74°						36°	80°					75°				93°
02 Jul 68	19 33 09.2	41.9N	142.7E	33	5.2									57°								
12 Jul 68	22 12 25.0	26.0N	128.6E	33	5.1									52°								
20 Sep 68	00 44 36.5	39.5N	143.2E	28	6.0		87°											75°			72°	
29 Oct 68	22 25 37.1	36.8N	138.1E	59	5.0									55°								
Total Events by Station:						11	3	6	7	7	4	6	10	4	7	3	7	11	8	7	7	7

TABLE X

Events Analyzed

AREA VIII
PHILIPPINE ISLANDS-TAIWAN

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
18 Jan 64	12	04	40.0	23.1N	120.5E	33	6.1	60°	86°						76°		80°			55°	39°		60°	
28 Mar 64	23	28	27.9	1.6N	127.2E	103	6.3	38°				99°								35°	55°		76°	
30 Jun 64	13	46	21.6	.8S	122.5E	36	6.3													32°	52°	38°		137°
08 Jul 64	11	55	39.0	5.5S	129.8E	165	6.5											128°						139°
11 Oct 64	21	15	03.9	.6S	121.7E	33	6.3	38°			29°			9°	92°					32°	52°	38°	72°	
01 Nov 64	12	26	06.2	3.1N	128.1E	65	6.3	39°						8°						37°	55°	34°	76°	
01 Aug 65	09	19	51.7	.3N	125.8E	91	5.4				32°													
09 Aug 65	02	34	21.7	7.0S	123.1E	576	5.5				35°											45°		
17 Aug 65	07	36	17.0	12.4N	125.7E	76	5.0												27°					
18 Aug 65	11	13	17.4	7.0S	129.1E	135	5.1				39°													
06 Sep 65	03	18	39.1	21.2N	121.4E	33	5.2				21°								21°			17°		
14 Sep 65	08	27	15.9	8.4N	126.8E	33	5.7					92°												
16 Sep 65	13	50	11.8	7.1N	126.5E	179	6.0					94°												
10 Oct 65	10	21	00.7	26.3N	128.1E	33	5.4												14°					
12 Oct 65	18	55	57.0	.2N	124.1E	159	5.6												39°					
18 Oct 65	21	50	04.5	1.1S	127.9E	33	5.9						127°					123°						135°
24 Oct 65	14	32	13.7	4.1N	125.9E	175	5.8												34°					
16 Nov 65	17	05	37.9	25.4N	125.2E	77	6.0			92°		77°												
20 Nov 65	15	05	39.0	7.3S	129.2E	132	6.1			115°														
21 Nov 65	10	31	49.7	6.1S	130.4E	93	6.3			114°														
15 Dec 65	08	22	21.9	.1N	123.7E	162	5.9			114°														139°
11 Jan 66	03	10	53.0	.7N	120.2E	33	6.0	39°			28°	102°		8°							50°		70°	
12 Mar 66	16	31	21.8	24.1N	122.6E	63	6.7							17°	77°			102°		56°				
12 Mar 66	17	59	39.0	24.4N	122.8E	83	5.7							17°										
23 Mar 66	00	04	34.7	23.8N	122.8E	51	6.3	60°		95°					78°					56°				
23 Apr 66	00	09	34.4	.9S	122.4E	45	6.0	37°				103°	131°					119°		31°		39°	73°	137°
23 Apr 66	03	49	03.4	.6S	122.0E	15	5.3							8°										
23 Apr 66	14	19	47.3	.3S	122.3E	108	5.1							8°										
22 Jun 66	20	29	03.6	7.2S	124.6E	507	6.1								99°								78°	142°
27 Jun 66	22	44	22.1	7.3N	125.0E	39	6.3	44°																
01 Jul 66	05	50	39.2	24.8N	122.5E	117	6.4					78°		18°	77°									
01 Jul 66	22	12	18.0	2.4N	127.3E	85	5.0							5°										
18 Aug 66	14	13	59.8	.2S	125.1E	56	6.3																	
18 Aug 66	14	37	53.0	.1S	125.1E	33	6.3					101°			95°									
21 Aug 66	05	00	26.8	8.5N	126.7E	67	6.0	45°		105°	29°	92°			90°		96°			41°	51°			

TABLE X (Cont'd.)

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
08 Sep 66	21	15	52.8	2.4N	128.4E	96	6.9																	
28 Sep 68	09	54	45.9	15.9N	122.6E	27	5.2						125°		96°		102°	121°		36°				132°
05 Jan 69	07	28	55.8	4.1N	125.6E	59	5.3									51°								
19 Jan 69	17	19	23.1	1.7N	127.1E	86	5.1									60°								
21 Jan 69	01	47	29.6	7.3S	128.3E	91	5.6									63°								
20 Mar 69	23	38	40.6	8.8N	127.3E	33	5.1									70°								
																59°								
Total Events by Station:								9	1	6	7	9	3	9	9	5	3	5	5	10	7	6	7	7

TABLE XI

Events Analyzed

AREA IX

SOLOMON ISLANDS-NEW HEBRIDES

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
01 Jan 64	20	02	32.5	3.2S	139.7E	33	6.3				46°													
20 Jan 64	17	08	37.4	20.7S	169.9E	141	6.7	31°	151°	97°					141°						68°	42°	89°	
06 Jul 64	10	06	02.3	6.3S	154.7E	49	6.4	32°												49°	102°		123°	
09 Jul 64	16	39	49.3	15.5S	167.6E	121	6.6													44°				
05 Sep 64	02	53	50.6	5.8S	154.0E	69	6.4		130°	97°					136°		133°			49°	98°		119°	123°
17 Nov 64	08	15	39.3	5.7S	150.7E	45	6.7		127°	99°		97°	112°	31°	117°		120°			41°	78°		103°	126°
04 Aug 65	08	47	12.4	13.2S	167.0E	237	5.7																100°	
13 Aug 65	04	40	55.3	15.9S	167.5E	34	5.7												57°					
14 Aug 65	11	07	47.1	15.8S	166.8E	33	5.5												59°					
17 Aug 65	11	14	10.4	5.2S	152.6E	47	5.8												59°					
03 Sep 65	21	38	53.6	5.2S	153.7E	54	5.9												44°					
04 Feb 66	10	39	12.2	15.9S	167.9E	190	6.0					100°							44°					
16 Feb 66	03	18	27.2	17.7S	167.9E	31	6.5			96°		101°		49°	138°		135°		61°	49°	98°	66°	119°	
22 Feb 66	05	02	37.2	5.4S	151.5E	28	6.2	32°		99°		96°		29°	118°			142°		42°	79°		100°	124°
01 Apr 66	05	21	09.7	5.8S	149.1E	112	6.1	31°			55°									40°		48°		127°
13 Jun 66	18	08	38.4	12.2S	167.1E	256	6.2	34°						46°	133°					51°	96°	62°	117°	121°
15 Jun 66	00	59	45.8	10.4S	160.8E	31	6.1					97°		39°	128°		126°	151°				57°		125°
15 Jun 66	01	32	55.5	10.2S	161.1E	33	6.2							39°	128°		126°	151°			90°	57°		124°
29 Jun 66	21	46	54.5	13.8S	166.7E	35	6.2	33°			74°	98°												
04 Sep 66	09	41	23.8	2.5S	138.8E	39	6.0				45°													
07 Oct 66	15	55	10.8	21.6S	170.5E	161	6.4	31°						52°	142°		140°	164°		36°			88°	
01 Dec 66	04	56	58.2	14.0S	167.1E	132	6.1			94°		98°			135°		131°	156°		49°	103°		124°	125°
14 Dec 66	21	07	52.1	4.8S	143.9E	74	6.0	30°				99°						137°		50°	96°		118°	123°
17 Jun 68	18	09	34.1	12.3S	166.7E	33	5.5									103°					72°	45°	93°	
26 Jun 68	15	40	31.1	22.2S	171.4E	90	5.6									112°								
02 Jul 68	18	40	10.1	2.7S	138.9E	62	5.7									75°								
20 Jan 69	12	24	35.2	10.3S	164.6E	4	5.6									100°								
10 Mar 69	06	54	17.6	5.6S	147.2E	206	5.8									83°								
Total Events by Station:								8	3	6	4	8	1	7	10	5	7	6	6	12	11	7	13	9

TABLE XII

Events Analyzed

AREA X
SUMATRA-JAVA

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
24 Nov 64	10	41	33.5	6.8S	107.4E	125	6.0	40°		129°	27°	113°	146°		86°					26°	46°	48°		
17 Jan 65	20	57	41.3	6.8S	109.1E	242	6.5	39°				112°		21°	87°					26°				
28 Feb 65	08	55	42.2	6.7S	102.7E	33	6.1			131°			148°	27°							43°	50°		
29 Apr 65	15	48	57.1	5.6S	110.2E	504	6.0	39°							87°					27°	47°	46°		
19 May 65	06	03	58.9	6.5S	105.4E	74	6.3			130°				24°	84°									
07 Jun 65	10	18	57.0	4.5S	103.2E	33	6.0														41°		59°	
17 Aug 65	10	35	04.1	5.3N	96.2E	33	5.3												50°				48°	
21 Aug 65	15	04	17.6	5.9S	104.2E	33	5.5				25°								53°				61°	
30 Aug 65	18	09	43.9	6.5S	104.7E	70	6.2	42°		130°	26°		147°	25°							44°	49°	61°	
07 Oct 65	03	35	59.6	12.6N	114.5E	17	5.9								79°				32°				60°	
08 Oct 65	15	21	05.4	6.1S	103.8E	33	5.7												53°			49°	61°	
02 Nov 65	15	47	24.0	4.3S	101.2E	11	5.4												54°			48°		
02 May 66	16	39	44.0	8.6S	114.9E	103	5.8																	146°
19 Feb 67	22	14	35.3	9.2S	113.1E	80	6.2	35°		127°		113°		20°	92°						51°			147°
24 Mar 67	09	00	19.5	6.1S	112.3E	600	6.0			125°		111°	142°	19°				115°		26°	48°		67°	144°
30 Mar 67	02	08	02.4	11.0S	115.5E	33	6.0	32°		127°		114°	143°	21°	95°				52°			49°	73°	148°
12 Apr 67	04	51	40.2	5.3S	96.5E	55	6.1	56°		123°		104°	140°	29°			84°	96°			30°	43°	48°	
21 May 67	18	45	11.7	1.0S	101.5E	173	6.3			127°				25°	78°		92°			34°		45°		138°
26 Mar 68	00	41	56.9	6.6S	116.1E	520	5.9											118°						
24 May 68	15	43	54.2	6.8S	118.9E	609	6.0											121°						
27 Jun 68	22	10	03.8	6.1N	120.9E	60	5.3									55°								
27 Jun 68	22	14	01.3	8.2S	119.7E	86	5.4									64°								
14 Aug 68	22	14	19.4	0.2N	119.8E	23	6.0											117°						
23 Oct 68	13	25	58.9	9.1S	112.0E	46	5.4									59°								
Total Events by Station:								7	0	9	3	6	6	9	8	3	2	5	6	5	8	9	9	7

TABLE XIII

Events Analyzed

AREA XI

TONGA ISLANDS-FIJI ISLANDS

DATE	ORIGIN TIME Hr Min Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
05 Jan 65	18 05 58.6	20.3S	174.1W	33	6.0	44°	157°	87°		98°	91°							63°	115°	80°	137°	
08 Jan 65	20 24 56.0	33.8S	179.3E	33	6.4	33°																
22 Mar 65	02 44 47.5	15.3S	173.4W	51	5.9					93°												
20 Aug 65	21 21 50.9	22.9S	176.3W	77	6.2	41°		90°	92°	101°	94°	64°	152°		143°	165°	73°	60°	114°	80°	136°	
01 Sep 65	04 47 34.9	34.6S	179.6E	107	6.2	33°		101°	93°						154°		81°	52°	115°	97°	135°	125°
19 Sep 65	01 26 52.5	22.1S	174.9W	33	5.4												73°					
17 Oct 65	03 55 15.4	15.7S	173.8W	51	5.5												69°					
12 Feb 66	11 39 25.5	18.3S	174.8W	190	5.6					96°												
17 Mar 66	15 50 32.2	21.1S	179.2W	626	6.2	39°				100°		61°	149°					58°	111°	77°	132°	117°
20 Mar 66	07 47 50.2	17.0S	174.3W	117	5.7					95°												
01 Jun 66	11 47 33.1	23.4S	174.9W	24	5.9	42°		89°	94°	101°		66°				164°		61°	116°	82°		
10 Jul 66	01 22 02.9	17.4S	178.7W	532	5.8	42°														75°		
10 Jul 66	10 00 39.1	30.5S	177.8W	40	5.8	37°		97°				66°						56°	116°	85°	136°	
10 Aug 66	05 01 09.4	20.1S	175.3W	96	5.8	43°		87°	92°				151°		140°	162°		62°	114°	79°	136°	
28 Aug 66	07 29 34.7	35.8S	178.5E	94	5.8	32°		103°	93°						155°	177°		51°	115°	87°		127°
01 Jan 67	07 05 48.6	15.3S	173.6W	33	6.0	47°	152°	82°	93°	93°			148°		136°	157°	69°				135°	
19 Jan 67	12 40 12.6	14.8S	176.8W	18	6.6		150°															
17 Feb 67	10 10 51.5	23.7S	175.2W	19	6.4	41°				101°		65°	153°		144°		74°	60°	116°	82°	137°	
04 Mar 67	06 16 21.9	18.5S	175.4W	225	5.7												70°					
27 Dec 67	16 22 48.5	22.3S	174.8W	33	6.1					97°			153°									
11 Mar 68	08 26 32.8	16.2S	173.9W	112	6.0								148°									
25 Jul 68	07 23 07.8	30.8S	178.4W	60	6.4								156°									
25 Aug 68	11 15 46.3	20.0S	175.9W	96	5.5									122°								122°
06 Oct 68	05 15 11.5	15.0S	175.5W	33	5.3									119°								
19 Oct 68	17 28 43.6	15.2S	173.3W	33	5.2									121°								
29 Oct 68	11 26 51.8	22.5S	175.2W	33	5.1									123°								
07 Nov 68	03 32 50.8	16.6S	172.7W	33	5.1									122°								
Total Events by Station:						12	3	8	6	10	2	5	8	5	6	5	7	9	9	10	8	4

TABLE XIV

Events Analyzed

AREA XII
TURKEY-GREECE

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
31 Jan 64	09	23	21.0	37.5N	23.2E	75	4.3		9°															
23 Feb 64	22	41	06.3	39.2N	23.7E	33	4.5								5°									
18 Mar 64	16	43	24.0	45.7N	14.1E	33	4.6		3°															
08 Apr 64	14	12	29.5	35.1N	24.3E	71	5.0								7°									
06 Oct 64	14	31	19.2	40.3N	28.2E	10	6.0			87°	64°													
27 Oct 64	19	46	12.0	47.8N	16.1E	39	5.6															75°		
31 Mar 65	09	47	30.7	38.6N	22.4E	78	6.3	130°												112°	46°			
05 Apr 65	03	12	54.2	37.7N	21.8E	34	5.7						89°											
09 Apr 65	23	57	03.2	35.1N	24.3E	51	6.0	127°				73°	93°								45°			71°
27 Apr 65	14	09	07.1	35.7N	23.5E	50	5.5															78°		
06 Jul 65	03	18	44.6	38.7N	22.6E	28	5.9															77°		
05 Feb 66	02	01	48.3	39.2N	22.0E	38	5.8			86°		69°	89°								46°			67°
09 May 66	00	42	55.6	34.5N	26.5E	33	5.5					74°			7°						43°	77°		73°
20 Aug 66	12	05	19.0	42.3N	18.6E	22	5.5			82°	71°							19°						
29 Oct 66	02	39	29.4	39.2N	21.2E	20	5.7			86°		68°	88°				22°	20°			47°		28°	67°
09 Feb 67	14	08	18.7	40.8N	20.3E	3	5.6				70°	67°					20°	20°			48°		29°	
01 May 67	07	09	00.5	39.7N	21.3E	15	5.6			85°		68°						20°	84°		47°	77°	28°	66°
22 Jul 67	16	56	53.3	40.7N	30.8E	4	6.0	124°					92°	89°				28°	78°		40°			71°
30 Jul 67	01	31	01.7	40.7N	30.4E	16	5.6		13°		62°	69°					23°	27°	79°		40°	71°	21°	71°
09 Nov 67	14	48	44.2	35.5N	27.8E	47	5.7								6°		27°						22°	
30 Nov 67	07	23	51.5	41.5N	20.5E	29	6.0	132°		83°		66°					19°	20°			47°			
02 Dec 67	12	44	42.7	41.3N	20.3E	17	5.4												84°					
28 Mar 68	07	39	57.1	37.9N	20.9E	6	5.4												86°			79°		
04 Jul 68	21	47	55.6	37.8N	23.2E	33	5.3									37°								
31 Oct 68	03	22	15.0	36.6N	27.1E	11	5.1									34°								
03 Nov 68	04	49	31.8	42.1N	19.4E	17	5.0									39°								
Total Events by Station:								4	3	6	4	8	5	1	4	3	5	7	5	1	10	7	5	7

TABLE XV

Events Analyzed

AREA XIII

IRAN-TURKEY

DATE	ORIGIN TIME Hr Min Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
12 Jan 64	12 45 51.1	31.5N	49.4E	67	5.2		31°		46°													
19 Jan 64	09 13 53.5	26.9N	54.0E	33	5.6				42°							50°						
08 Feb 64	06 28 25.9	36.9N	50.3E	33	4.7																7°	
16 Feb 64	00 17 15.1	30.1N	51.2E	37	5.3								21°			46°						
21 Feb 64	01 04 00.6	34.4N	58.1E	33	5.0																7°	
19 Aug 64	09 33 10.0	28.2N	52.6E	50	5.6		35°		43°											62°		
19 Aug 64	15 20 13.9	28.2N	52.7E	50	5.6															62°		
20 Aug 64	05 08 50.3	28.2N	52.6E	47	5.1		35°															
20 Aug 64	05 39 47.7	28.2N	52.6E	52	5.5		35°		43°											62°		
04 Sep 64	03 39 36.7	39.8N	40.3E	33	5.0		20°															
21 Jun 65	00 21 14.5	28.1N	56.0E	28	6.0								26°		45°	51°		83°	19°			
07 Mar 66	01 16 05.8	39.1N	41.7E	13	5.5			92°		72°			10°		29°						13°	
20 Apr 66	16 42 03.7	41.7N	48.2E	19	5.5			91°		70°			14°			41°			27°	59°	12°	80°
12 Jul 66	18 53 08.5	44.6N	37.4E	26	5.9					66°									35°	65°		73°
19 Aug 66	12 22 09.6	39.2N	41.7E	26	6.1			92°				81°			29°	36°		99°	31°	64°		79°
18 Sep 66	20 43 53.3	27.8N	54.3E	16	6.2							70°	25°		44°			84°	20°			
11 Jan 67	11 20 45.7	34.1N	45.7E	34	5.6	111°		98°		77°					35°	41°	72°		27°	64°		85°
26 Jul 67	18 53 01.3	39.5N	40.4E	33	5.6				54°						28°		73°		32°		14°	
13 Jun 68	23 04 00.3	29.7N	51.5E	33	5.0									16°								
17 Jun 68	04 56 31.0	40.7N	48.0E	33	4.7									18°								
17 Jun 68	04 59 04.7	40.9N	48.2E	33	5.0									18°								
15 Jul 68	08 33 37.5	32.5N	48.7E	33	4.6									17°								
29 Jul 68	16 03 42.1	36.5N	53.7E	14	4.8									13°								
31 Aug 68	10 47 37.4	34.0N	59.0E	13	6.0	101°																
Total Events by Station:						2	5	4	5	4	0	2	5	5	6	6	2	3	7	7	5	4

TABLE XVI

Events Analyzed

AREA XIV
TADZHIK-HINDU KUSH

DATE	ORIGIN TIME Hr	Min	Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
28 Jan 64	14	09	17.1	36.5N	70.9E	207	6.1	95°	44°	98°			110°					59°		80°				94°
02 Feb 65	15	56	51.0	37.5N	73.4E	33	5.8			97°														
14 Mar 65	15	53	06.6	36.3N	70.7E	219	6.6						110°		33°					80°		44°		94°
22 Jun 65	05	49	18.9	36.3N	77.7E	28	6.1		49°			76°					49°					39°		
05 Jan 66	20	45	54.6	38.2N	69.1E	33	4.9																16°	
24 Jan 66	07	23	07.6	29.9N	69.7E	12	5.8	92°				82°		57°			50°	61°		76°		48°	1[illegible]	
28 Jan 66	08	52	02.2	39.3N	73.1E	20	5.4					73°							50°					
02 Feb 66	09	20	07.5	33.9N	73.0E	26	5.3												52°					
07 Feb 66	04	26	13.9	29.8N	69.7E	33	6.0	92°		105°				57°	35°		50°	61°		76°		48°		
12 Feb 66	08	04	58.0	39.1N	71.6E	70	4.7														11°			
12 Feb 66	16	34	11.3	36.6N	71.5E	188	4.9				30°													
16 Feb 66	09	44	22.0	29.9N	69.7E	34	4.6				29°										2°			
17 Feb 66	18	26	17.7	29.9N	69.8E	22	4.4														6°			
28 Feb 66	20	03	06.0	35.8N	71.3E	153	4.4														8°			
02 Mar 66	04	02	46.5	36.1N	70.6E	162	4.5														8°			
04 Mar 66	06	01	05.0	30.0N	70.0E	33	4.4														6°			
15 Mar 66	09	14	29.3	29.9N	69.7E	36	4.[illegible]														2°			
04 Jun 66	05	11	54.2	36.3N	70.8E	207	5.7			98°					33°		45°	59°					16°	
01 Aug 66	19	09	55.1	29.9N	68.8E	33	5.8			105°				58°	34°		49°	60°	57°			48°		
01 Aug 66	20	30	57.0	29.9N	68.6E	33	5.7																	99°
01 Aug 66	21	02	59.6	30.0N	68.7E	33	6.2	92°						58°			49°	60°						
10 Aug 66	22	05	35.0	38.4N	69.6E	4	5.5			96°														
15 Aug 66	02	15	33.8	28.7N	78.9E	50	5.8	85°														4[illegible]°	23°	
16 Aug 66	02	16	19.7	36.4N	70.8E	199	5.7			98°					33°			59°						
25 Jan 67	01	50	19.4	36.6N	71.6E	281	5.7	95°	45°		30°			57°	33°			59°	52°	80°		44°		94°
20 Feb 67	15	18	39.9	33.7N	75.3E	24	5.7				26°	78°		53°	37°		49°		51°	76°		42°	20°	
27 May 67	19	05	48.5	36.1N	77.8E	35	5.4			98°														
03 Apr 69	02	52	50.9	41.2N	79.2E	40	4.5									10°								
17 Apr 69	03	21	16.4	30.1N	69.9E	7	4.5									4°								
Total Events by Station:								6	3	8	4	4	2	6	7	2	7	8	5	6	7	8	5	4

TABLE XVII

Events Analyzed

AREA XV

CHINA-NEPAL-BURMA

DATE	ORIGIN TIME Hr Min Sec	LATITUDE (Degrees)	LONGITUDE (Degrees)	DEPTH (km)	m_b	STATION ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES
27 Feb 64	15 10 48.4	21.7N	94.4E	102	6.4	70°					125°		58°		69°					32°		115°
12 Jul 64	20 15 59.0	24.9N	95.3E	155	6.7														17°		38°	
13 Jul 64	10 58 47.7	23.7N	94.7E	117	6.5	72°							51°					59°			38°	
12 Jan 65	13 32 24.0	27.6N	88.0E	23	6.1	79°	61°			83°		41°	50°			76°		65°				
31 Jan 66	02 35 05.8	27.9N	99.6E	33	5.6					81°												
05 Feb 66	15 12 29.1	26.1N	103.1E	15	6.1							29°	62°			88°		59°	23°		44°	
13 Feb 66	10 44 41.0	26.1N	103.2E	33	5.7	69°				82°			62°						23°		44°	
06 Mar 66	02 10 56.8	31.6N	80.5E	35	5.4					80°							47°					
06 Mar 66	02 15 56.7	31.6N	80.5E	35	6.1			102°		80°												
09 Mar 66	15 06 28.0	34.8N	80.2E	33	4.5				23°													
31 Mar 66	23 38 00.5	36.4N	70.8E	200	5.6			98°		76°												
10 Jun 66	22 41 48.5	45.1N	99.7E	33	5.1					64°												
27 Jun 66	10 41 08.6	29.7N	80.9E	37	6.1	84°						48°	43°		55°							
27 Jun 66	10 49 50.0	29.8N	80.7E	33	5.8	85°									55°							
28 Sep 66	10 59 18.1	29.7N	81.0E	40	6.0	84°							43°		56°	70°						
16 Dec 66	14 00 22.9	27.4N	100.1E	33	6.2	72°		102°				31°	59°		67°			61°			41°	
14 Mar 67	20 52 13.5	29.6N	81.0E	9	5.9	84°				82°						70°	48°			39°	24°	
15 Aug 67	06 58 04.6	28.4N	94.3E	24	5.9	76°												64°	15°	29°	36°	
30 Aug 67	09 21 02.3	31.1N	93.7E	33	5.7	78°	63°		13°								37°		15°		35°	
28 Jun 68	04 22 01.5	31.7N	100.3E	3	6.1	76°	67°	98°				34°	57°		64°	82°		65°				
05 Jul 68	20 34 55.3	30.1N	95.1E	44	4.8				12°					22°								
04 Sep 68	14 32 14.1	40.2N	85.5E	33	4.6									14°								
05 Sep 68	01 40 04.0	33.5N	97.5E	33	4.8				15°					24°								
	08 57 45.3	46.7N	82.2E	33	4.7									16°								
Total Events by Station:						12	3	4	4	8	1	5	9	4	6	5	3	6	5	3	8	1

TABLE XVIII

P and PKP Coda
Station and Region Totals

REGION	PHASE	ADE	AQU	BOZ	CHG	CMC	DAL	DAV	IST	KBL	KON	MAL	MAT	MUN	NDI	SEO	SHI	WES	REGION TOTALS	
South America	P	1	6	8		7	6		2		6	8						11	P	55
	PKP	8			8			11	4	5	1		6	10	8	7	11		PKP	79
Central America	P		2	7		4	6		3		4	4	2					8	P	40
	PKP	7			8			5		5			1	8	9	1	6		PKP	50
California-Western United States	P		1	6		7	4		3		3	5	3		1	5	1	4	P	43
	PKP	1			3					3				1	1				PKP	9
Alaska	P		1	13	8	10	3	6	8	4	8	5	8		8	6	8	7	P	103
	PKP													3					PKP	3
Aleutian Is.	P	7	4	5	8	5	5	5	7	5	7	3	7	3	7	7	8	6	P	99
	PKP																		PKP	
Kamchatka-Kurile Is.	P	7	3	6	4	6	4	4	10	9	10	5	5	3	7	5	7	11	P	106
	PKP																		PKP	
Japan	P	11	3	6	7	7	4	6	10	4	7	3	7	11	8	7	7	7	P	115
	PKP																		PKP	
Philippine Is.-Taiwan	P	9	1	3	7	9	3	9	9	5	3	1	5	10	7	6	7		P	94
	PKP			3								4						7	PKP	14
Solomon Is.-New Hebrides	P	8		6	4	8		7		5			6	12	11	7	6		P	80
	PKP		3				1		10		7	6					7	9	PKP	43
Sumatra-Java	P	7			3	1		9	8	3	2	1	6	5	8	9	9		P	71
	PKP			9		5	6					4						5	PKP	29
Tonga Is.-Fiji Is.	P	12		8	6	10	2	5					7	9		10			P	69
	PKP		3						8	5	6	5			9		8	4	PKP	48
Turkey-Greece	P		3	6	4	8	5	1	4	3	5	7	5		10	7	5	7	P	80
	PKP	4												1					PKP	5
Iran-Turkey	P	1	5	4	5	4		2	5	5	6	6	2	3	7	7	5	4	P	71
	PKP	1																	PKP	1
Tadzhik-Hindu Kush	P	6	3	8	4	4	1	6	7	2	7	8	5	6	7	8	5	4	P	91
	PKP						1												PKP	1
China-Nepal-Burma	P	12	3	4	4	8		5	9	4	6	5	3	6	5	3	8		P	85
	PKP						1											1	PKP	2
STATION TOTALS	P	81	35	90	64	98	43	65	85	49	74	61	71	68	86	87	76	69		
	PKP	21	6	12	19	5	9	16	22	18	14	19	7	23	27	8	32	26		
		102	41	102	83	103	52	81	107	67	88	80	78	91	113	95	108	95	1486	Coda Analyzed

TABLE XVIX

Events Analyzed, Worldwide Distribution, 20° to 45°

REGION	STATION	EVENTS DELETED
Central America	BOZ	15 Dec 65
Central America	WES	
California	CMC	16 Aug 66
Alaska	BOZ	
Alaska	CMC	07 Aug 66, 15 Aug 66
Japan	DAV	07 Jun 66, 26 Aug 67
Solomon Is.-New Hebrides	ADE	
Sumatra-Java	DAV	24 Mar 67
Turkey-Greece	KON	30 Nov 67
Turkey-Greece	MAL	20 Aug 66
Turkey-Greece	SHI	
Iran-Turkey	KON	
Iran-Turkey	NDI	21 Jun 65
Tadzhik-Hindu Kush	IST	
China-Nepal-Burma	SHI	

TABLE XX

Events Analyzed, Worldwide Distribution, 45° to 80°

REGION	STATION	EVENTS DELETED
South America	BOZ	25 Jul 64, 10 Nov 66, 15 Nov 67
South America	DAL	
Kamchatka-Kurile Is.	NDI	
Japan	ADE	
Japan	CMC	
Japan	MUN	
Japan	SHI	26 Aug 67
Philippine Is.-Taiwan	SHI	
Solomon Is.-New Hebrides	SEO	01 Jan 64
Turkey-Greece	NDI	09 May 66, 22 Jul 67, 30 Jul 67
Iran-Turkey	CMC	
China-Nepal-Burma	KON	

TABLE XXI

Events Analyzed, Worldwide Distribution, 80° to 105°

REGION	STATION	EVENTS DELETED
South America	AQU	28 Mar 65
South America	CMC	
Alaska	CHG	
Alaska	SHI	
Japan	WES	
Solomon Is.-New Hebrides	CMC	
Solomon Is.-New Hebrides	BOZ	
Tonga Is.-Fiji Is.	BOZ	
Tonga Is.-Fiji Is.	CMC	

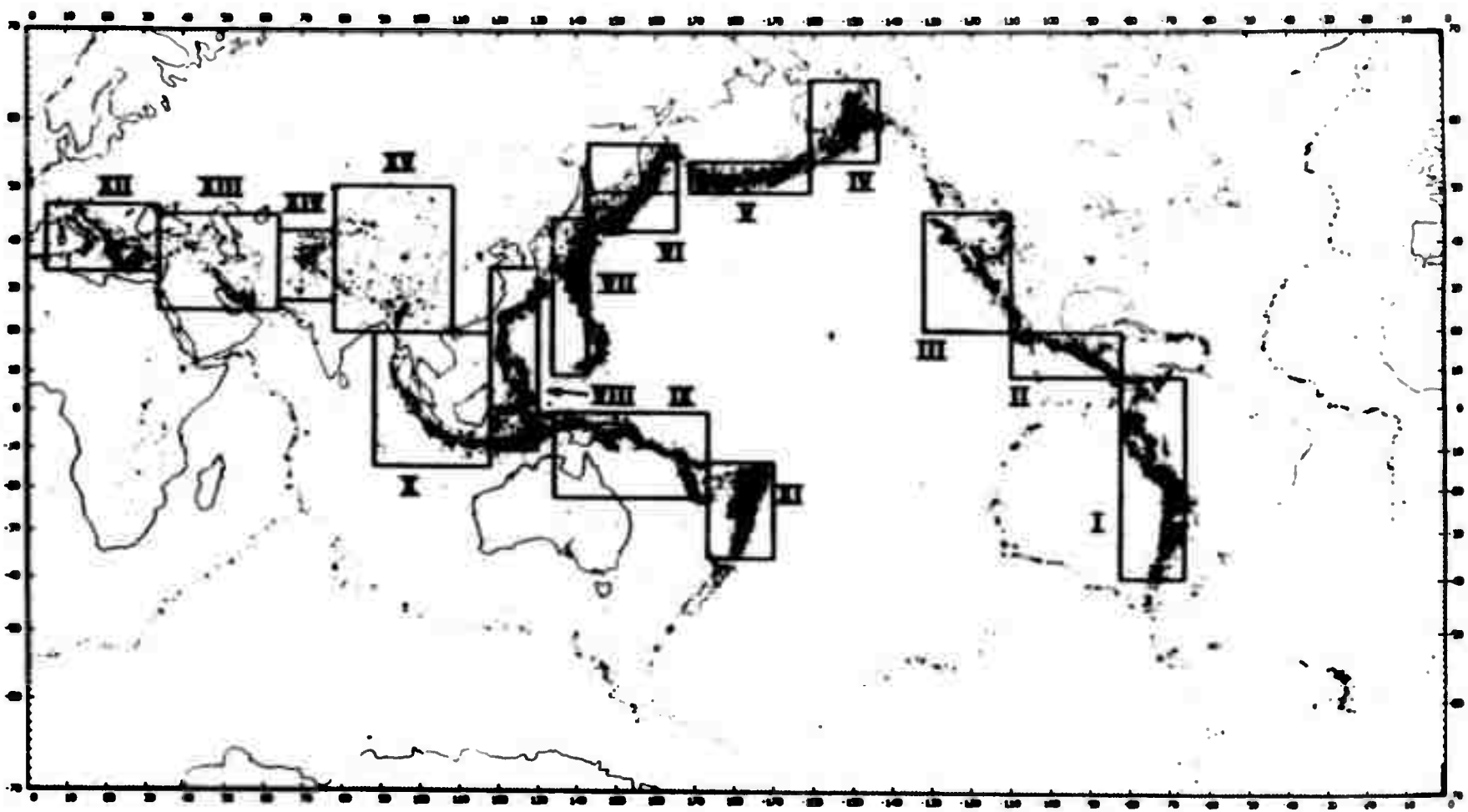


Figure 1. Regions used in coda analysis study.

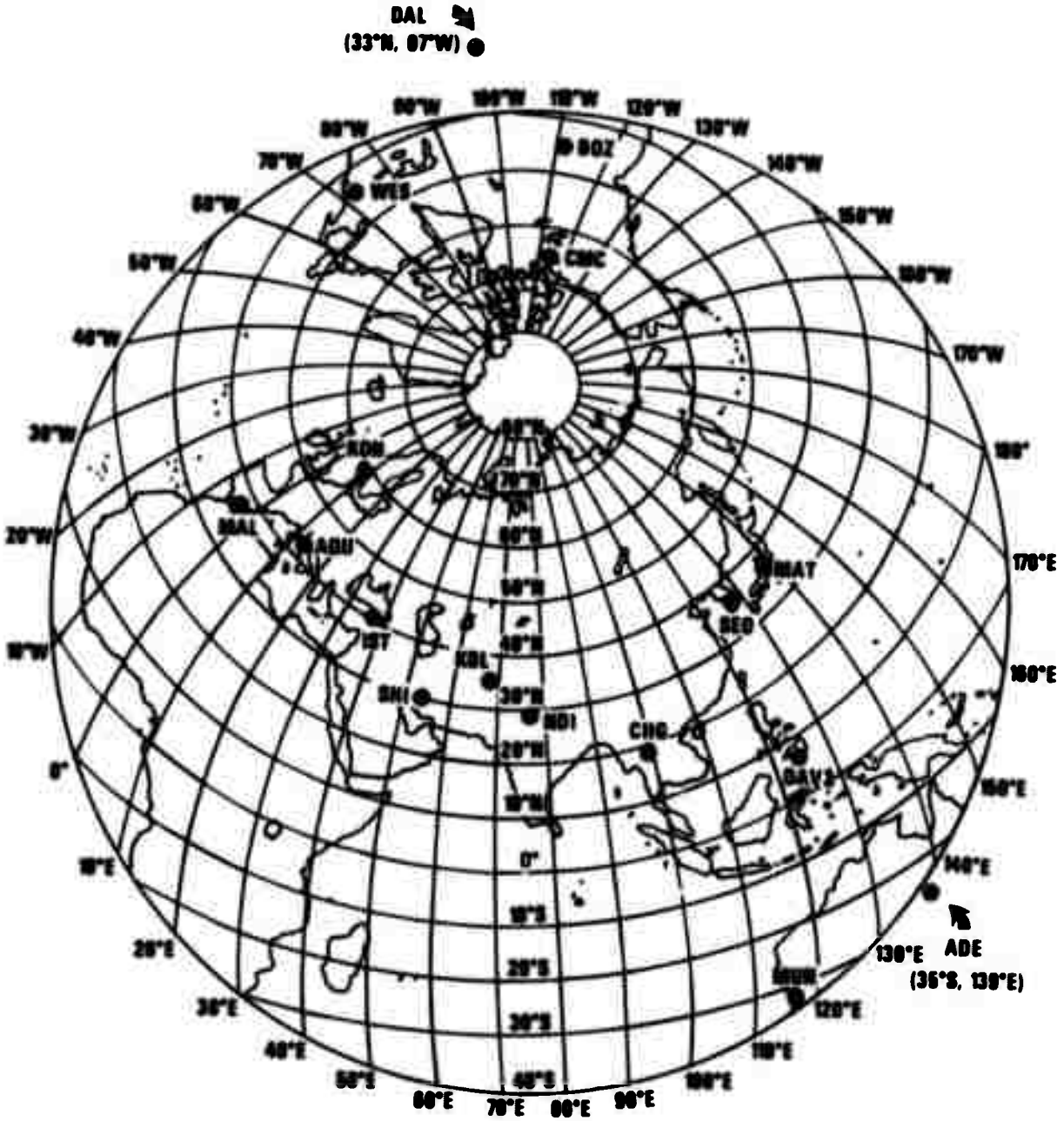


Figure 2. Map showing location of worldwide network.

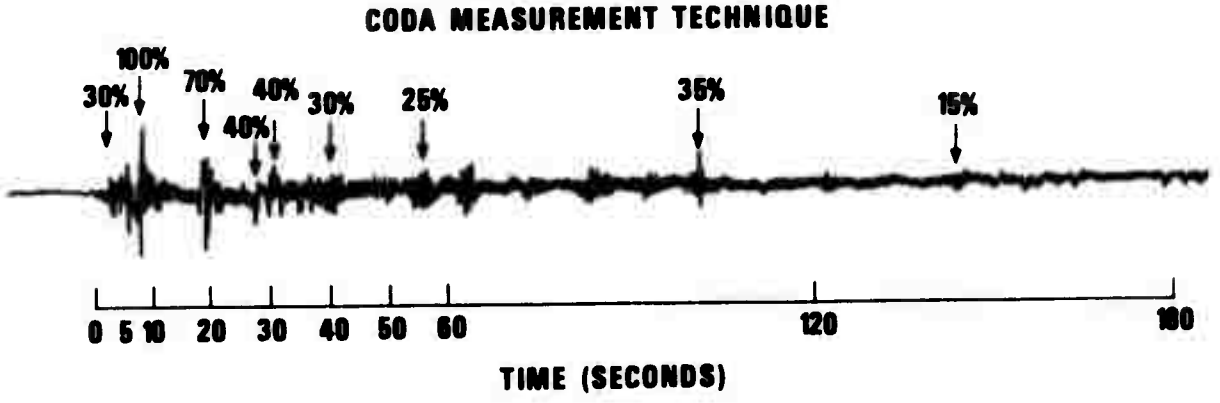


Figure 3. Coda measurement technique.

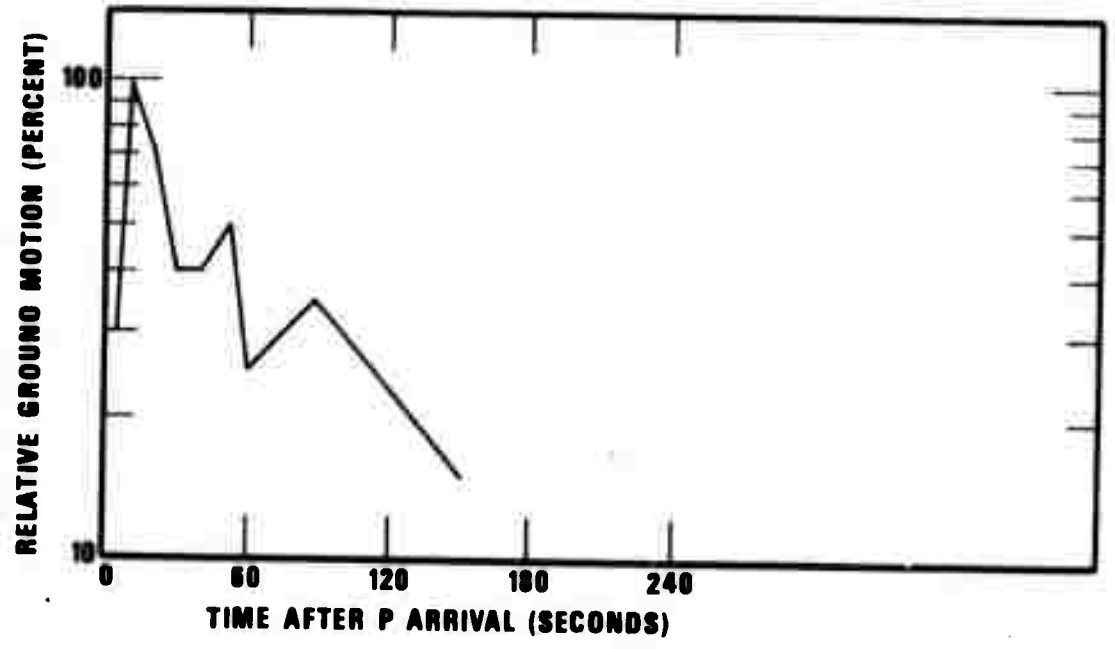


Figure 4a. Single coda determinant.

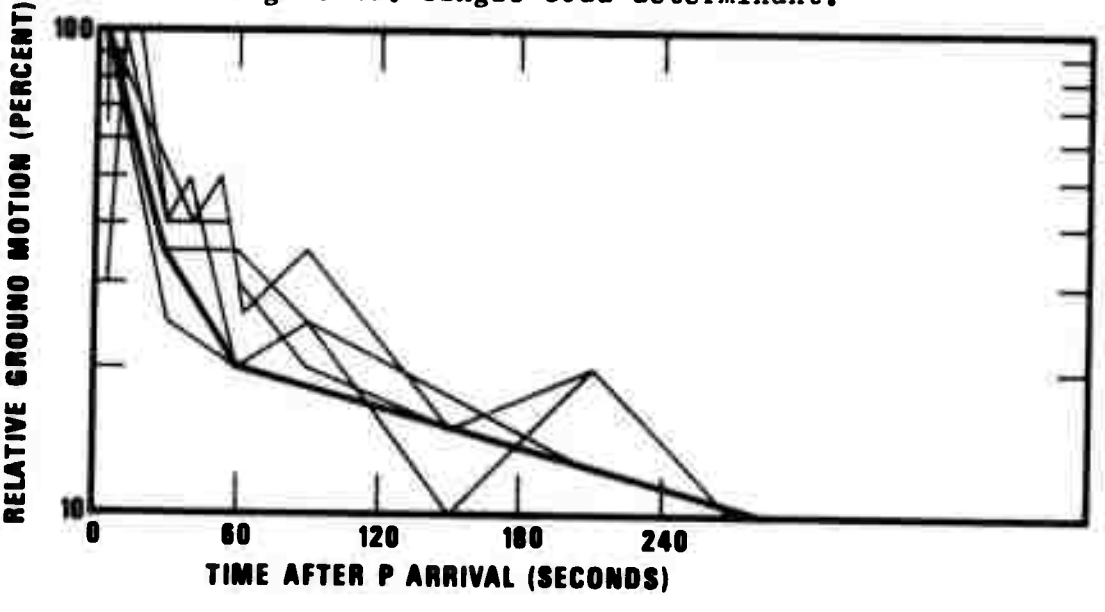


Figure 4b. Determination of representative coda envelope from a set of coda determinations.

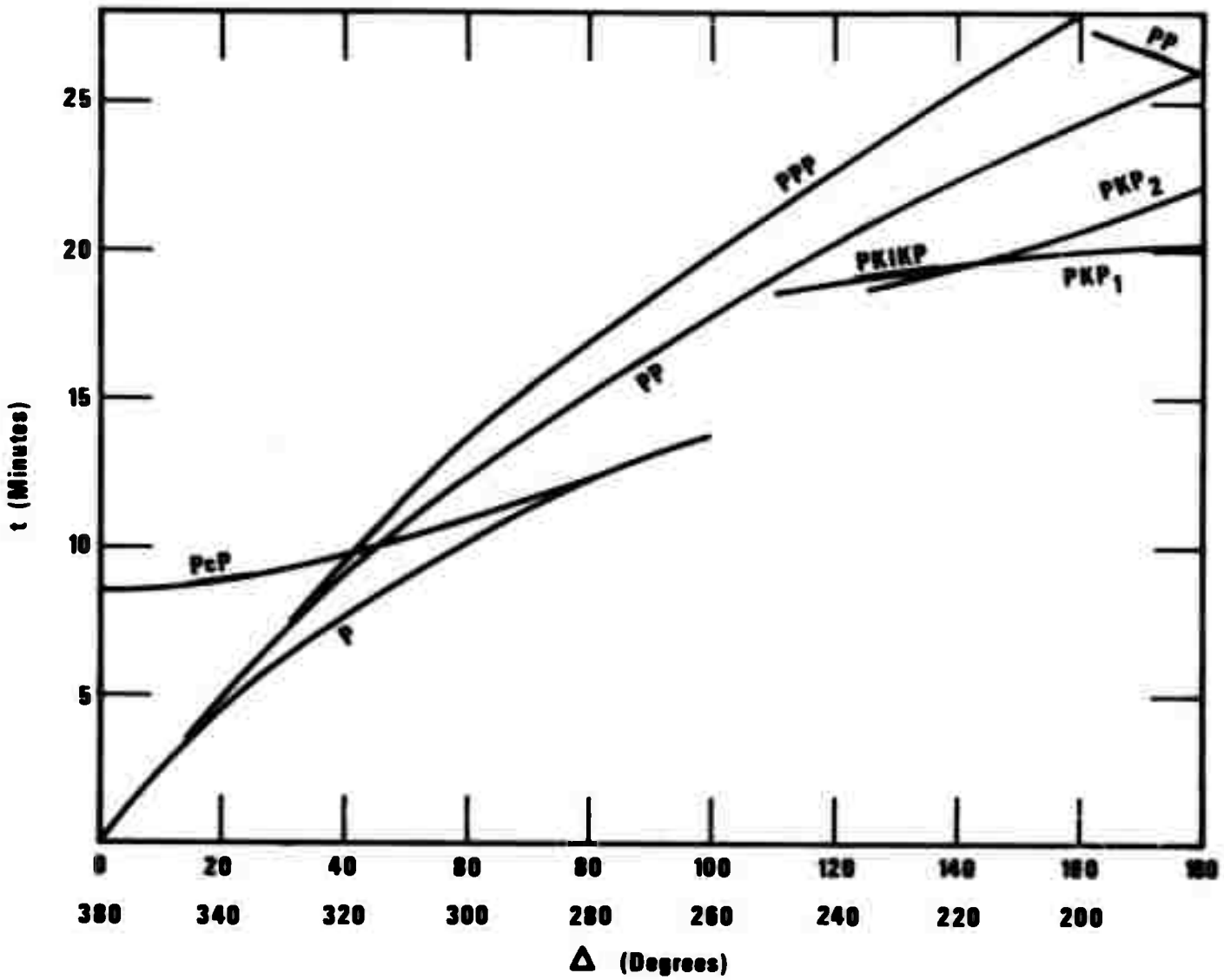
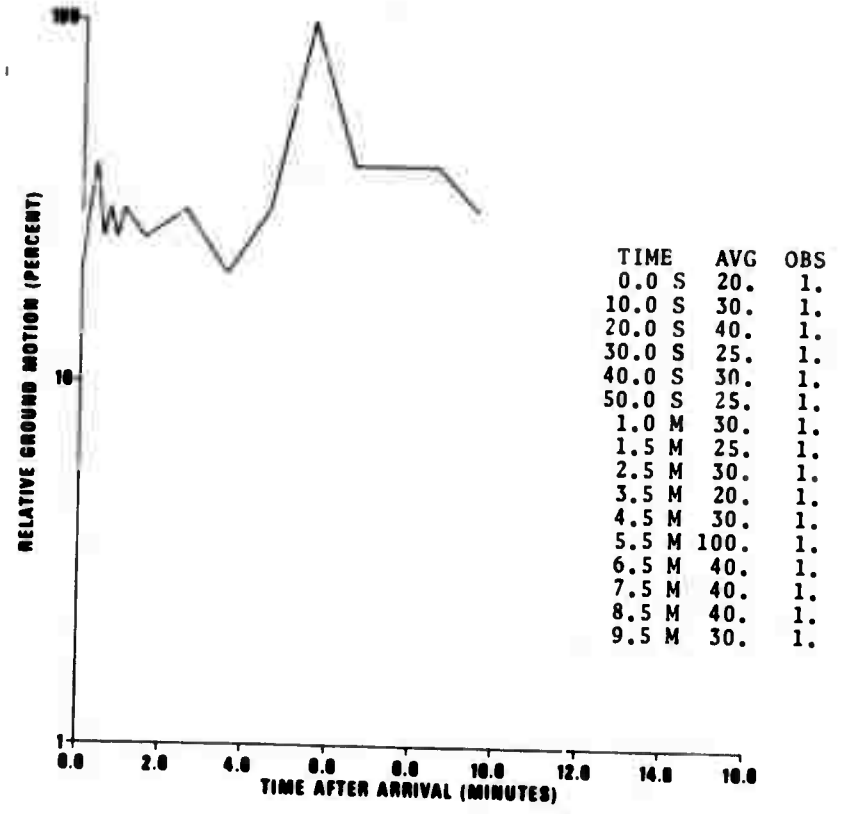
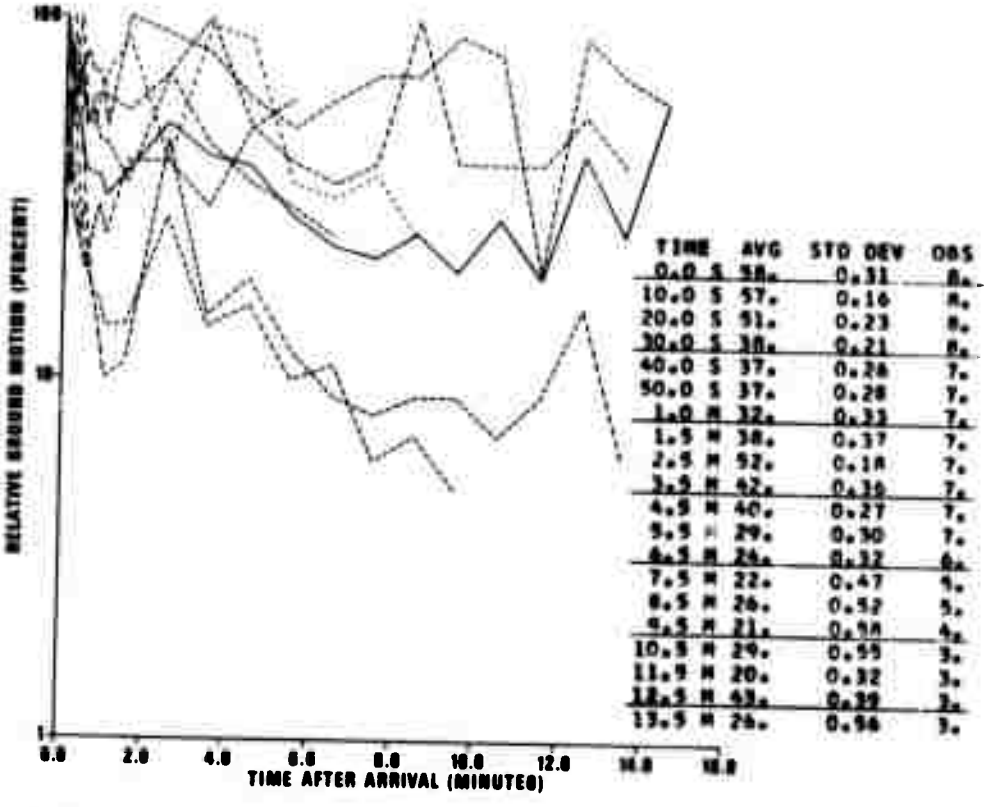


Figure 5. Travel-time curves for P phases.



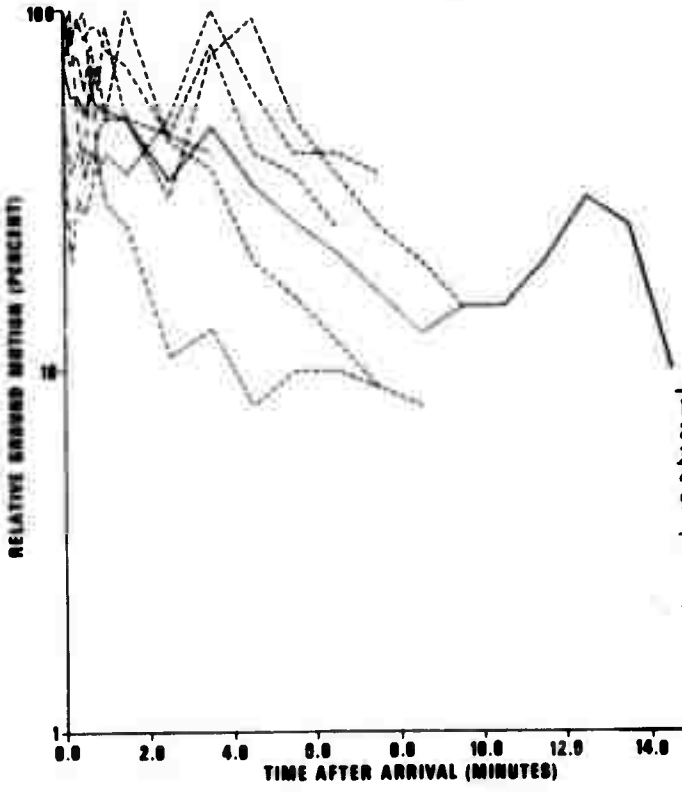
TIME	AVG	OBS
0.0 S	20.	1.
10.0 S	30.	1.
20.0 S	40.	1.
30.0 S	25.	1.
40.0 S	30.	1.
50.0 S	25.	1.
1.0 M	30.	1.
1.5 M	25.	1.
2.5 M	30.	1.
3.5 M	20.	1.
4.5 M	30.	1.
5.5 M	100.	1.
6.5 M	40.	1.
7.5 M	40.	1.
8.5 M	40.	1.
9.5 M	30.	1.

Figure 6. P coda characteristics, South America, ADE.



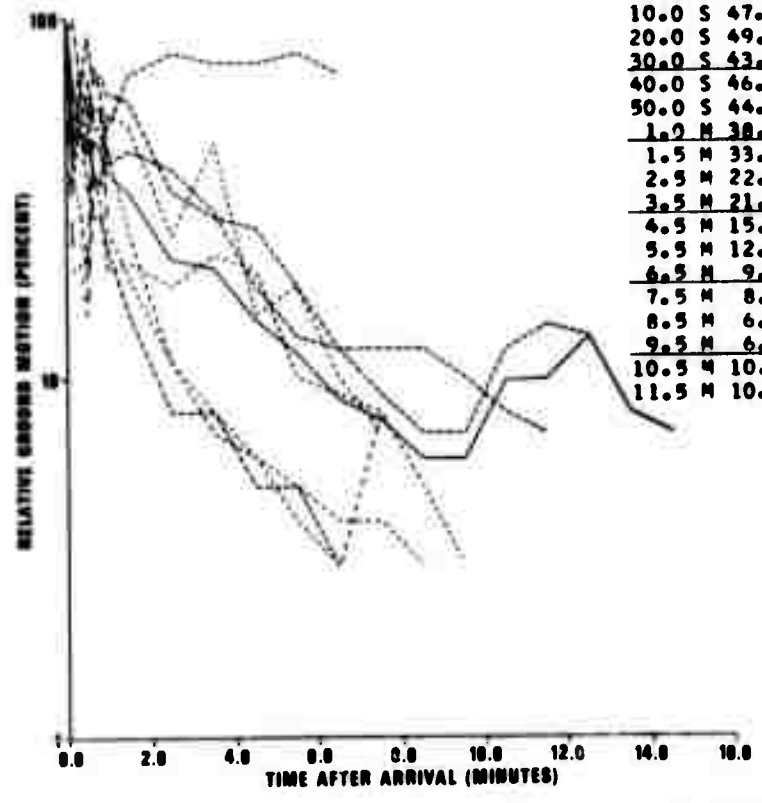
TIME	AVG	STD DEV	OBS
0.0 S	58.	0.31	8.
10.0 S	57.	0.16	8.
20.0 S	51.	0.23	8.
30.0 S	38.	0.21	8.
40.0 S	37.	0.28	7.
50.0 S	37.	0.28	7.
1.0 M	32.	0.33	7.
1.5 M	38.	0.37	7.
2.5 M	52.	0.18	7.
3.5 M	42.	0.36	7.
4.5 M	40.	0.27	7.
5.5 M	29.	0.30	7.
6.5 M	24.	0.32	6.
7.5 M	22.	0.47	4.
8.5 M	26.	0.52	5.
9.5 M	21.	0.58	4.
10.5 M	29.	0.55	3.
11.5 M	20.	0.32	3.
12.5 M	43.	0.39	3.
13.5 M	26.	0.56	3.

Figure 7. PKP coda characteristics, South America, ADE.



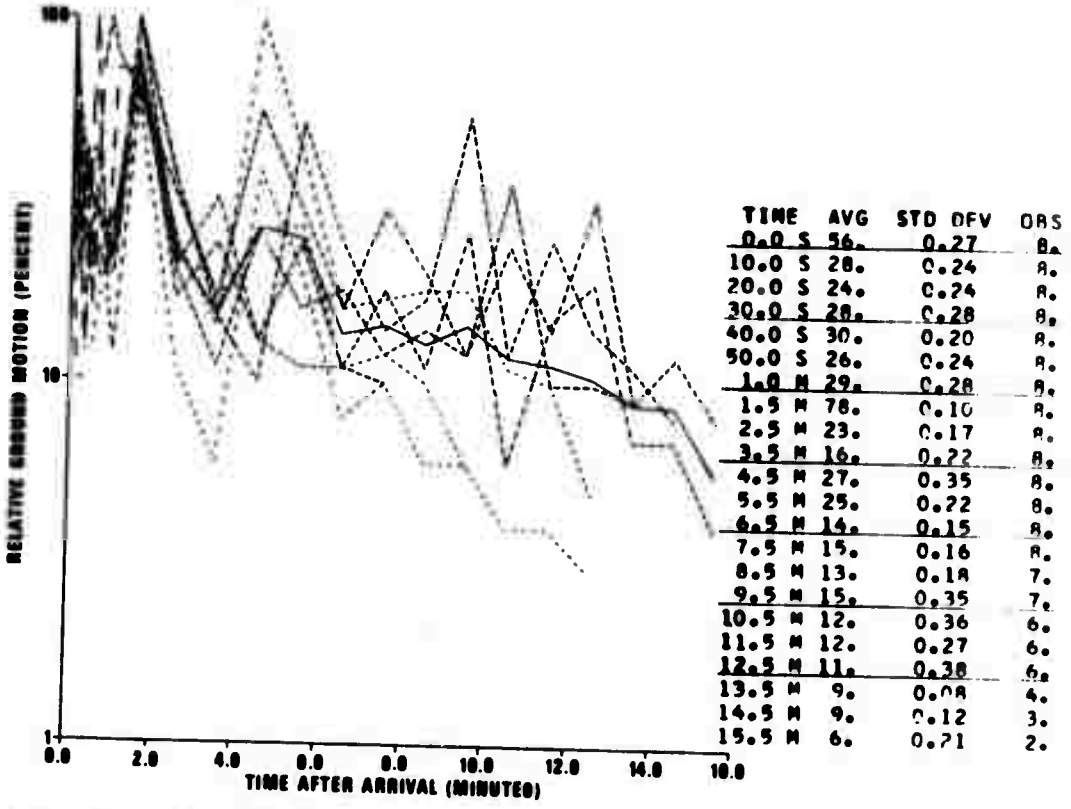
TIME		AVG	STD DEV	OBS
0.0	S	71.	0.17	6.
10.0	S	58.	0.28	6.
20.0	S	58.	0.20	6.
30.0	S	52.	0.23	6.
40.0	S	59.	0.18	6.
50.0	S	54.	0.16	6.
1.0	M	53.	0.18	6.
1.5	M	50.	0.21	6.
2.5	M	34.	0.25	6.
3.5	M	48.	0.33	6.
4.5	M	33.	0.42	5.
5.5	M	26.	0.30	5.
6.5	M	22.	0.27	5.
7.5	M	17.	0.30	4.
8.5	M	13.	0.28	2.

Figure 8. P coda characteristics, South America, AQU.



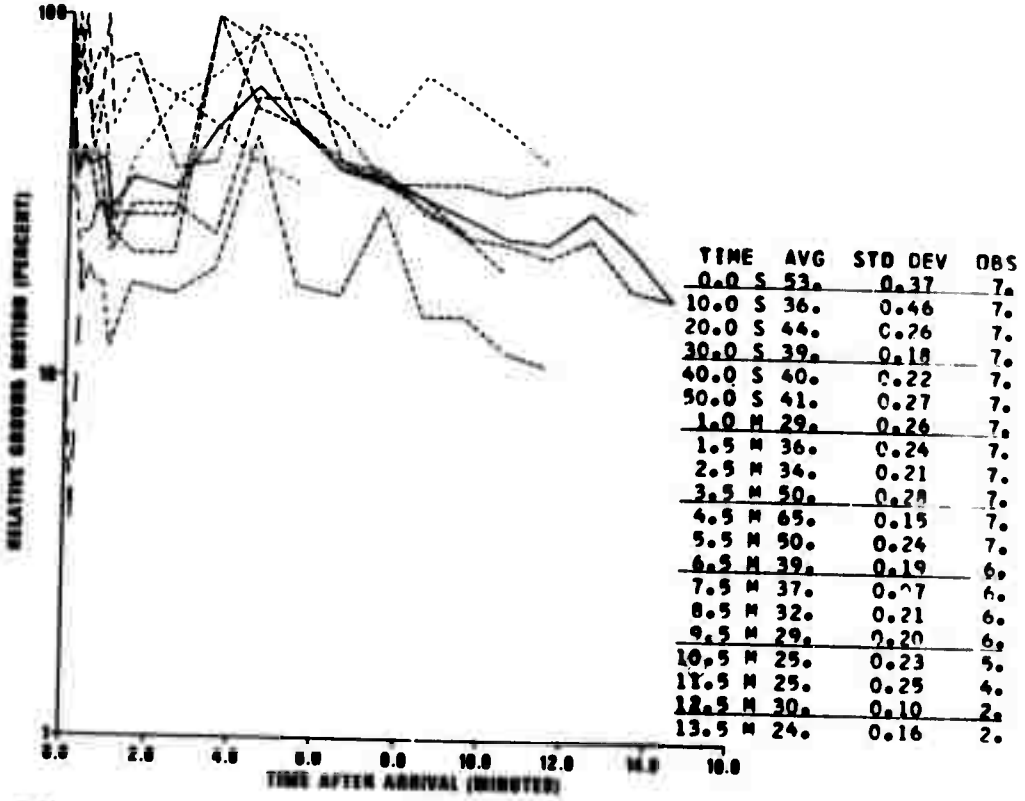
TIME		AVG	STD DEV	OBS
0.0	S	99.	0.02	8.
10.0	S	47.	0.21	8.
20.0	S	49.	0.19	8.
30.0	S	43.	0.28	8.
40.0	S	46.	0.15	8.
50.0	S	44.	0.15	8.
1.0	M	38.	0.19	8.
1.5	M	33.	0.25	8.
2.5	M	22.	0.33	8.
3.5	M	21.	0.38	8.
4.5	M	15.	0.40	8.
5.5	M	12.	0.42	8.
6.5	M	9.	0.45	8.
7.5	M	8.	0.16	6.
8.5	M	6.	0.25	4.
9.5	M	6.	0.27	3.
10.5	M	10.	0.12	2.
11.5	M	10.	0.21	2.

Figure 9. P coda characteristics, South America, BOZ.



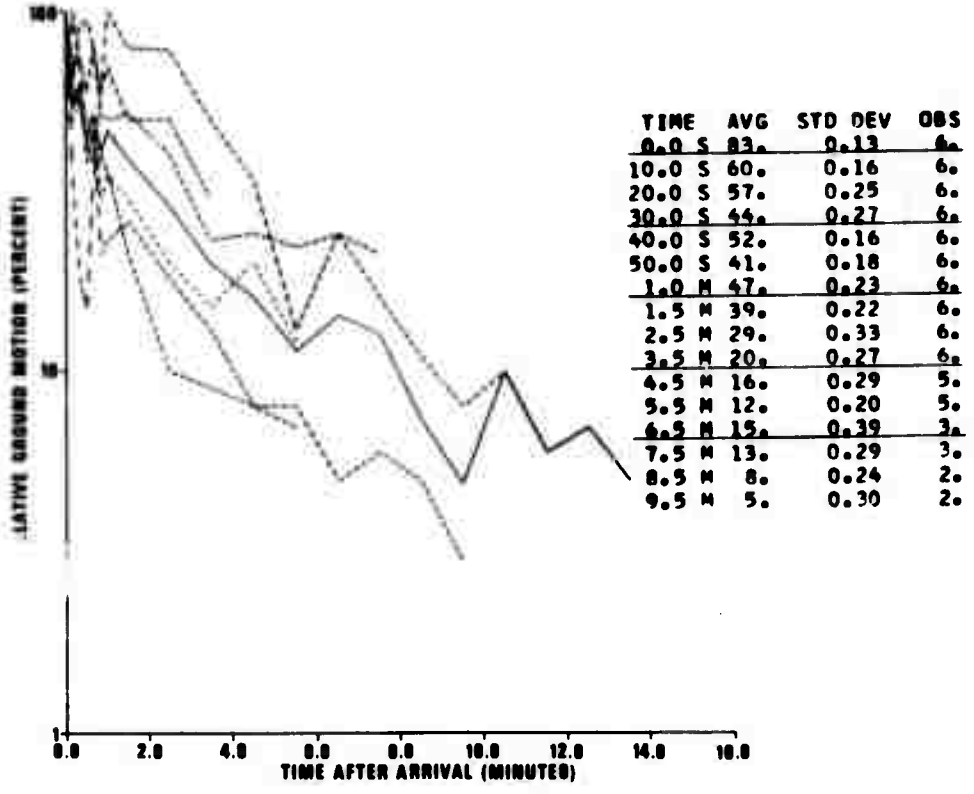
TIME		AVG	STD DEV	OBS
0.0	S	56.	0.27	8.
10.0	S	28.	0.24	8.
20.0	S	24.	0.24	8.
30.0	S	28.	0.28	8.
40.0	S	30.	0.20	8.
50.0	S	26.	0.24	8.
1.0	M	29.	0.28	8.
1.5	M	78.	0.10	8.
2.5	M	23.	0.17	8.
3.5	M	16.	0.22	8.
4.5	M	27.	0.35	8.
5.5	M	25.	0.22	8.
6.5	M	14.	0.15	8.
7.5	M	15.	0.16	8.
8.5	M	13.	0.18	7.
9.5	M	15.	0.35	7.
10.5	M	12.	0.36	6.
11.5	M	12.	0.27	6.
12.5	M	11.	0.38	6.
13.5	M	9.	0.08	4.
14.5	M	9.	0.12	3.
15.5	M	6.	0.21	2.

Figure 10. PKP coda characteristics, South America, CHG.



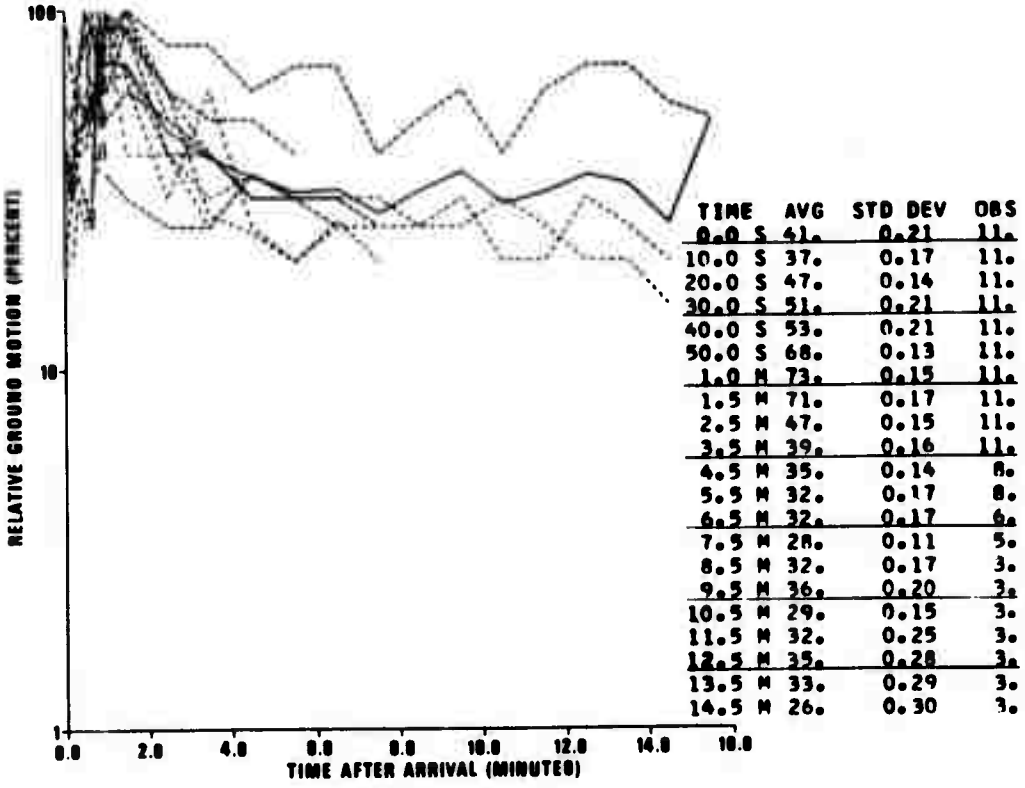
TIME		AVG	STD DEV	OBS
0.0	S	53.	0.37	7.
10.0	S	36.	0.46	7.
20.0	S	44.	0.26	7.
30.0	S	39.	0.18	7.
40.0	S	40.	0.22	7.
50.0	S	41.	0.27	7.
1.0	M	29.	0.26	7.
1.5	M	36.	0.24	7.
2.5	M	34.	0.21	7.
3.5	M	50.	0.28	7.
4.5	M	65.	0.15	7.
5.5	M	50.	0.24	7.
6.5	M	39.	0.19	6.
7.5	M	37.	0.17	6.
8.5	M	32.	0.21	6.
9.5	M	29.	0.20	6.
10.5	M	25.	0.23	5.
11.5	M	25.	0.25	4.
12.5	M	30.	0.10	2.
13.5	M	24.	0.16	2.

Figure 11. P coda characteristics, South America, CMC.



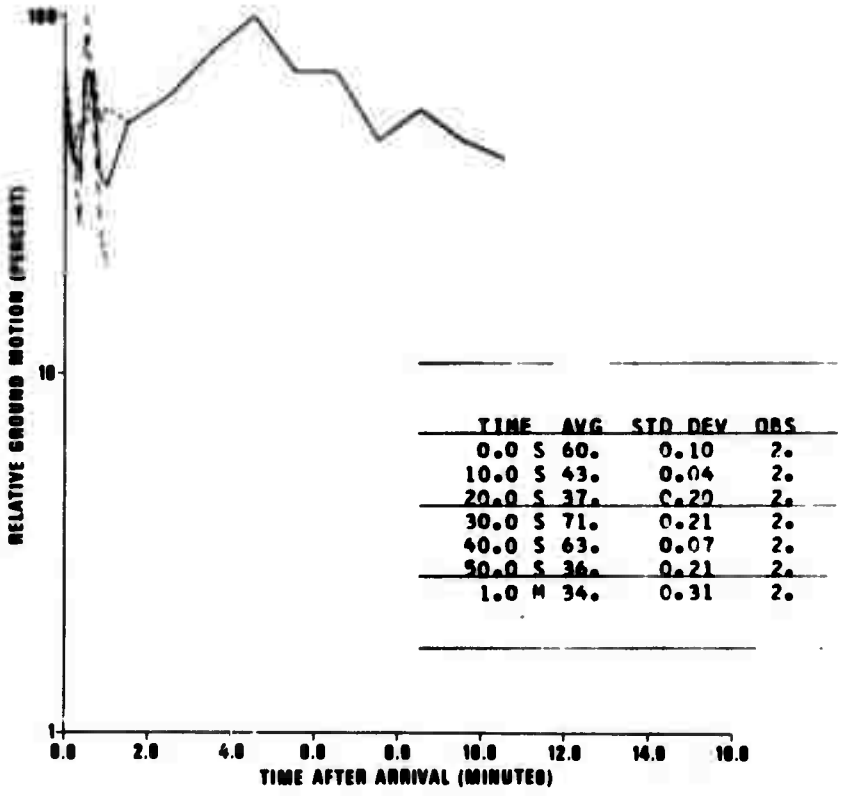
TIME		AVG	STD DEV	OBS
0.0	S	83.	0.13	6.
10.0	S	60.	0.16	6.
20.0	S	57.	0.25	6.
30.0	S	44.	0.27	6.
40.0	S	52.	0.16	6.
50.0	S	41.	0.18	6.
1.0	M	47.	0.23	6.
1.5	M	39.	0.22	6.
2.5	M	29.	0.33	6.
3.5	M	20.	0.27	6.
4.5	M	16.	0.29	5.
5.5	M	12.	0.20	5.
6.5	M	15.	0.39	3.
7.5	M	13.	0.29	3.
8.5	M	8.	0.24	2.
9.5	M	5.	0.30	2.

Figure 12. P coda characteristics, South America, DAL.



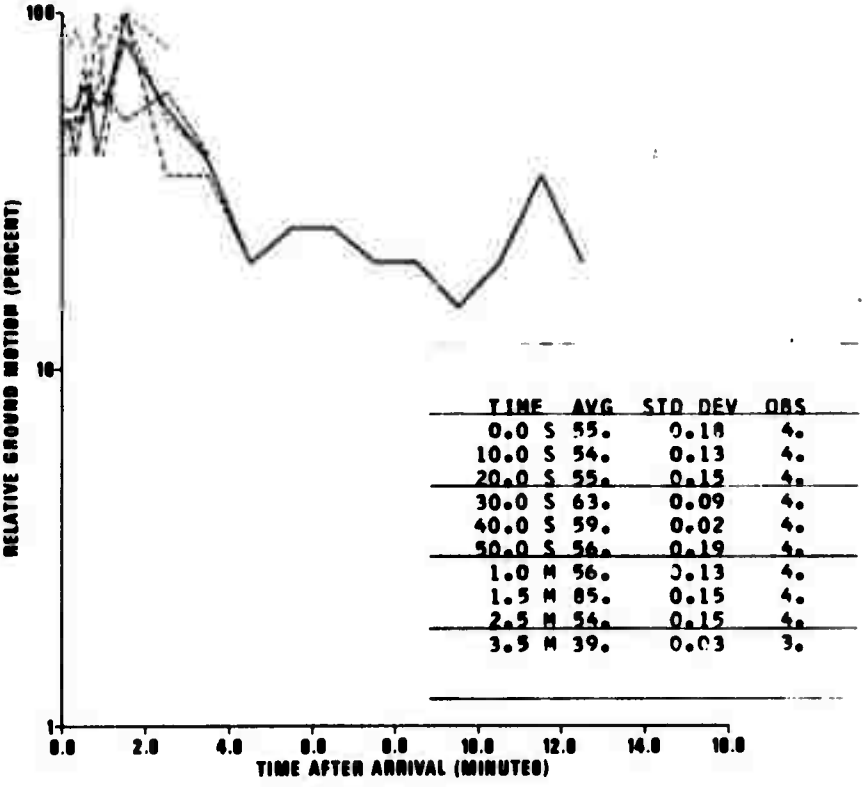
TIME		AVG	STD DEV	OBS
0.0	S	41.	0.21	11.
10.0	S	37.	0.17	11.
20.0	S	47.	0.14	11.
30.0	S	51.	0.21	11.
40.0	S	53.	0.21	11.
50.0	S	68.	0.13	11.
1.0	M	73.	0.15	11.
1.5	M	71.	0.17	11.
2.5	M	47.	0.15	11.
3.5	M	39.	0.16	11.
4.5	M	35.	0.14	8.
5.5	M	32.	0.17	8.
6.5	M	32.	0.17	6.
7.5	M	28.	0.11	5.
8.5	M	32.	0.17	3.
9.5	M	36.	0.20	3.
10.5	M	29.	0.15	3.
11.5	M	32.	0.25	3.
12.5	M	35.	0.28	3.
13.5	M	33.	0.29	3.
14.5	M	26.	0.30	3.

Figure 13. P coda characteristics, South America, DAV.



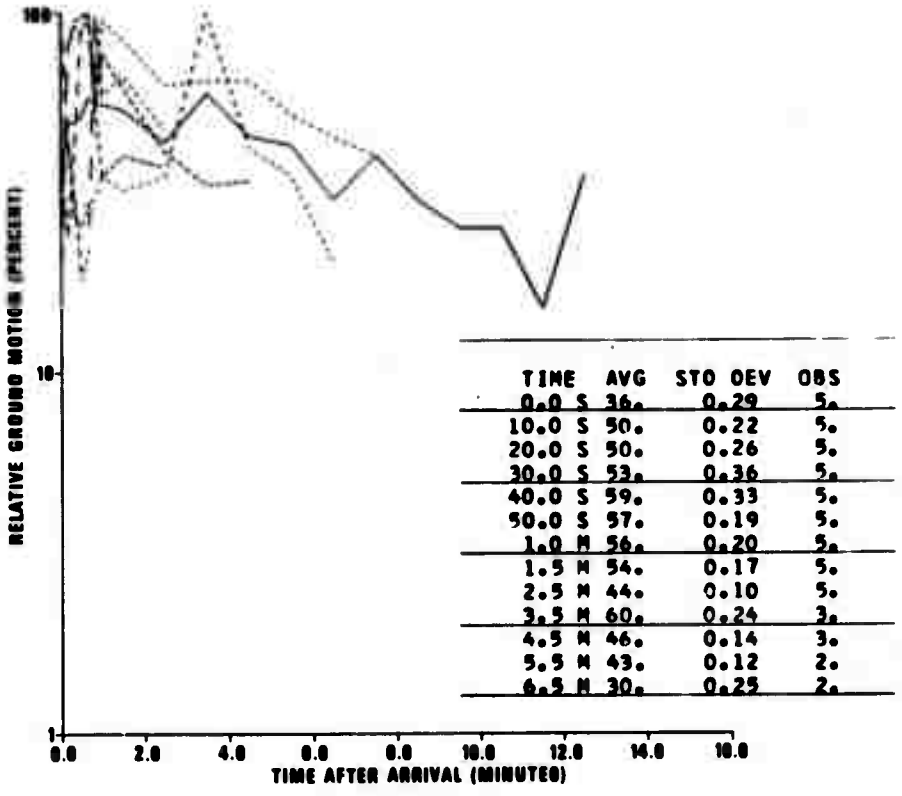
TIME	AVG	STD DEV	OBS
0.0 S	60.	0.10	2.
10.0 S	43.	0.04	2.
20.0 S	37.	0.20	2.
30.0 S	71.	0.21	2.
40.0 S	63.	0.07	2.
50.0 S	36.	0.21	2.
1.0 M	34.	0.31	2.

Figure 14. P coda characteristics, South America, IST.



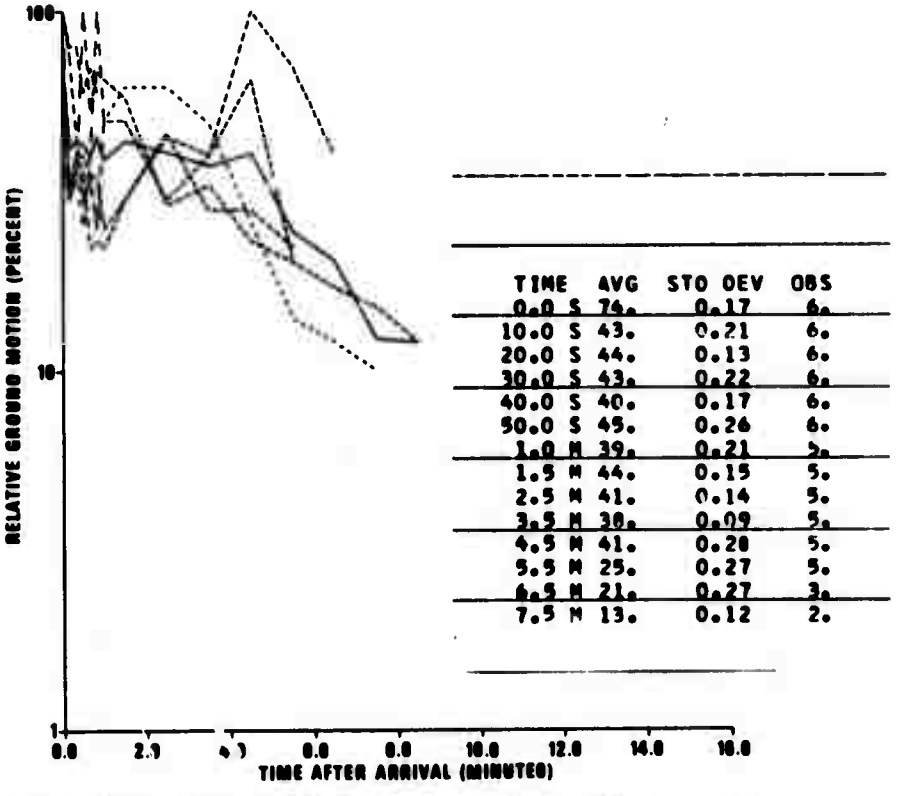
TIME	AVG	STD DEV	OBS
0.0 S	55.	0.18	4.
10.0 S	54.	0.13	4.
20.0 S	55.	0.15	4.
30.0 S	63.	0.09	4.
40.0 S	59.	0.02	4.
50.0 S	56.	0.19	4.
1.0 M	56.	0.13	4.
1.5 M	85.	0.15	4.
2.5 M	54.	0.15	4.
3.5 M	39.	0.03	3.

Figure 15. PKP coda characteristics, South America, IST.



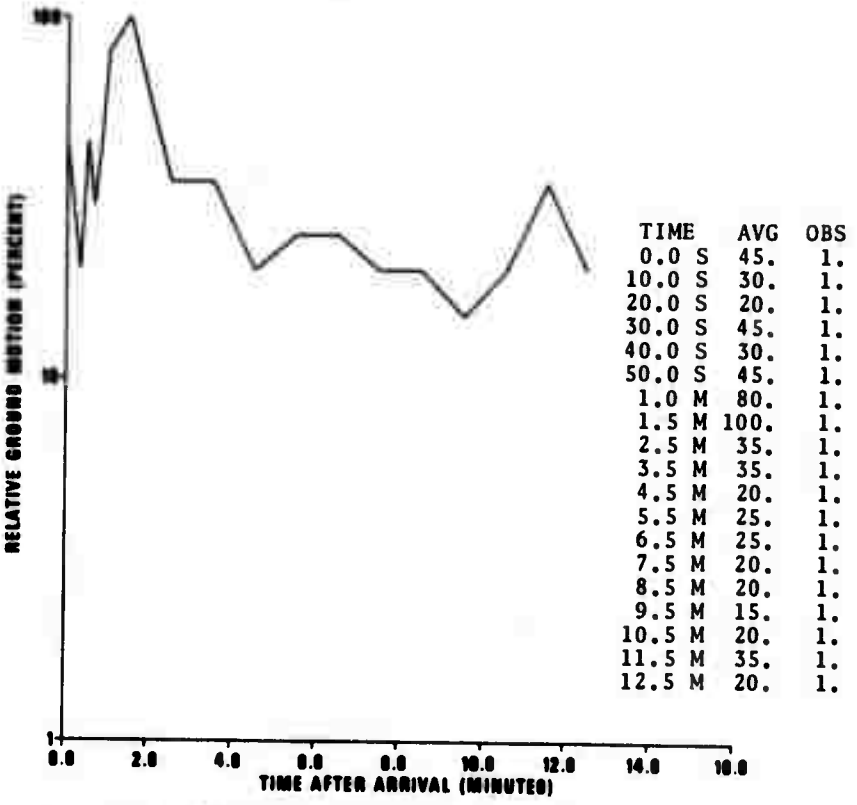
TIME	AVG	STD DEV	OBS
0.0 S	36.	0.29	5.
10.0 S	50.	0.22	5.
20.0 S	50.	0.26	5.
30.0 S	53.	0.36	5.
40.0 S	59.	0.33	5.
50.0 S	57.	0.19	5.
1.0 M	56.	0.20	5.
1.5 M	54.	0.17	5.
2.5 M	44.	0.10	5.
3.5 M	60.	0.24	3.
4.5 M	46.	0.14	3.
5.5 M	43.	0.12	2.
6.5 M	30.	0.25	2.

Figure 16. PKP coda characteristics, South America, KBL.



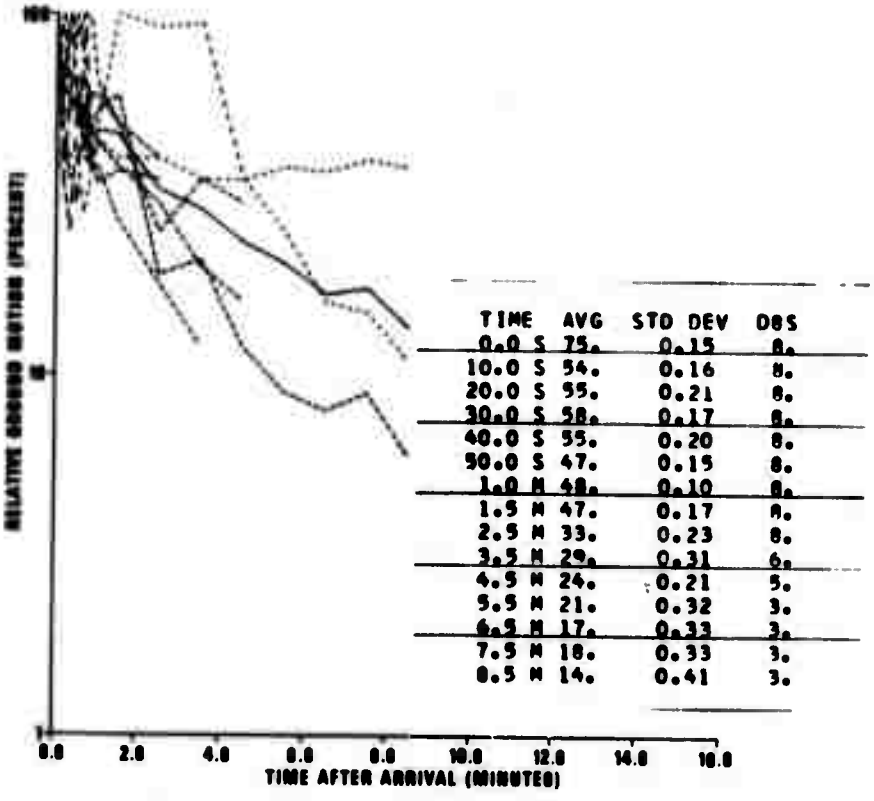
TIME	AVG	STD DEV	OBS
0.0 S	74.	0.17	6.
10.0 S	43.	0.21	6.
20.0 S	44.	0.13	6.
30.0 S	43.	0.22	6.
40.0 S	40.	0.17	6.
50.0 S	45.	0.26	6.
1.0 M	39.	0.21	5.
1.5 M	44.	0.15	5.
2.5 M	41.	0.14	5.
3.5 M	38.	0.09	5.
4.5 M	41.	0.28	5.
5.5 M	25.	0.27	5.
6.5 M	21.	0.27	3.
7.5 M	13.	0.12	2.

Figure 17. P coda characteristics, South America, KON.



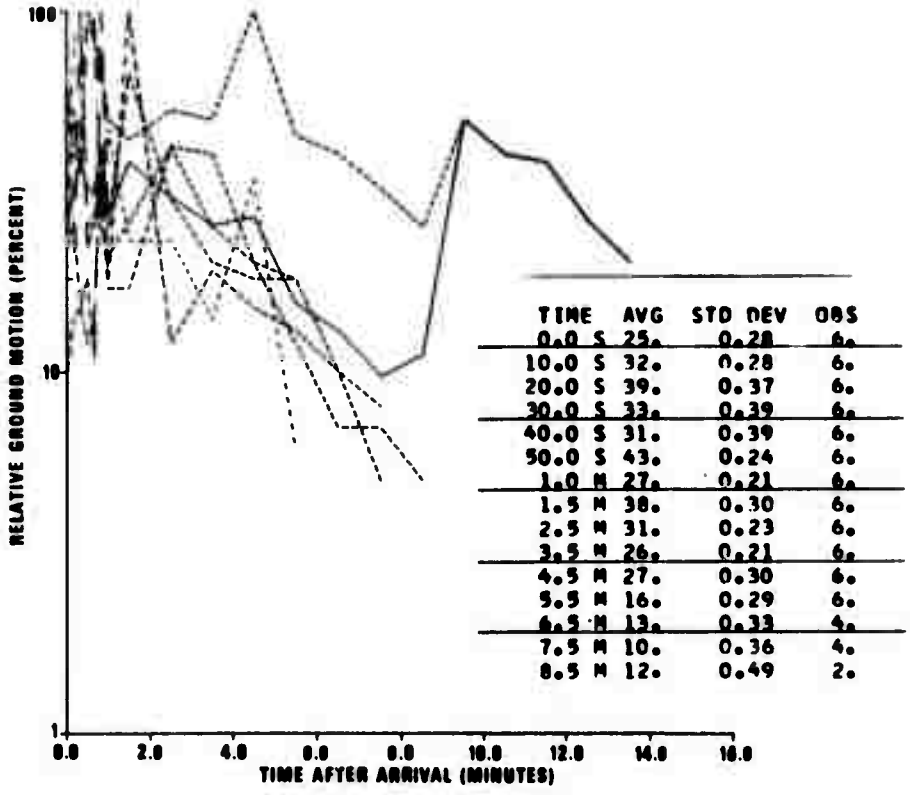
TIME	AVG	OBS
0.0 S	45.	1.
10.0 S	30.	1.
20.0 S	20.	1.
30.0 S	45.	1.
40.0 S	30.	1.
50.0 S	45.	1.
1.0 M	80.	1.
1.5 M	100.	1.
2.5 M	35.	1.
3.5 M	35.	1.
4.5 M	20.	1.
5.5 M	25.	1.
6.5 M	25.	1.
7.5 M	20.	1.
8.5 M	20.	1.
9.5 M	15.	1.
10.5 M	20.	1.
11.5 M	35.	1.
12.5 M	20.	1.

Figure 18. PKP coda characteristics, South America, KON.



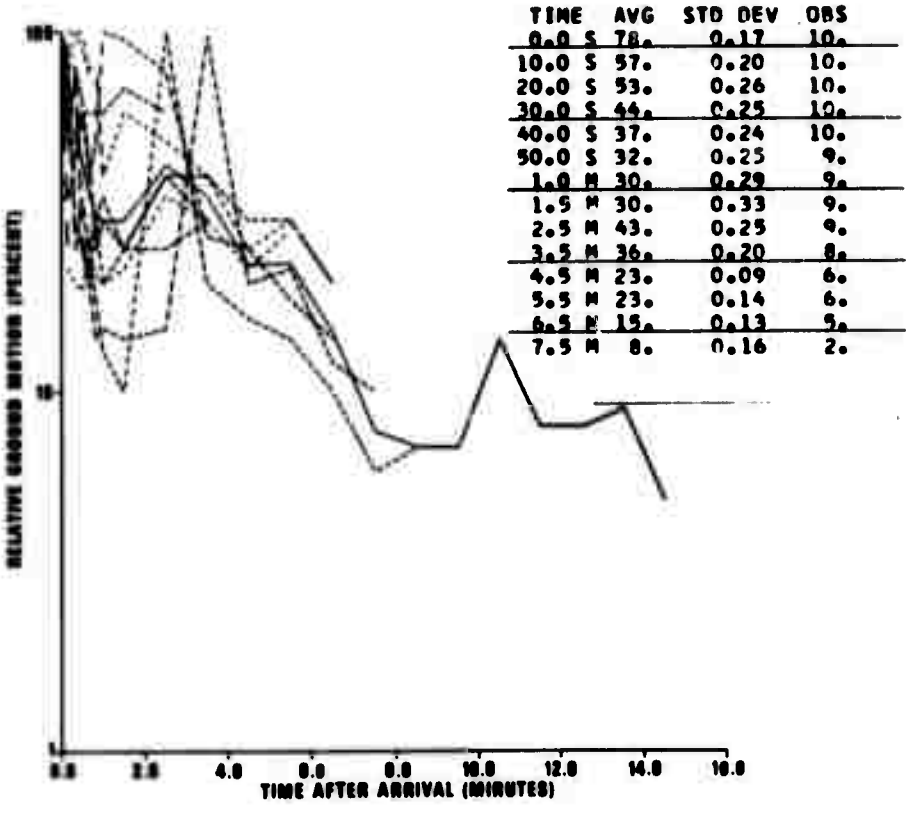
TIME	AVG	STD DEV	OBS
0.0 S	75.	0.15	8.
10.0 S	54.	0.16	8.
20.0 S	55.	0.21	8.
30.0 S	58.	0.17	8.
40.0 S	55.	0.20	8.
50.0 S	47.	0.15	8.
1.0 M	48.	0.10	8.
1.5 M	47.	0.17	8.
2.5 M	33.	0.23	8.
3.5 M	29.	0.31	6.
4.5 M	24.	0.21	5.
5.5 M	21.	0.32	3.
6.5 M	17.	0.33	3.
7.5 M	18.	0.33	3.
8.5 M	14.	0.41	3.

Figure 19. P coda characteristics, South America, MAL.



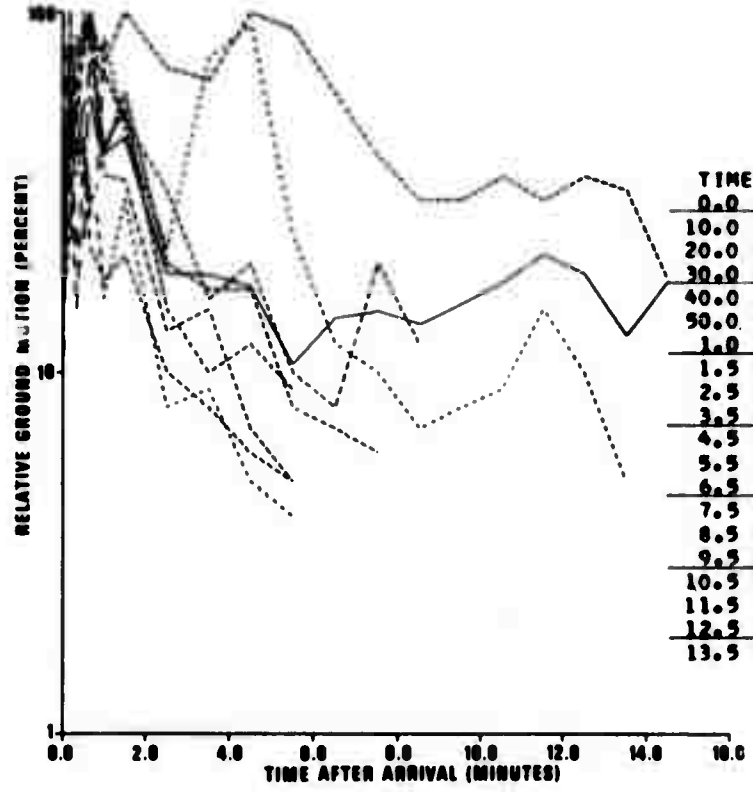
TIME		AVG	STD DEV	OBS
0.0	S	25.	0.28	6.
10.0	S	32.	0.28	6.
20.0	S	39.	0.37	6.
30.0	S	33.	0.39	6.
40.0	S	31.	0.39	6.
50.0	S	43.	0.24	6.
1.0	M	27.	0.21	6.
1.5	M	38.	0.30	6.
2.5	M	31.	0.23	6.
3.5	M	26.	0.21	6.
4.5	M	27.	0.30	6.
5.5	M	16.	0.29	6.
6.5	M	13.	0.33	4.
7.5	M	10.	0.36	4.
8.5	M	12.	0.49	2.

Figure 20. PKP coda characteristics, South America, MAT.



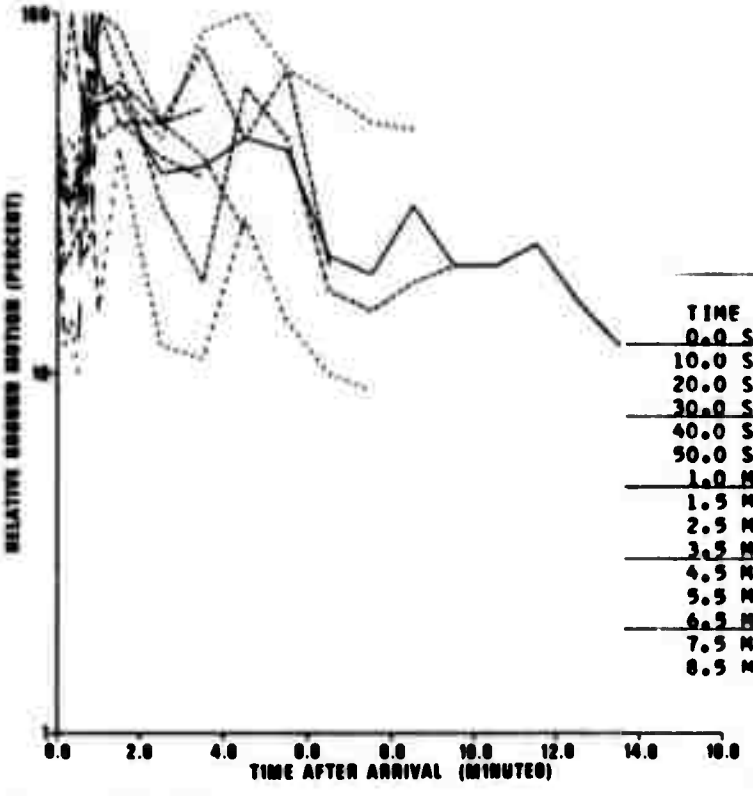
TIME		AVG	STD DEV	OBS
0.0	S	78.	0.17	10.
10.0	S	57.	0.20	10.
20.0	S	53.	0.26	10.
30.0	S	44.	0.25	10.
40.0	S	37.	0.24	10.
50.0	S	32.	0.23	9.
1.0	M	30.	0.29	9.
1.5	M	30.	0.33	9.
2.5	M	43.	0.25	9.
3.5	M	36.	0.20	8.
4.5	M	23.	0.09	6.
5.5	M	23.	0.14	6.
6.5	M	15.	0.13	5.
7.5	M	8.	0.16	2.

Figure 21. PKP coda characteristics, South America, MUN.



TIME	AVG	STD DEV	OBS
0.0 S	22.	0.33	8.
10.0 S	57.	0.22	8.
20.0 S	40.	0.26	8.
30.0 S	56.	0.24	8.
40.0 S	59.	0.30	8.
50.0 S	46.	0.22	8.
1.0 M	41.	0.27	8.
1.5 M	45.	0.21	8.
2.5 M	19.	0.30	8.
3.5 M	19.	0.37	8.
4.5 M	18.	0.51	8.
5.5 M	11.	0.45	8.
6.5 M	15.	0.43	4.
7.5 M	15.	0.36	4.
8.5 M	14.	0.32	3.
9.5 M	16.	0.41	2.
10.5 M	18.	0.42	2.
11.5 M	22.	0.21	2.
12.5 M	19.	0.38	2.
13.5 M	13.	0.57	2.

Figure 22. PKP coda characteristics, South America, NDI.



TIME	AVG	STD DEV	OBS
0.0 S	40.	0.15	7.
10.0 S	31.	0.24	7.
20.0 S	32.	0.27	7.
30.0 S	31.	0.26	7.
40.0 S	41.	0.24	7.
50.0 S	56.	0.23	7.
1.0 M	57.	0.28	7.
1.5 M	60.	0.11	7.
2.5 M	37.	0.23	7.
3.5 M	38.	0.33	7.
4.5 M	46.	0.25	5.
5.5 M	42.	0.33	4.
6.5 M	22.	0.33	4.
7.5 M	19.	0.38	3.
8.5 M	30.	0.30	2.

Figure 23. PKP coda characteristics, South America, SEO.

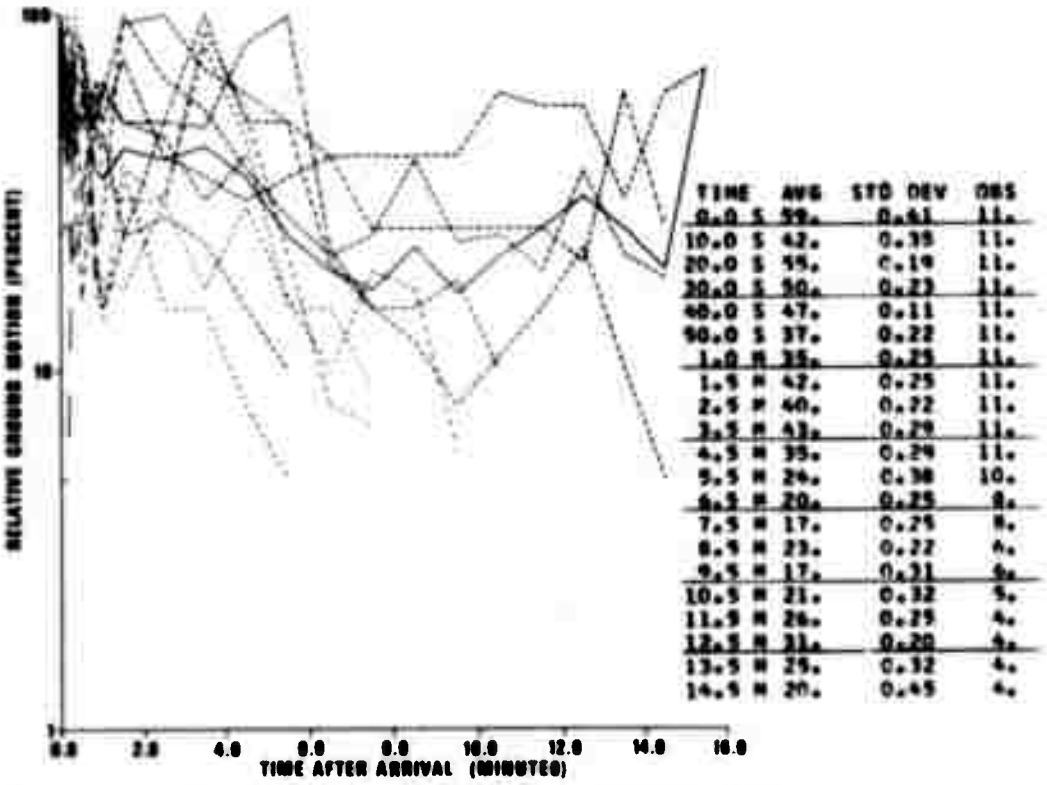


Figure 24. PKP coda characteristics, South America, SHI.

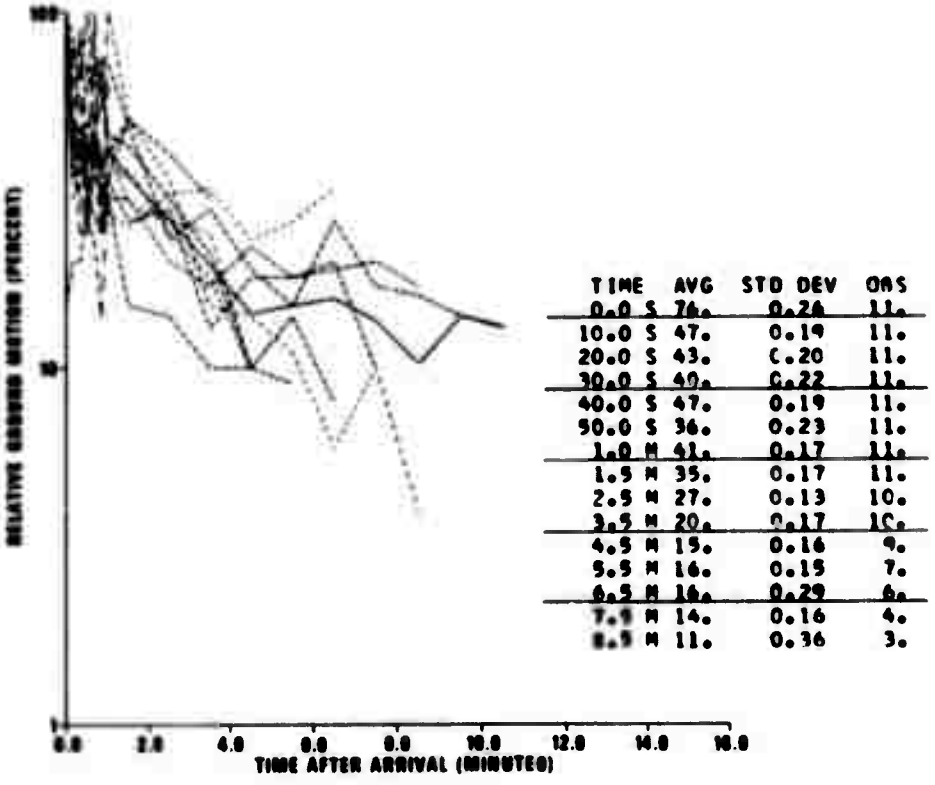
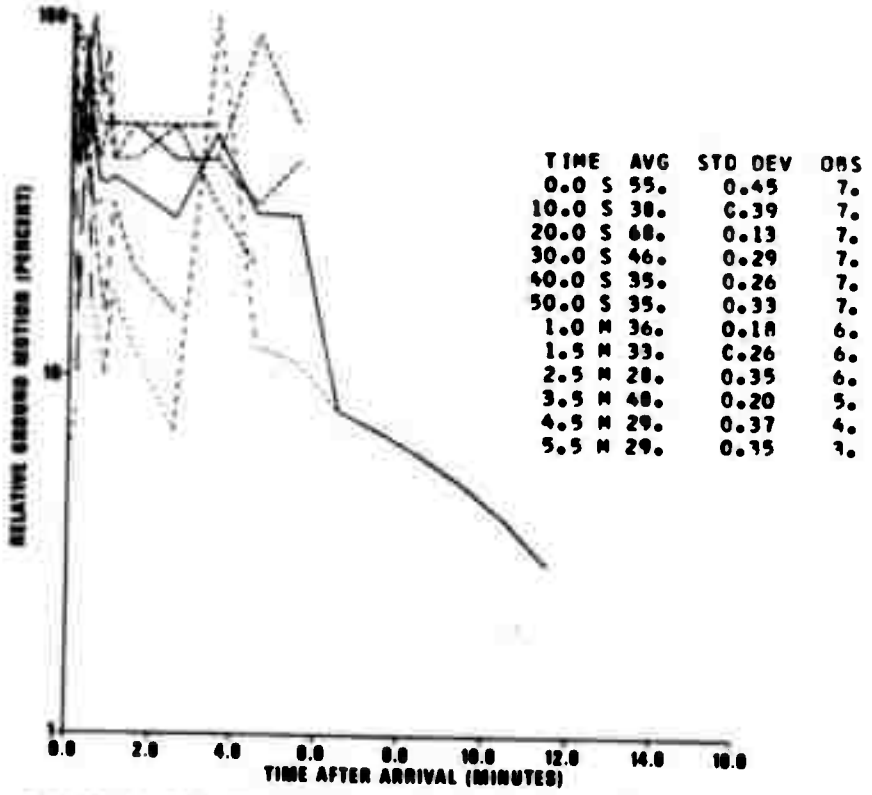
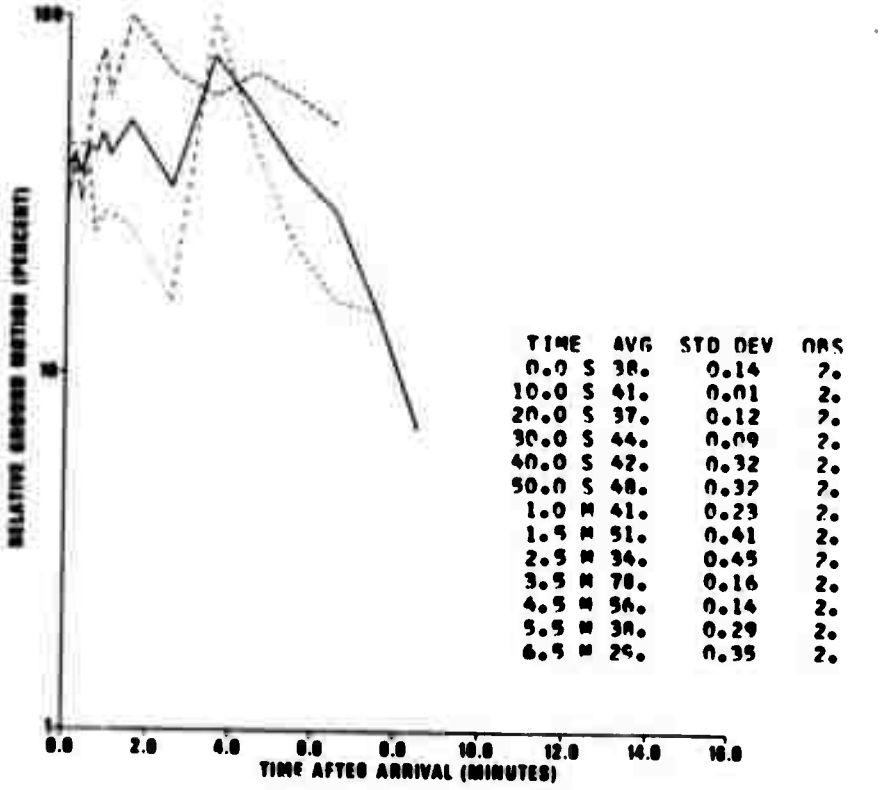


Figure 25. P coda characteristics, South America, WES.



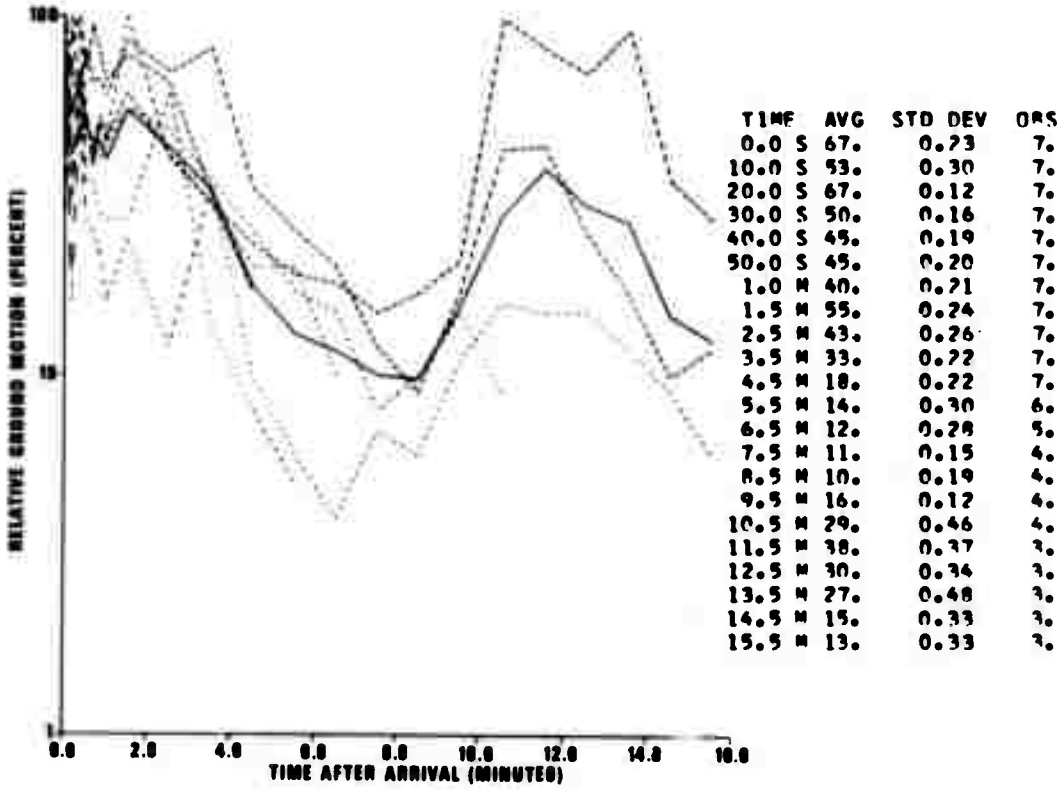
TIME	AVG	STD DEV	OBS
0.0 S	55.	0.45	7.
10.0 S	38.	0.39	7.
20.0 S	68.	0.13	7.
30.0 S	46.	0.29	7.
40.0 S	35.	0.26	7.
50.0 S	35.	0.33	7.
1.0 M	36.	0.18	6.
1.5 M	33.	0.26	6.
2.5 M	28.	0.35	6.
3.5 M	48.	0.20	5.
4.5 M	29.	0.37	4.
5.5 M	29.	0.35	3.

Figure 26. PKP coda characteristics, Central America, ADE.



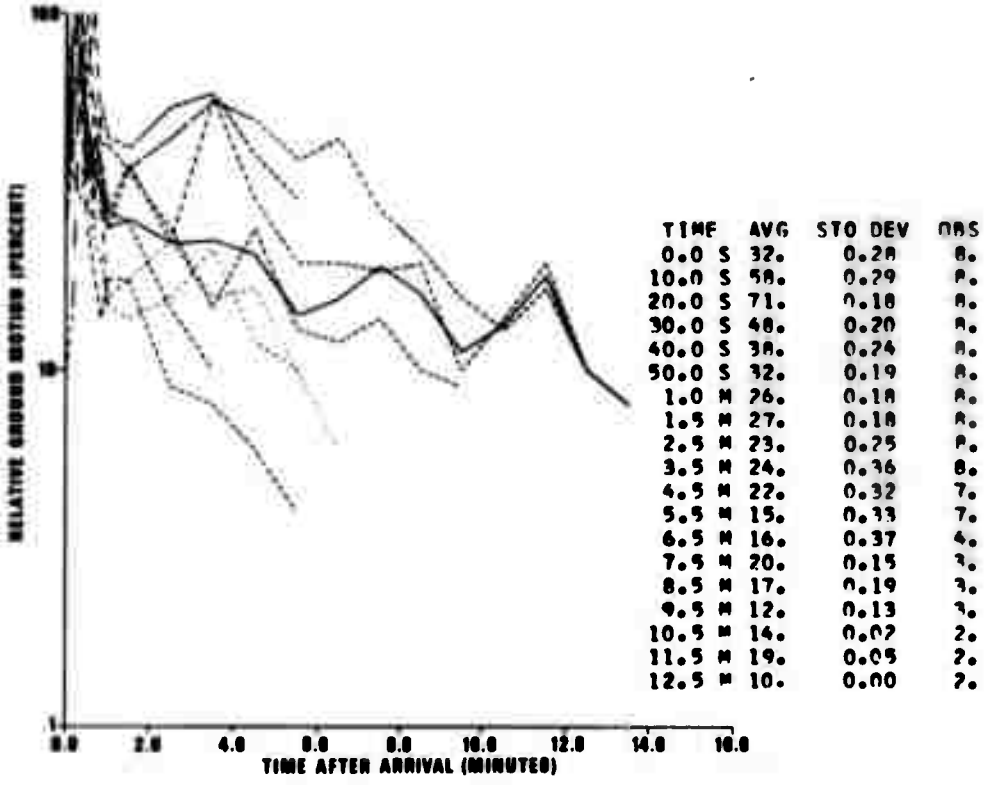
TIME	AVG	STD DEV	OBS
0.0 S	38.	0.14	2.
10.0 S	41.	0.01	2.
20.0 S	37.	0.12	2.
30.0 S	44.	0.09	2.
40.0 S	42.	0.32	2.
50.0 S	48.	0.37	2.
1.0 M	41.	0.23	2.
1.5 M	51.	0.41	2.
2.5 M	34.	0.45	2.
3.5 M	78.	0.16	2.
4.5 M	56.	0.14	2.
5.5 M	38.	0.29	2.
6.5 M	29.	0.35	2.

Figure 27. P coda characteristics, Central America, AQU.



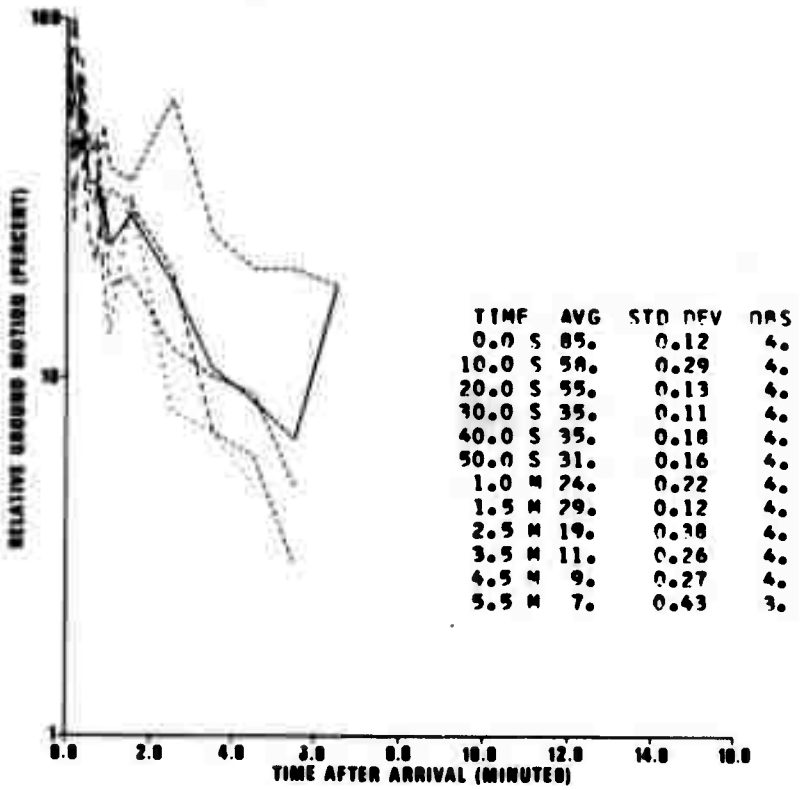
TIME	AVG	STD DEV	OBS
0.0 S	67.	0.23	7.
10.0 S	53.	0.30	7.
20.0 S	67.	0.12	7.
30.0 S	50.	0.16	7.
40.0 S	45.	0.19	7.
50.0 S	45.	0.20	7.
1.0 M	40.	0.21	7.
1.5 M	55.	0.24	7.
2.5 M	43.	0.26	7.
3.5 M	33.	0.22	7.
4.5 M	18.	0.22	7.
5.5 M	14.	0.30	6.
6.5 M	12.	0.28	5.
7.5 M	11.	0.15	4.
8.5 M	10.	0.19	4.
9.5 M	16.	0.12	4.
10.5 M	29.	0.46	4.
11.5 M	38.	0.37	3.
12.5 M	30.	0.34	3.
13.5 M	27.	0.48	3.
14.5 M	15.	0.33	3.
15.5 M	13.	0.33	3.

Figure 28. P coda characteristics, Central America, BOZ.



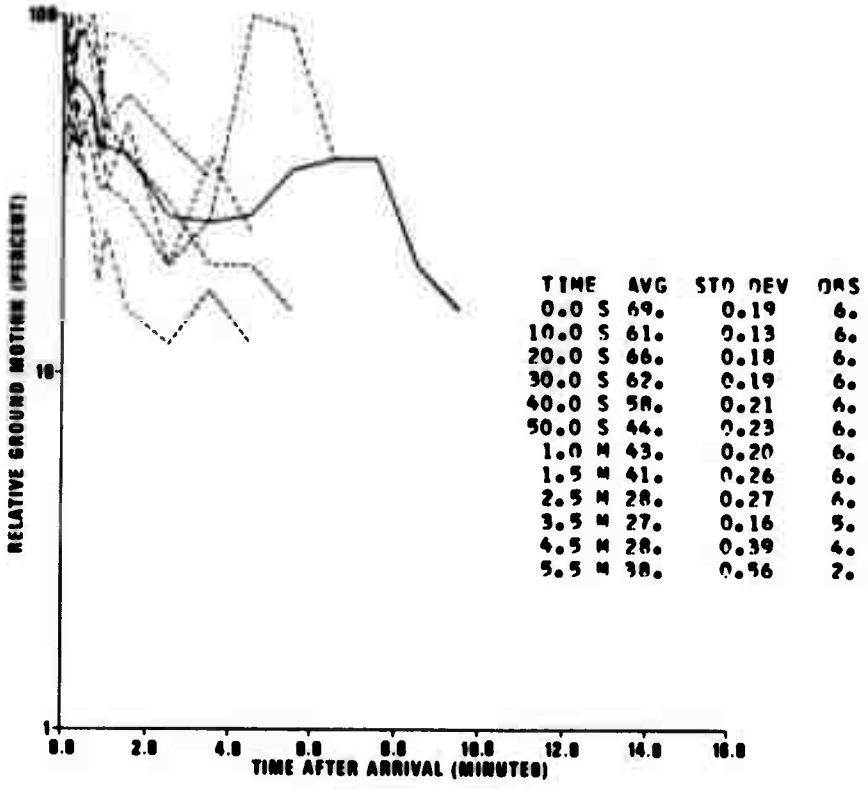
TIME	AVG	STD DEV	OBS
0.0 S	32.	0.28	8.
10.0 S	58.	0.29	8.
20.0 S	71.	0.18	8.
30.0 S	48.	0.20	8.
40.0 S	38.	0.24	8.
50.0 S	32.	0.19	8.
1.0 M	26.	0.18	8.
1.5 M	27.	0.18	8.
2.5 M	23.	0.25	8.
3.5 M	24.	0.36	8.
4.5 M	22.	0.32	7.
5.5 M	15.	0.33	7.
6.5 M	16.	0.37	4.
7.5 M	20.	0.15	3.
8.5 M	17.	0.19	3.
9.5 M	12.	0.13	3.
10.5 M	14.	0.02	2.
11.5 M	19.	0.05	2.
12.5 M	10.	0.00	2.

Figure 29. PKP coda characteristics, Central America, CHG.



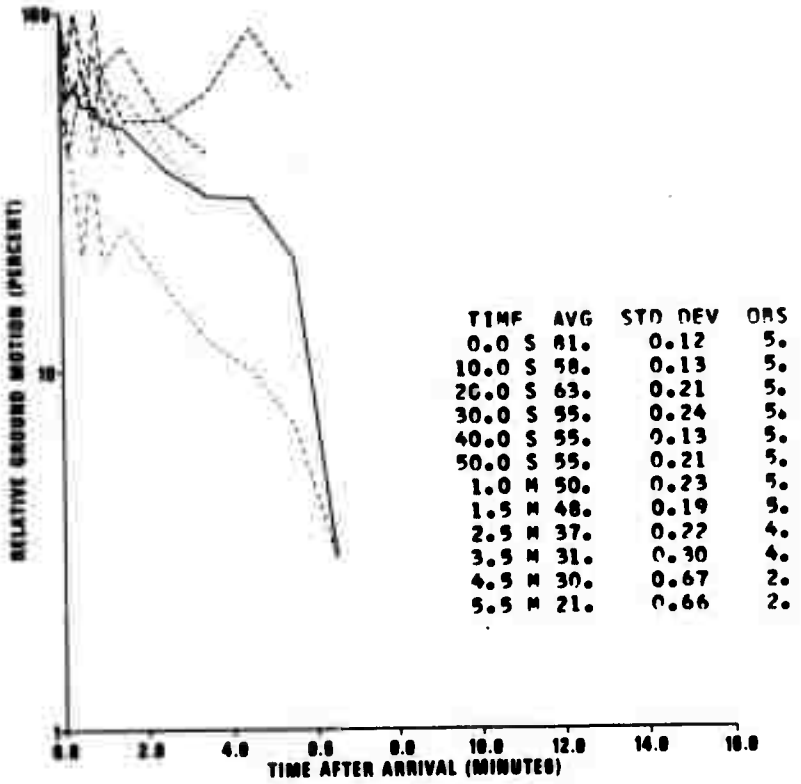
TIME	AVG	STD DEV	OBS
0.0 S	85.	0.12	4.
10.0 S	58.	0.29	4.
20.0 S	55.	0.13	4.
30.0 S	35.	0.11	4.
40.0 S	35.	0.18	4.
50.0 S	31.	0.16	4.
1.0 M	24.	0.22	4.
1.5 M	29.	0.12	4.
2.5 M	19.	0.38	4.
3.5 M	11.	0.26	4.
4.5 M	9.	0.27	4.
5.5 M	7.	0.43	3.

Figure 30. P coda characteristics, Central America, CMC.



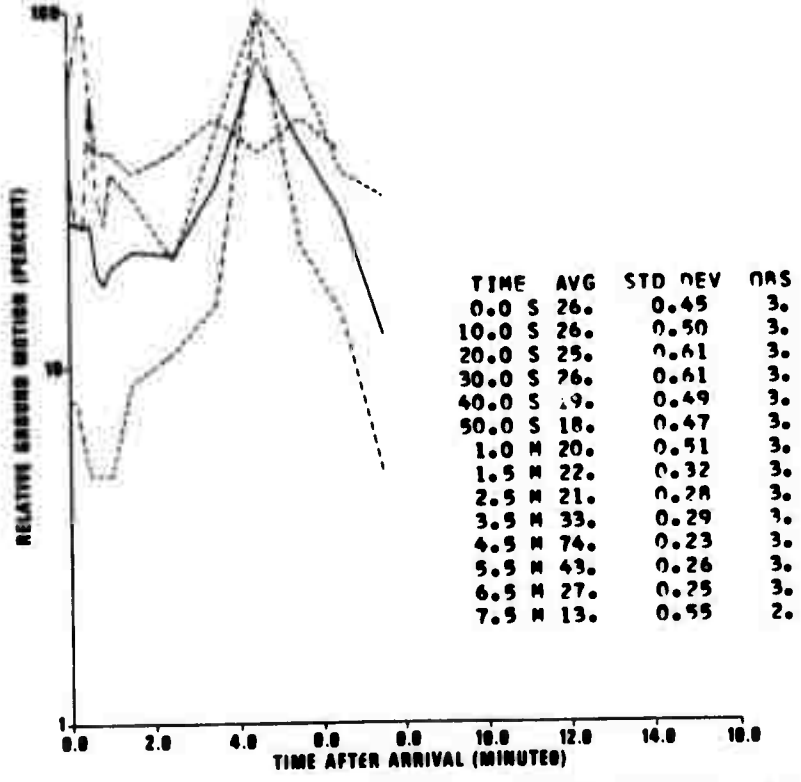
TIME	AVG	STD DEV	OBS
0.0 S	69.	0.19	6.
10.0 S	61.	0.13	6.
20.0 S	66.	0.18	6.
30.0 S	62.	0.19	6.
40.0 S	58.	0.21	6.
50.0 S	44.	0.23	6.
1.0 M	43.	0.20	6.
1.5 M	41.	0.26	6.
2.5 M	28.	0.27	6.
3.5 M	27.	0.16	5.
4.5 M	28.	0.39	4.
5.5 M	38.	0.56	2.

Figure 31. P coda characteristics, Central America, DAL.



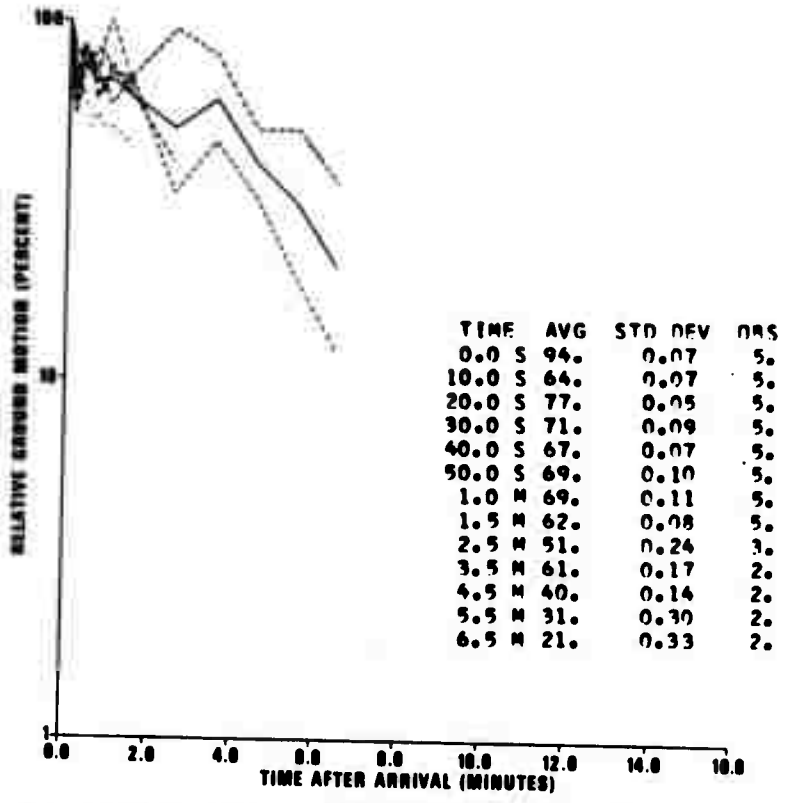
TIME	AVG	STD DEV	OBS
0.0 S	81.	0.12	5.
10.0 S	58.	0.13	5.
20.0 S	63.	0.21	5.
30.0 S	55.	0.24	5.
40.0 S	55.	0.13	5.
50.0 S	55.	0.21	5.
1.0 M	50.	0.23	5.
1.5 M	48.	0.19	5.
2.5 M	37.	0.22	4.
3.5 M	31.	0.30	4.
4.5 M	30.	0.67	2.
5.5 M	21.	0.66	2.

Figure 32. PKP coda characteristics, Central America, DAV.



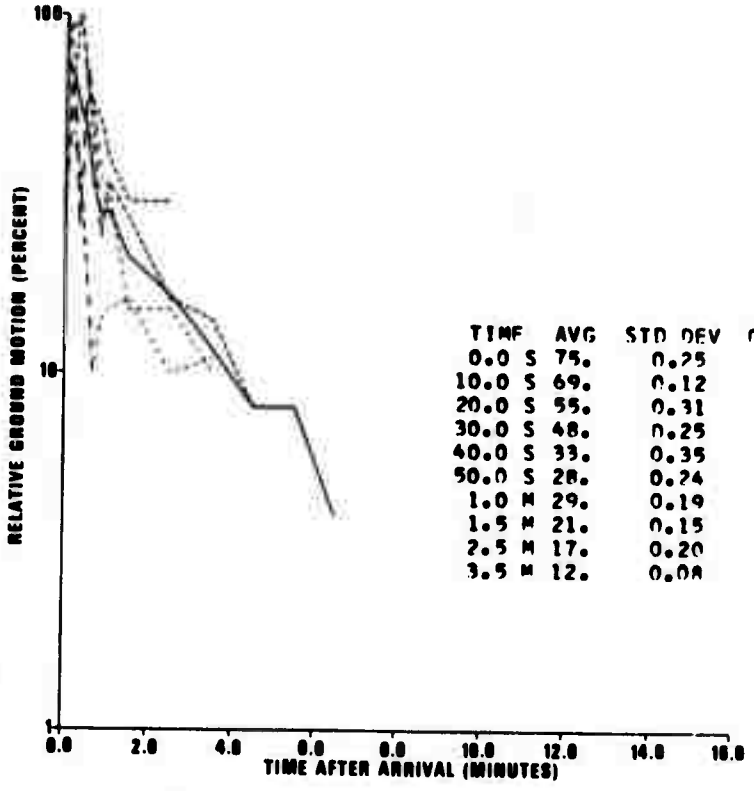
TIME	AVG	STD DEV	OBS
0.0 S	26.	0.45	3.
10.0 S	26.	0.50	3.
20.0 S	25.	0.61	3.
30.0 S	26.	0.61	3.
40.0 S	19.	0.49	3.
50.0 S	18.	0.47	3.
1.0 M	20.	0.51	3.
1.5 M	22.	0.32	3.
2.5 M	21.	0.28	3.
3.5 M	33.	0.29	3.
4.5 M	74.	0.23	3.
5.5 M	43.	0.26	3.
6.5 M	27.	0.25	3.
7.5 M	13.	0.55	2.

Figure 33. P coda characteristics, Central America, IST.



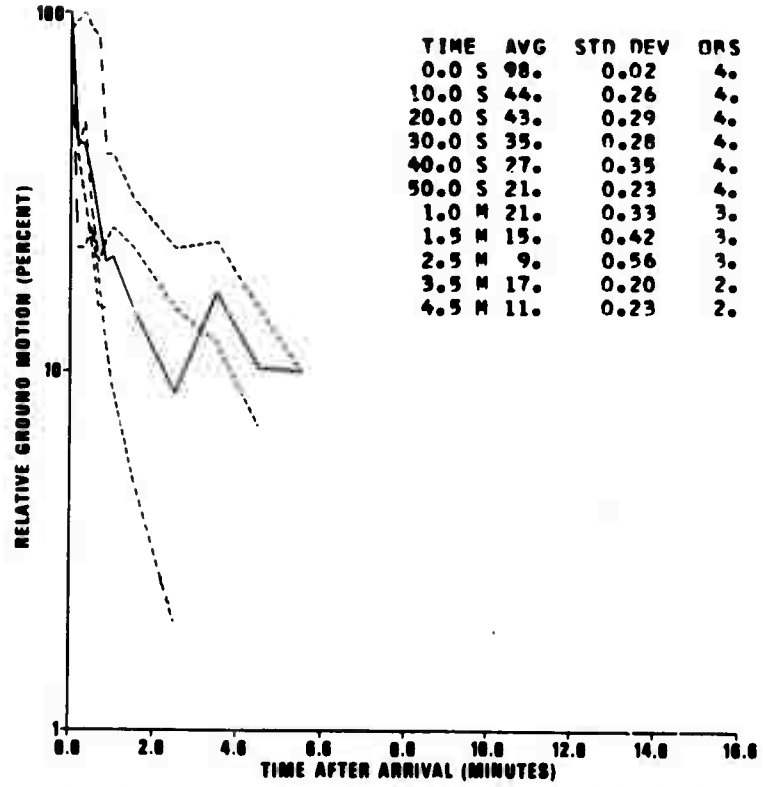
TIME	AVG	STD DEV	OBS
0.0 S	94.	0.07	5.
10.0 S	64.	0.07	5.
20.0 S	77.	0.05	5.
30.0 S	71.	0.09	5.
40.0 S	67.	0.07	5.
50.0 S	69.	0.10	5.
1.0 M	69.	0.11	5.
1.5 M	62.	0.08	5.
2.5 M	51.	0.24	3.
3.5 M	61.	0.17	2.
4.5 M	40.	0.14	2.
5.5 M	31.	0.30	2.
6.5 M	21.	0.33	2.

Figure 34. PKP coda characteristics, Central America, KBL.



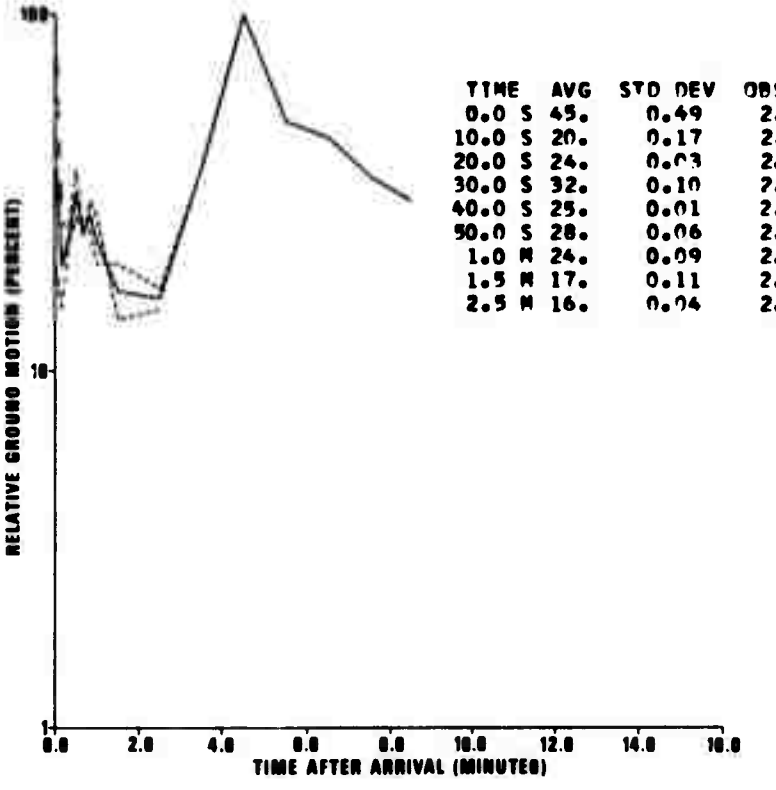
TIME	AVG	STD DEV	OBS
0.0 S	75.	0.25	4.
10.0 S	69.	0.12	4.
20.0 S	55.	0.31	4.
30.0 S	48.	0.25	4.
40.0 S	33.	0.35	4.
50.0 S	28.	0.24	4.
1.0 M	29.	0.19	4.
1.5 M	21.	0.15	4.
2.5 M	17.	0.20	4.
3.5 M	12.	0.08	3.

Figure 35. P coda characteristics, Central America, KON.



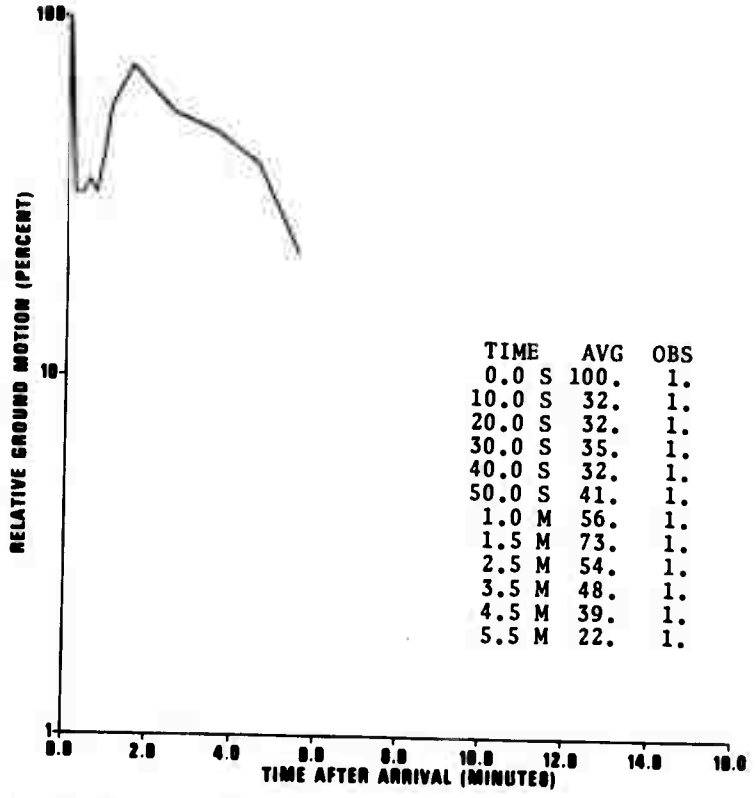
TIME	AVG	STD DEV	OBS
0.0 S	98.	0.02	4.
10.0 S	44.	0.26	4.
20.0 S	43.	0.29	4.
30.0 S	35.	0.28	4.
40.0 S	27.	0.35	4.
50.0 S	21.	0.23	4.
1.0 M	21.	0.33	3.
1.5 M	15.	0.42	3.
2.5 M	9.	0.56	3.
3.5 M	17.	0.20	2.
4.5 M	11.	0.23	2.

Figure 36. P coda characteristics, Central America, MAL.



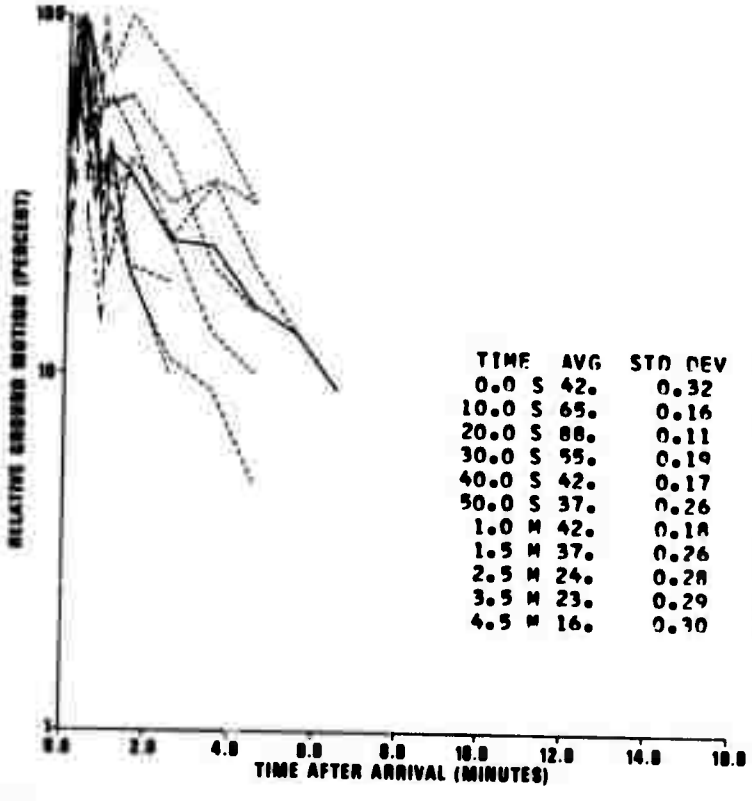
TIME	AVG	STD DEV	OBS
0.0 S	45.	0.49	2.
10.0 S	20.	0.17	2.
20.0 S	24.	0.03	2.
30.0 S	32.	0.10	2.
40.0 S	25.	0.01	2.
50.0 S	28.	0.06	2.
1.0 M	24.	0.09	2.
1.5 M	17.	0.11	2.
2.5 M	16.	0.04	2.

Figure 37. P coda characteristics, Central America, MAT.



TIME	AVG	OBS
0.0 S	100.	1.
10.0 S	32.	1.
20.0 S	32.	1.
30.0 S	35.	1.
40.0 S	32.	1.
50.0 S	41.	1.
1.0 M	56.	1.
1.5 M	73.	1.
2.5 M	54.	1.
3.5 M	48.	1.
4.5 M	39.	1.
5.5 M	22.	1.

Figure 38. PKP coda characteristics, Central America, MAT.



TIME	AVG	STD DEV	OBS
0.0 S	42.	0.32	8.
10.0 S	65.	0.16	8.
20.0 S	88.	0.11	8.
30.0 S	55.	0.19	8.
40.0 S	42.	0.17	8.
50.0 S	37.	0.26	8.
1.0 M	42.	0.18	8.
1.5 M	37.	0.26	8.
2.5 M	24.	0.28	8.
3.5 M	23.	0.29	6.
4.5 M	16.	0.30	6.

Figure 39. PKP coda characteristics, Central America, MUN.

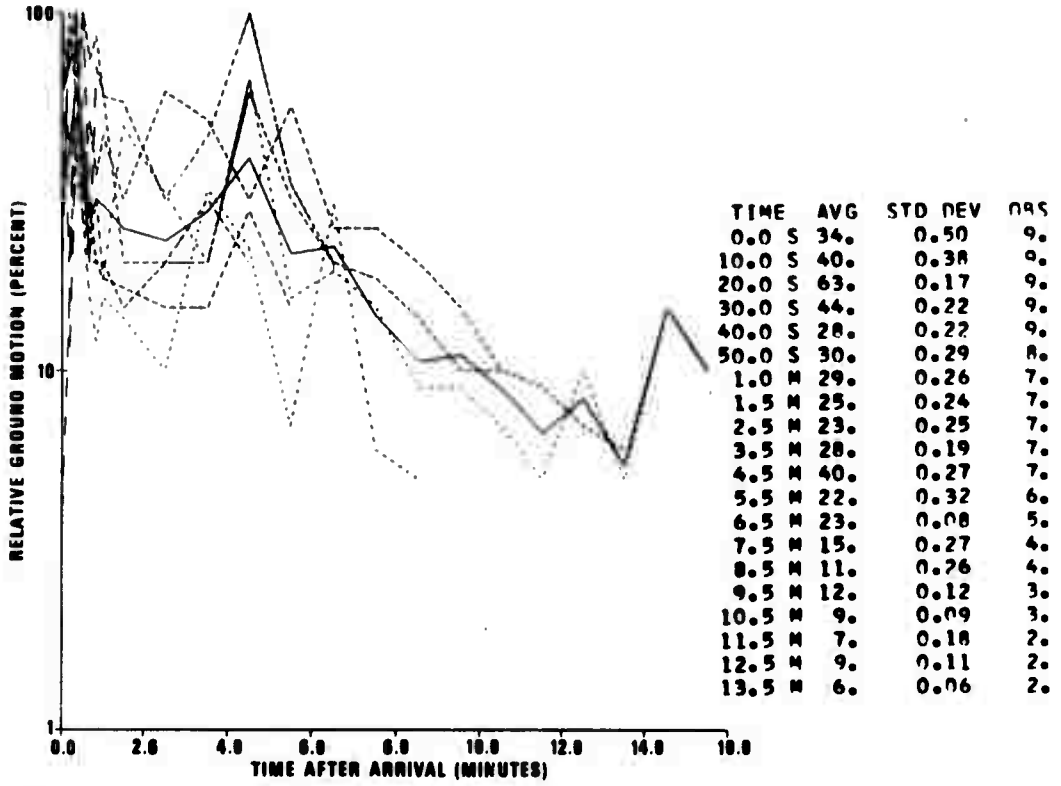


Figure 40. PKP coda characteristics, Central America, NDI.

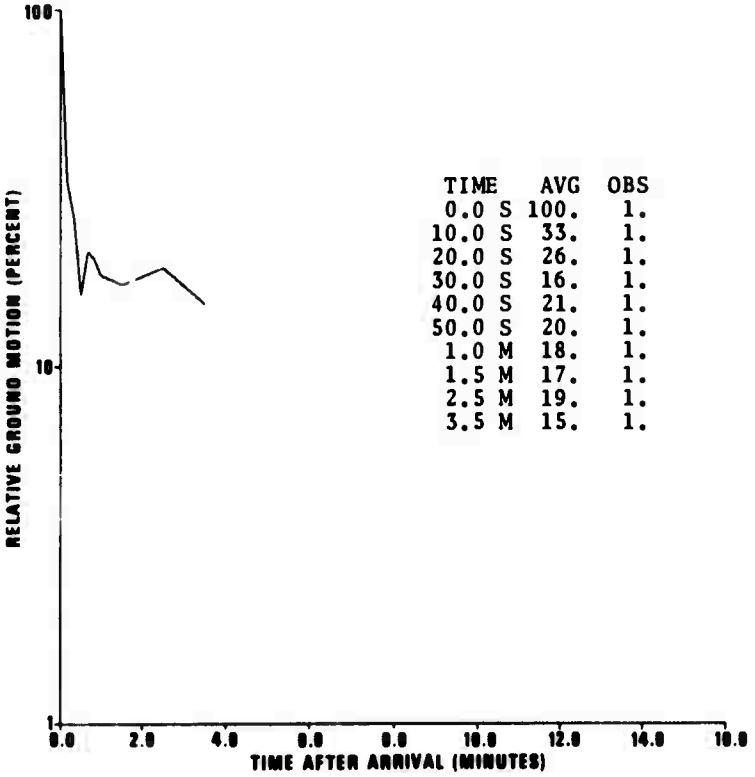


Figure 41. PKP coda characteristics, Central America, SEO.

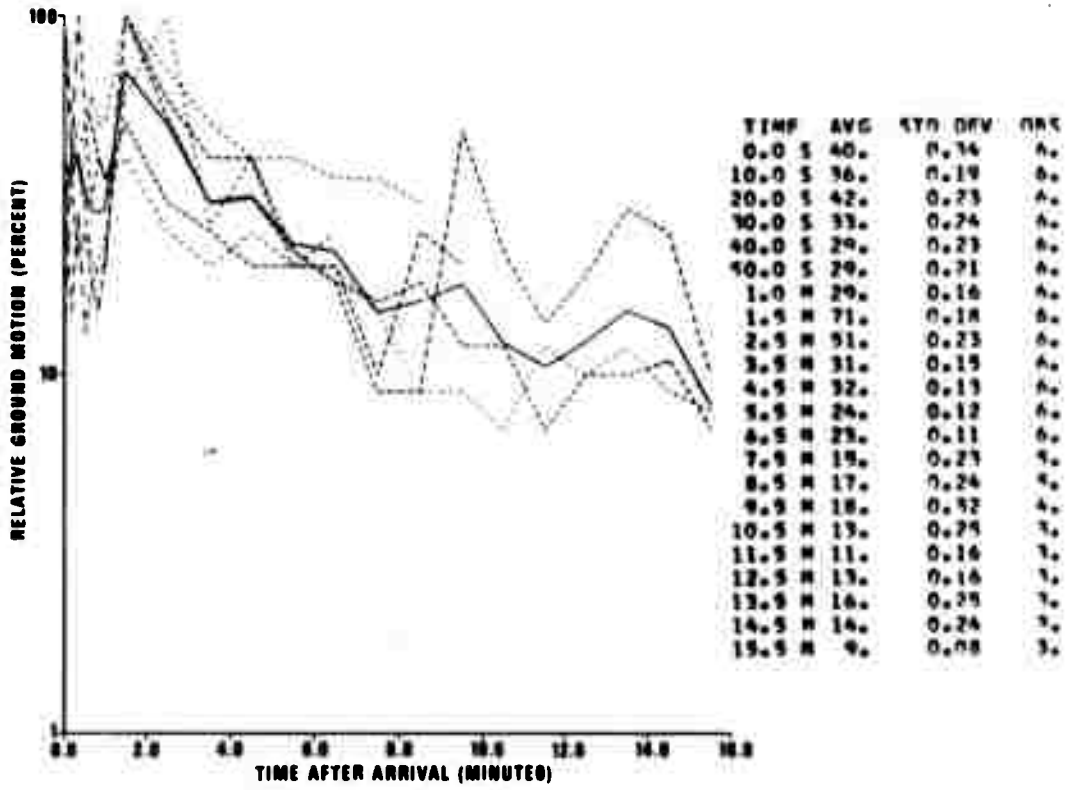


Figure 42. PKP coda characteristics, Central America, SHI.

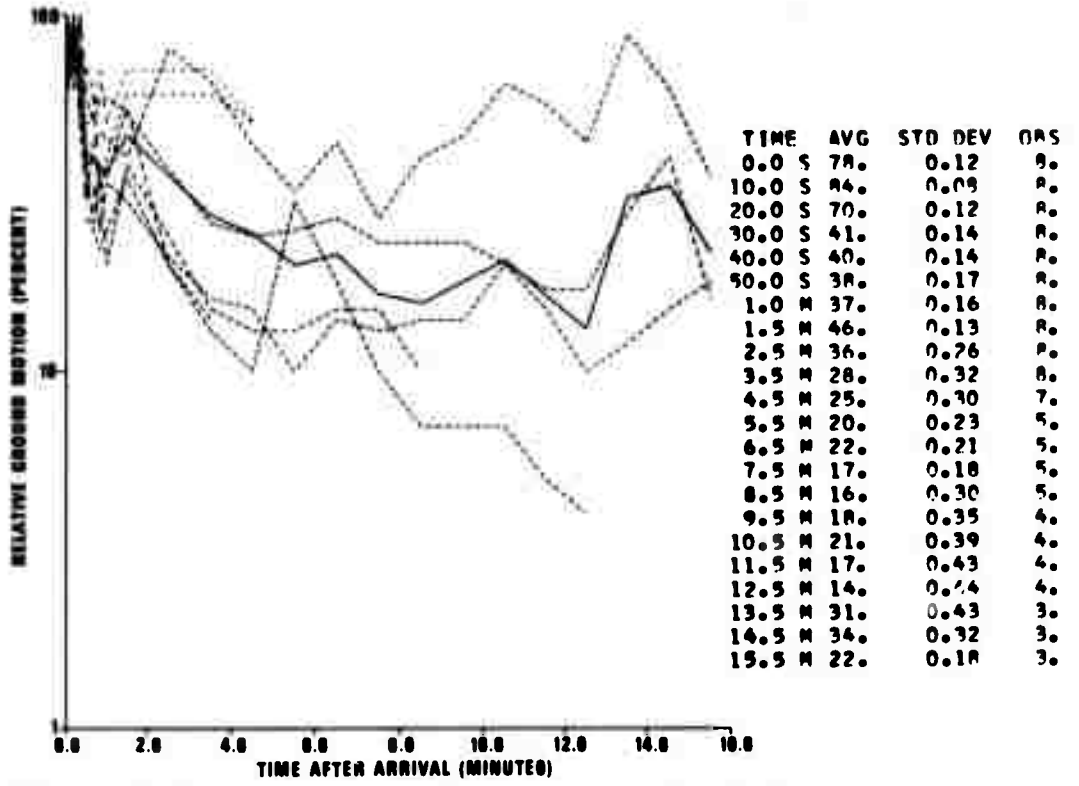


Figure 43. P coda characteristics, Central America, WES.

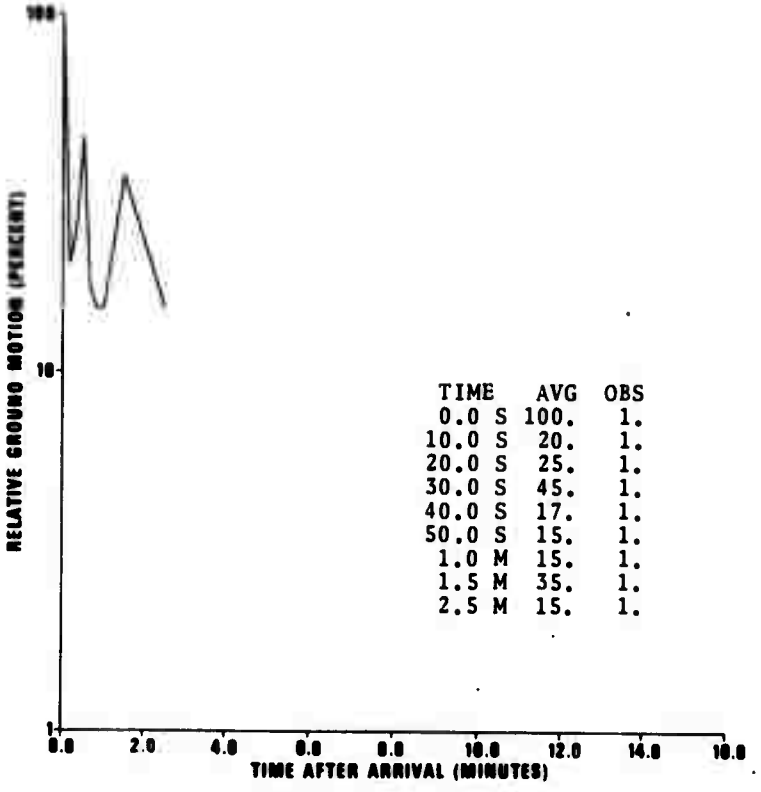


Figure 44. PKP coda characteristics, California and Western United States, ADE.

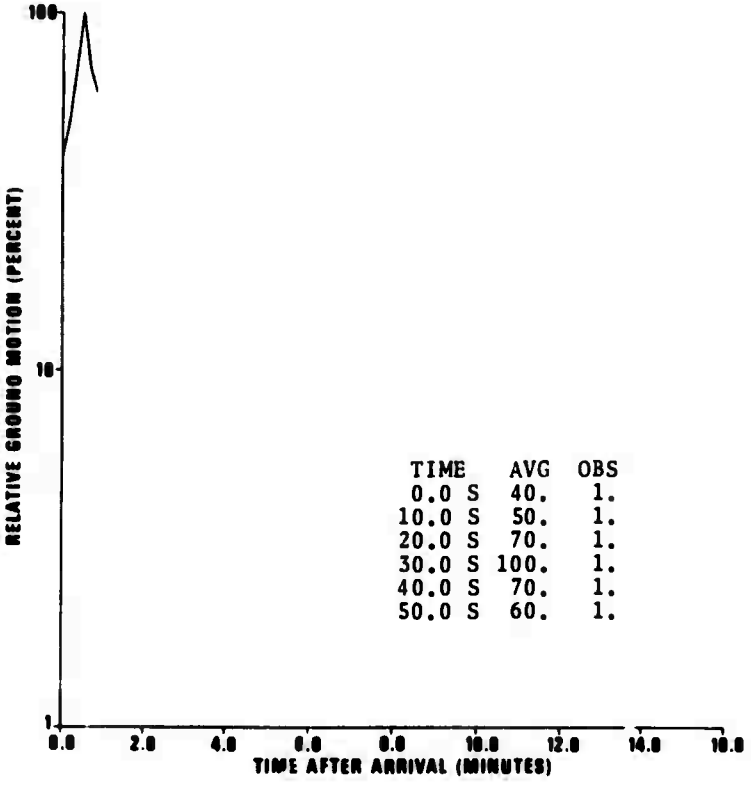


Figure 45. P coda characteristics, California and Western United States, AQU.

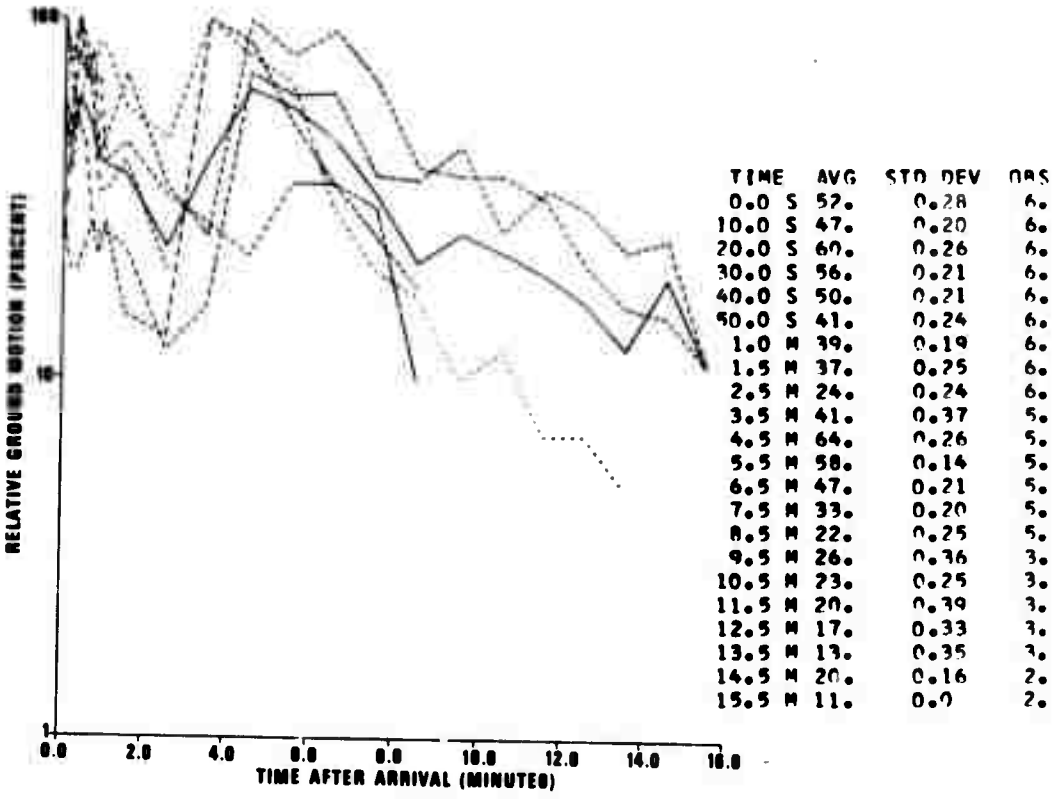


Figure 46. P coda characteristics, California and Western United States, BOZ.

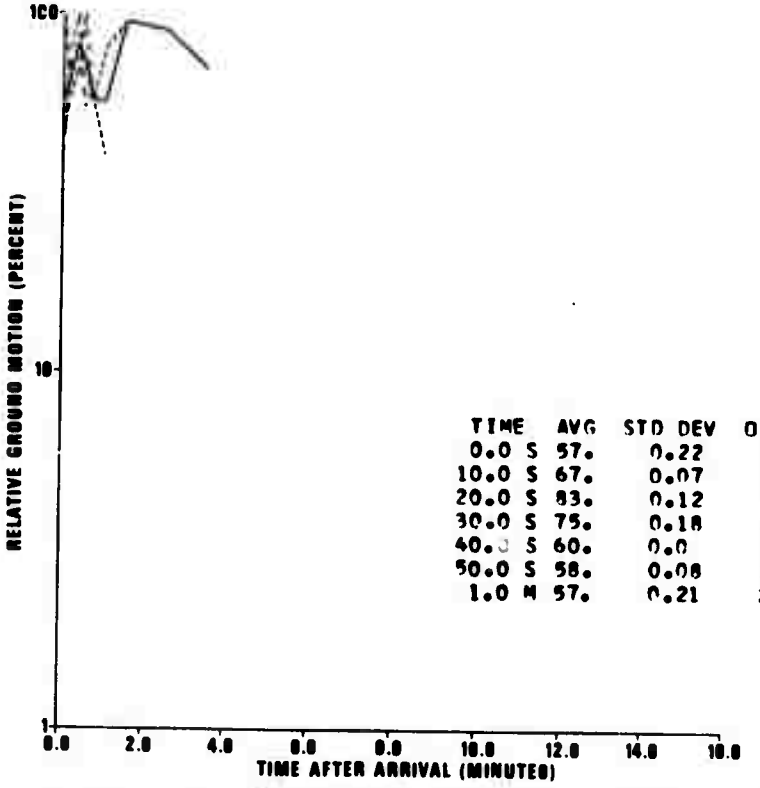


Figure 47. PKP coda characteristics, California and Western United States, CHG.

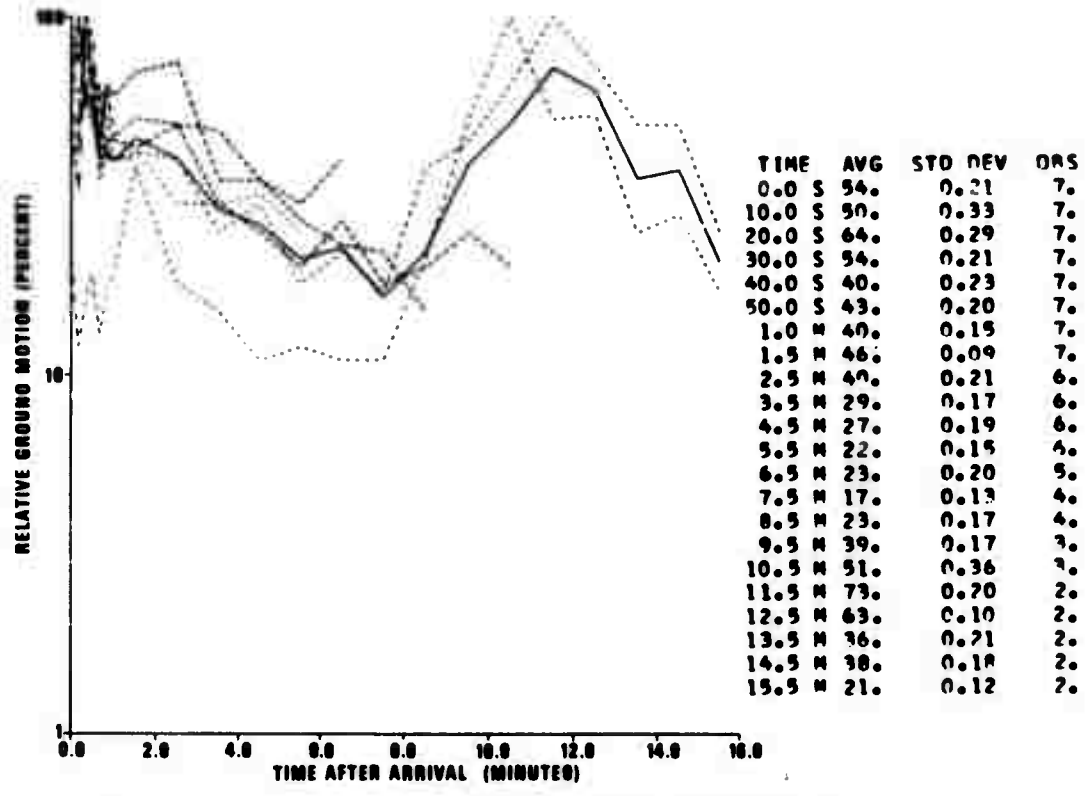


Figure 48. P coda characteristics, California and Western United States, CMC.

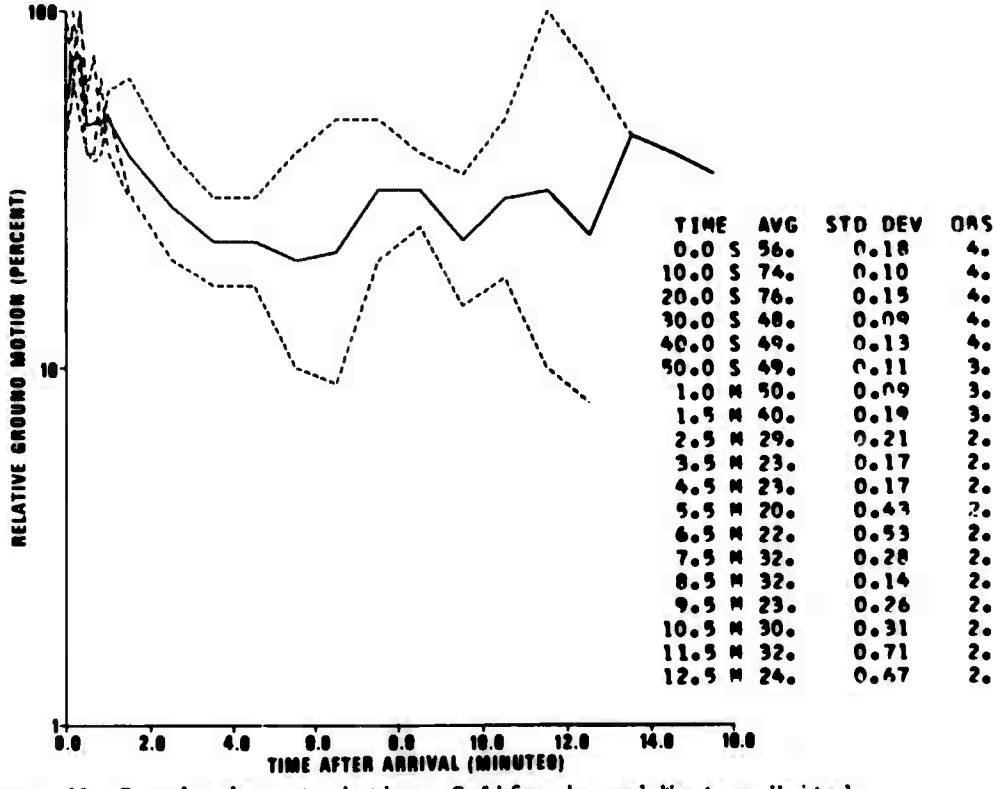


Figure 49. P coda characteristics, California and Western United States, DAL.

Figure 50. No observations, California and Western United States, DAV.

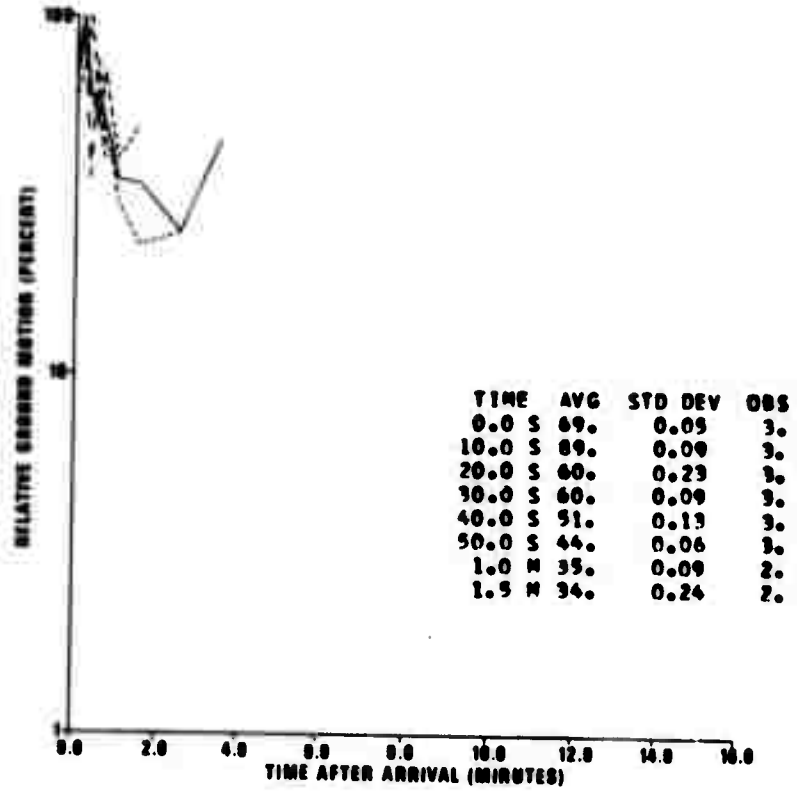


Figure 51. P coda characteristics, California and Western United States, IST.

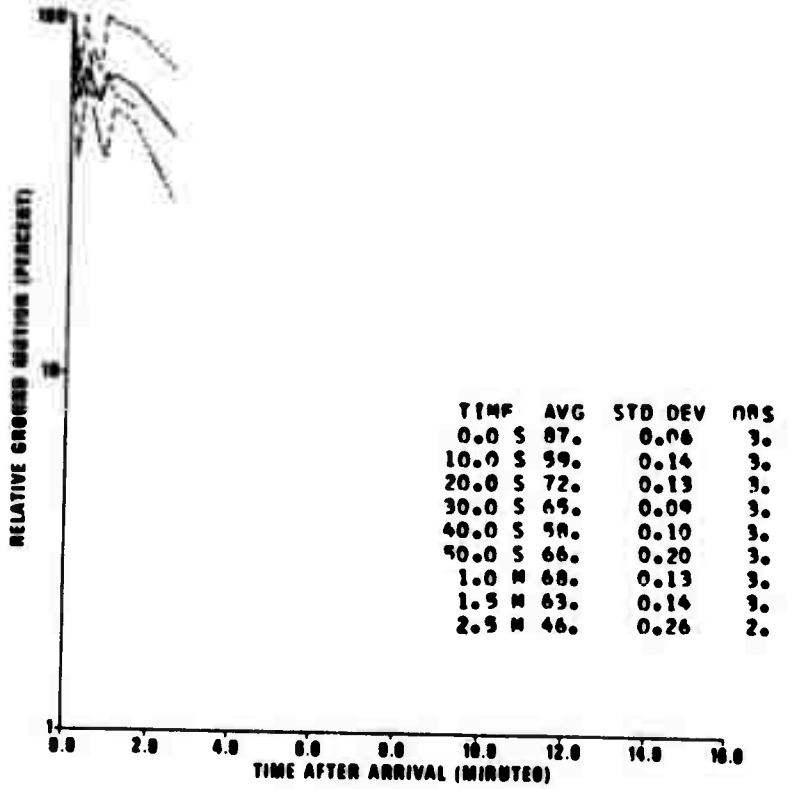


Figure 52. PKP coda characteristics, California and Western United States, KBL.

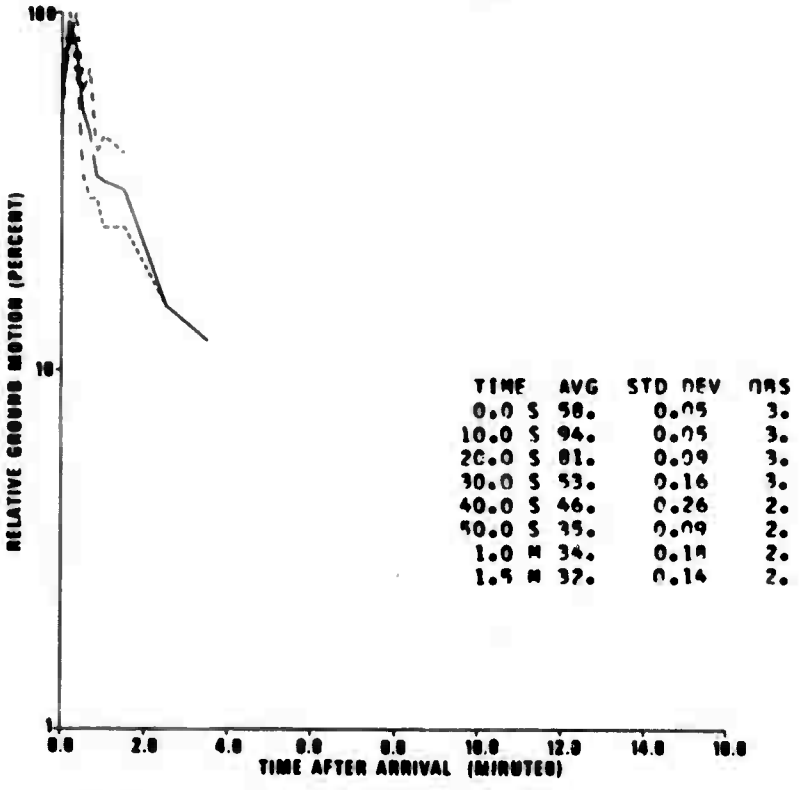


Figure 53. P coda characteristics, California and Western United States, KON.

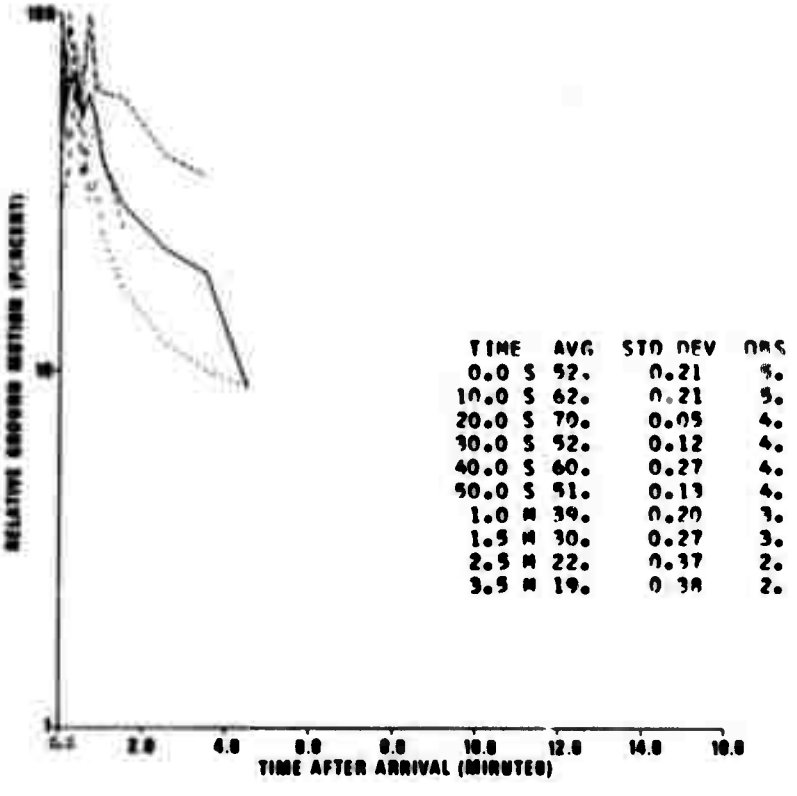


Figure 54. P coda characteristics, California and Western United States, MAL.

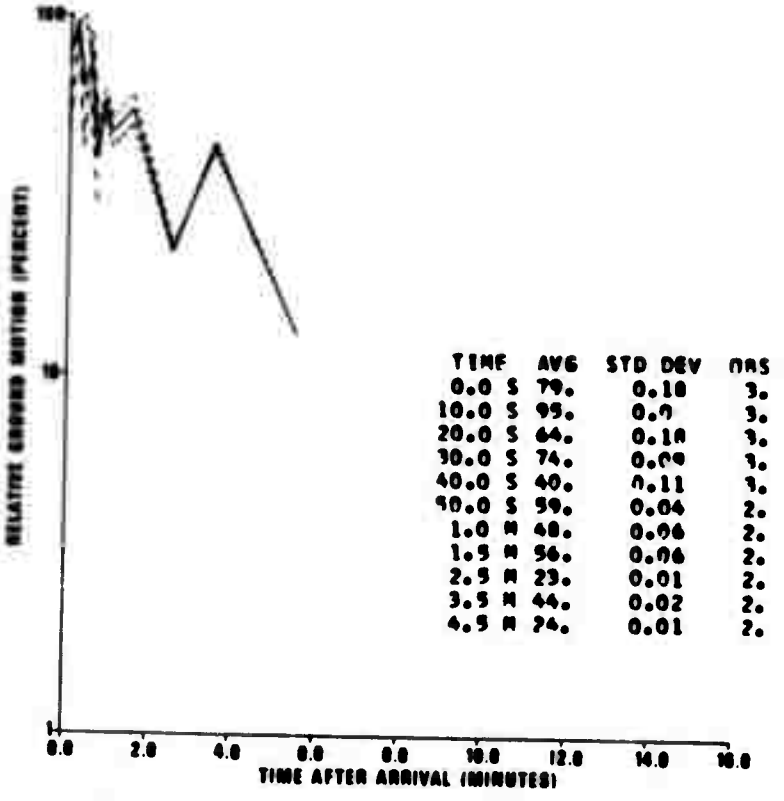


Figure 55. P coda characteristics, California and Western United States, MAT.

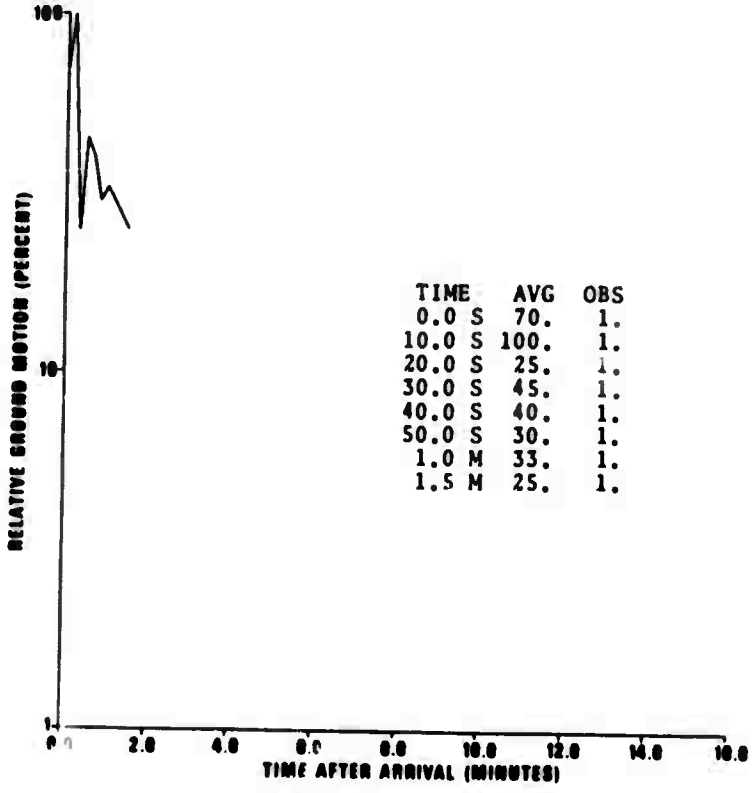


Figure 56. PKP coda characteristics, California and Western United States, MUN.

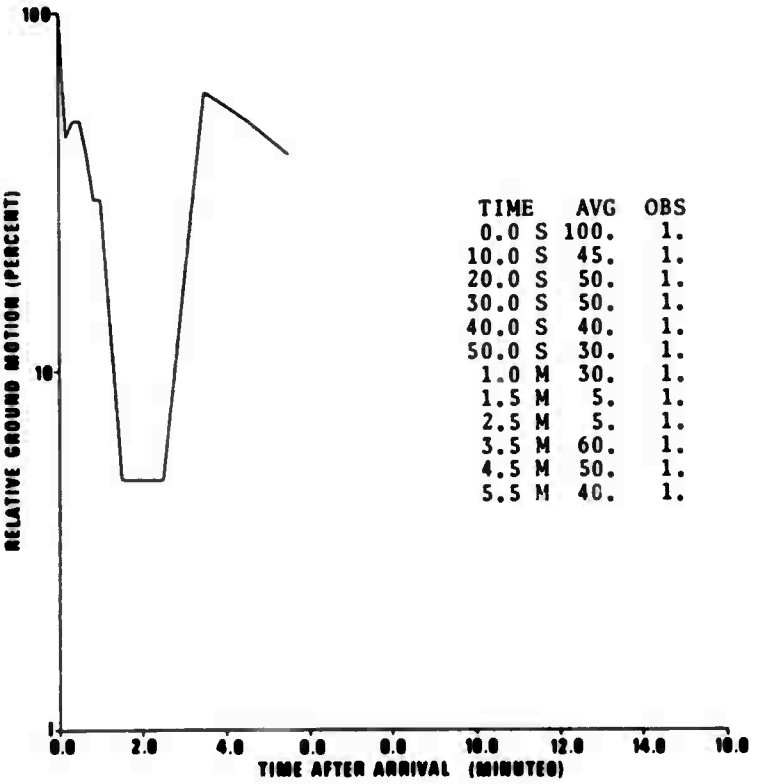


Figure 57. P coda characteristics, California and Western United States, NDI.

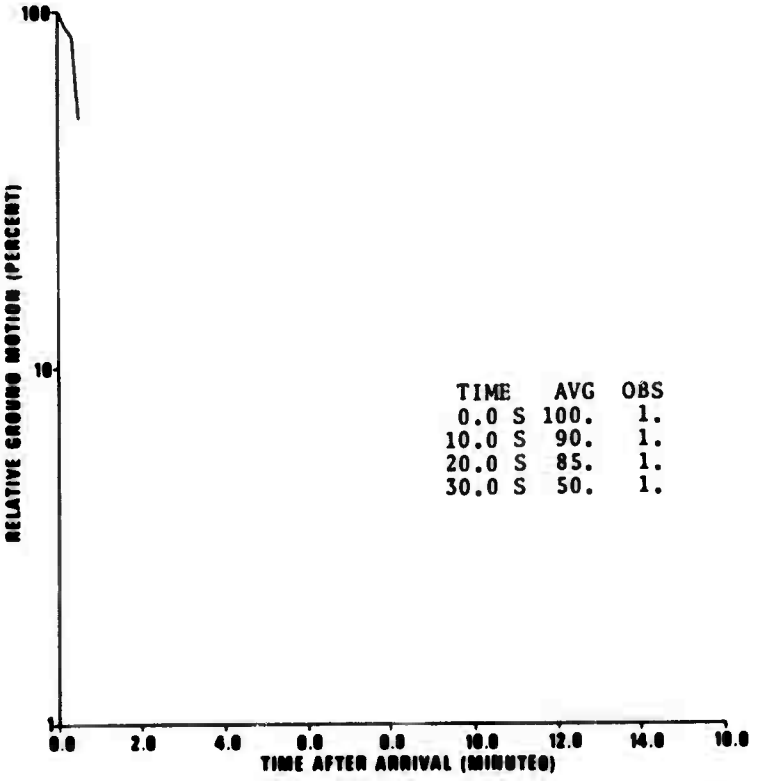


Figure 58. PKP coda characteristics, California and Western United States, NDI.

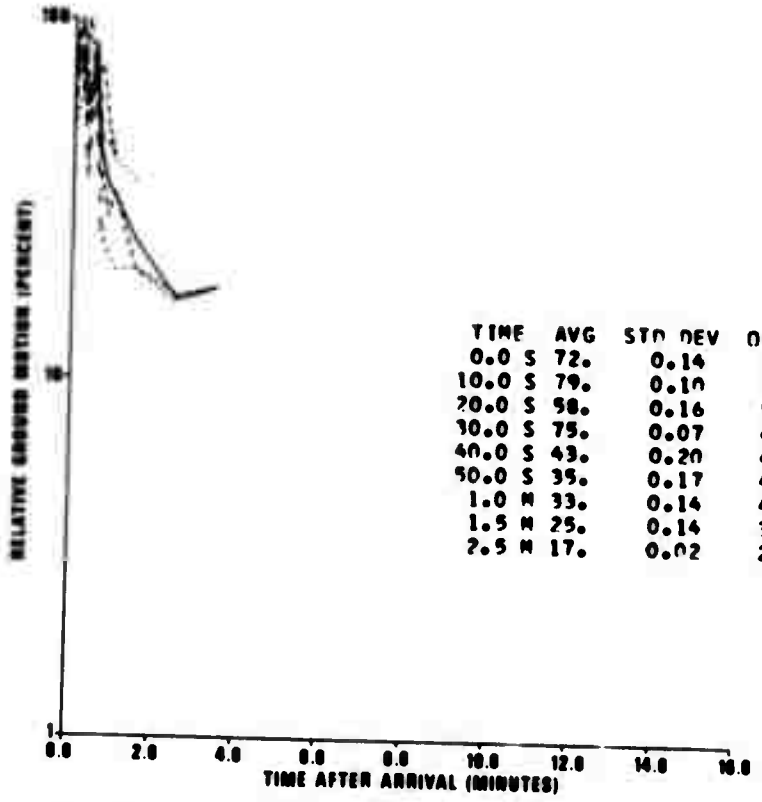


Figure 59. P coda characteristics, California and Western United States, SEO.

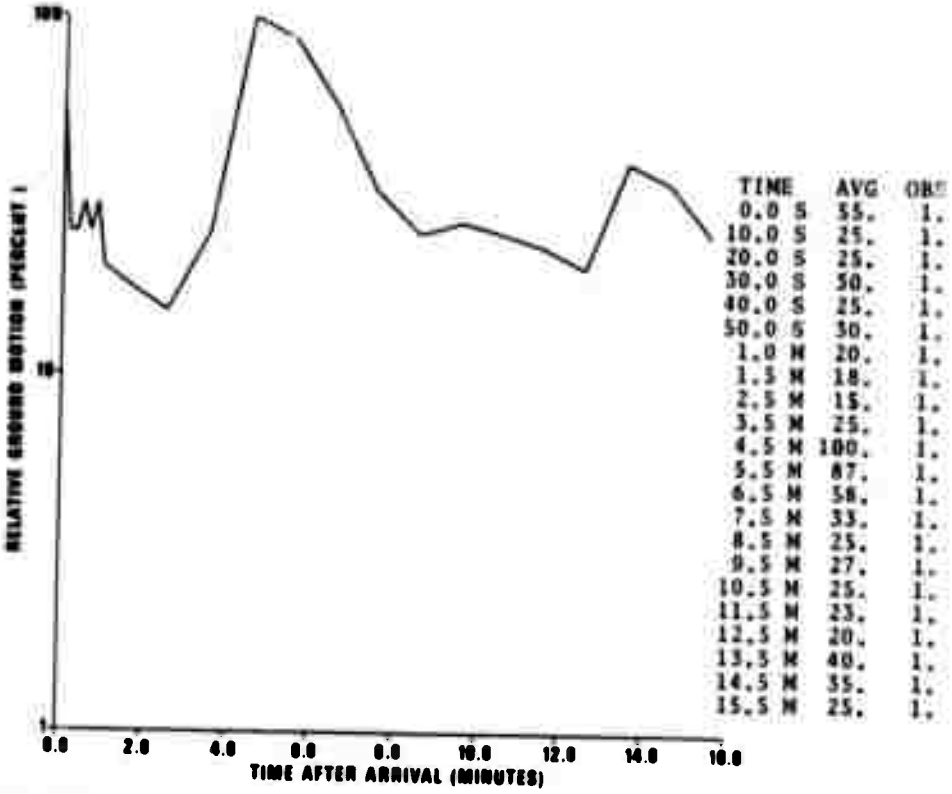


Figure 60. P coda characteristics, California and Western United States, SHI.

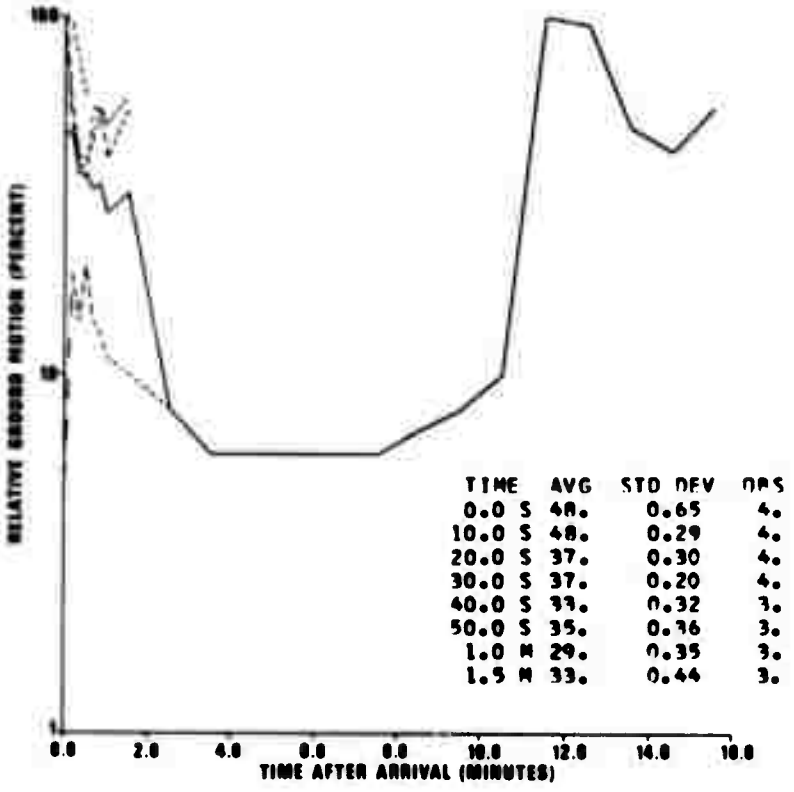


Figure 61. P coda characteristics, California and Western United States, WES.

Figure 62. No observations, Alaska, ADE.

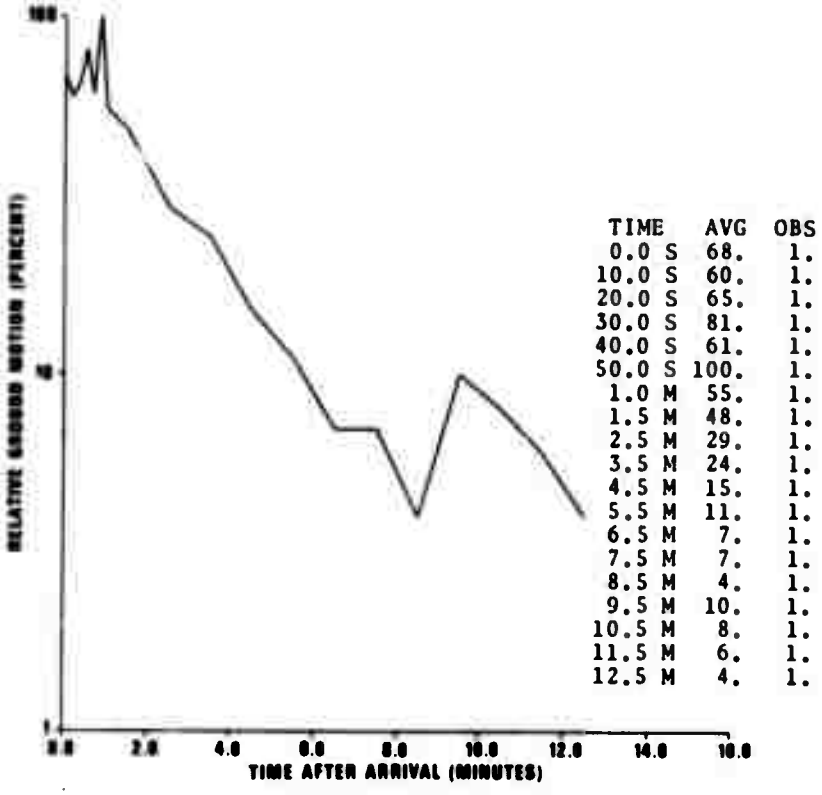
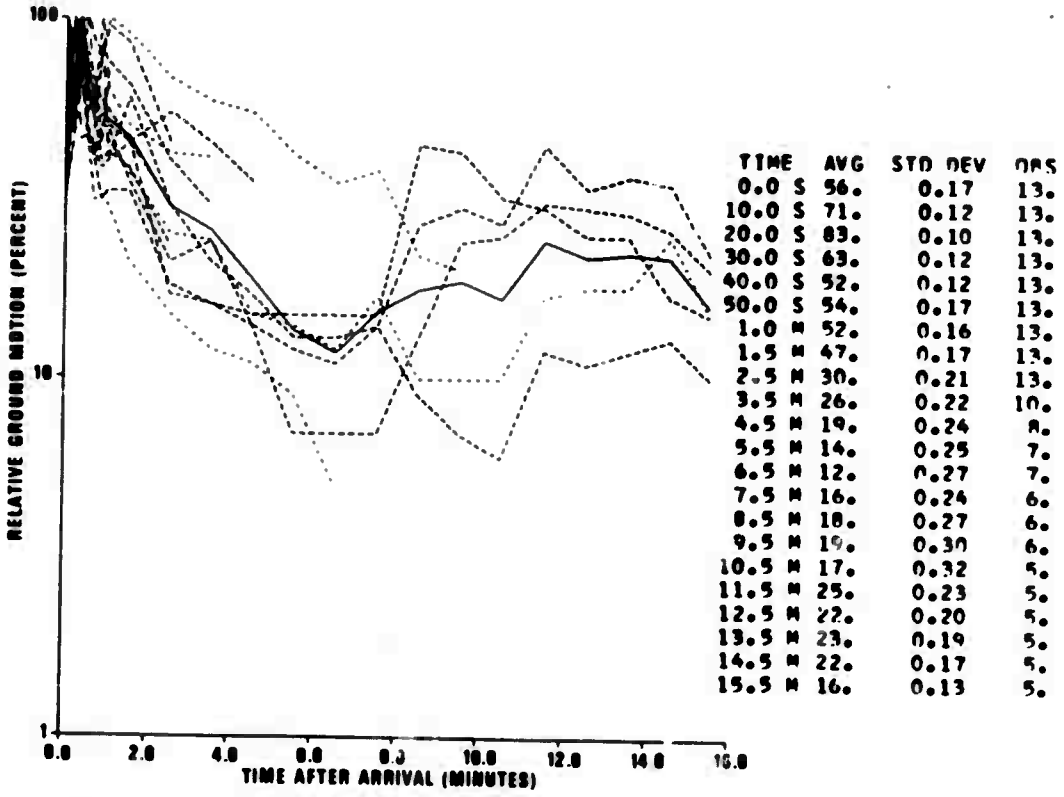
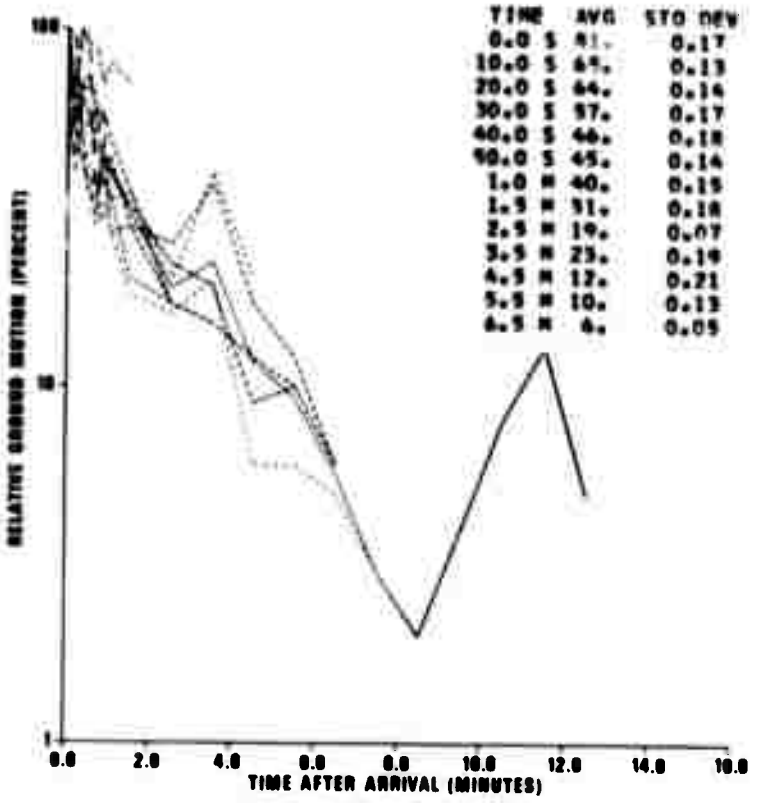


Figure 63. P coda characteristics, Alaska, AQU.



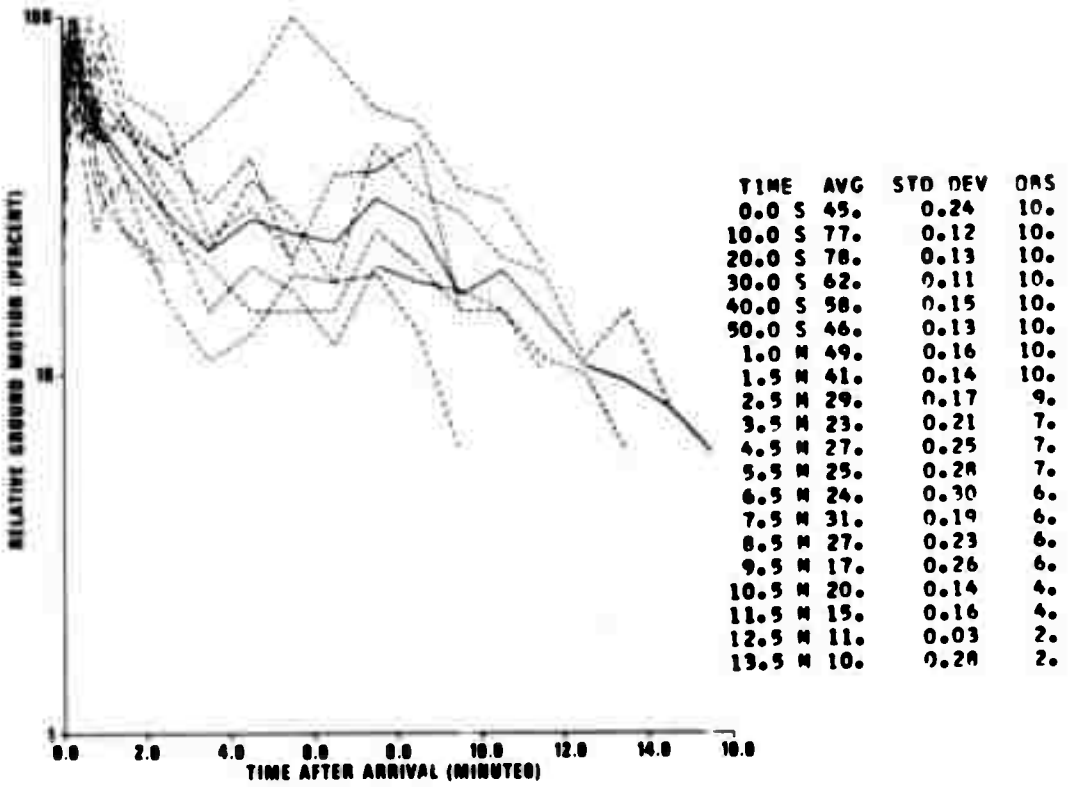
TIME		AVG	STD DEV	OBS
0.0	S	56.	0.17	13.
10.0	S	71.	0.12	13.
20.0	S	83.	0.10	13.
30.0	S	63.	0.12	13.
40.0	S	52.	0.12	13.
50.0	S	54.	0.17	13.
1.0	M	52.	0.16	13.
1.5	M	47.	0.17	13.
2.5	M	30.	0.21	13.
3.5	M	26.	0.22	10.
4.5	M	19.	0.24	8.
5.5	M	14.	0.25	7.
6.5	M	12.	0.27	7.
7.5	M	16.	0.24	6.
8.5	M	18.	0.27	6.
9.5	M	19.	0.30	6.
10.5	M	17.	0.32	5.
11.5	M	25.	0.23	5.
12.5	M	22.	0.20	5.
13.5	M	23.	0.19	5.
14.5	M	22.	0.17	5.
15.5	M	16.	0.13	5.

Figure 64. P coda characteristics, Alaska, BOZ.



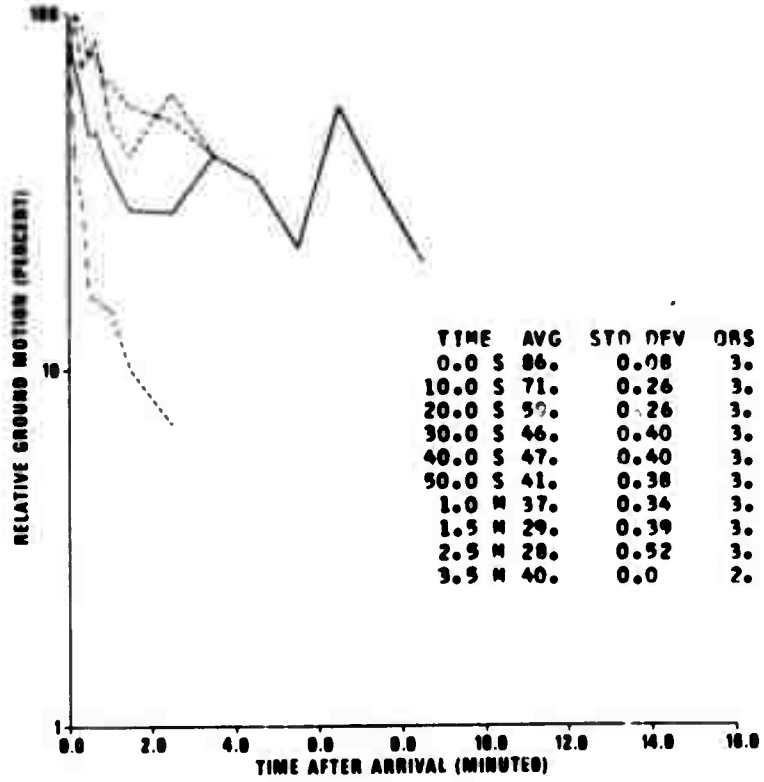
TIME		AVG	STD DEV	OBS
0.0	S	81.	0.17	8.
10.0	S	69.	0.13	8.
20.0	S	64.	0.14	8.
30.0	S	57.	0.17	8.
40.0	S	46.	0.18	8.
50.0	S	45.	0.14	8.
1.0	M	40.	0.15	8.
1.5	M	31.	0.18	8.
2.5	M	19.	0.07	7.
3.5	M	23.	0.19	6.
4.5	M	12.	0.21	5.
5.5	M	10.	0.13	4.
6.5	M	6.	0.09	3.

Figure 65. P coda characteristics, Alaska, CHG.



TIME	AVG	STD DEV	OBS
0.0 S	45.	0.24	10.
10.0 S	77.	0.12	10.
20.0 S	78.	0.13	10.
30.0 S	62.	0.11	10.
40.0 S	58.	0.15	10.
50.0 S	46.	0.13	10.
1.0 M	49.	0.16	10.
1.5 M	41.	0.14	10.
2.5 M	29.	0.17	9.
3.5 M	23.	0.21	7.
4.5 M	27.	0.25	7.
5.5 M	25.	0.28	7.
6.5 M	24.	0.30	6.
7.5 M	31.	0.19	6.
8.5 M	27.	0.23	6.
9.5 M	17.	0.26	6.
10.5 M	20.	0.14	4.
11.5 M	15.	0.16	4.
12.5 M	11.	0.03	2.
13.5 M	10.	0.28	2.

Figure 66. P coda characteristics, Alaska, CMC.



TIME	AVG	STD DEV	OBS
0.0 S	86.	0.08	3.
10.0 S	71.	0.26	3.
20.0 S	59.	0.26	3.
30.0 S	46.	0.40	3.
40.0 S	47.	0.40	3.
50.0 S	41.	0.38	3.
1.0 M	37.	0.34	3.
1.5 M	29.	0.39	3.
2.5 M	28.	0.52	3.
3.5 M	40.	0.0	2.

Figure 67. P coda characteristics, Alaska, DAL.

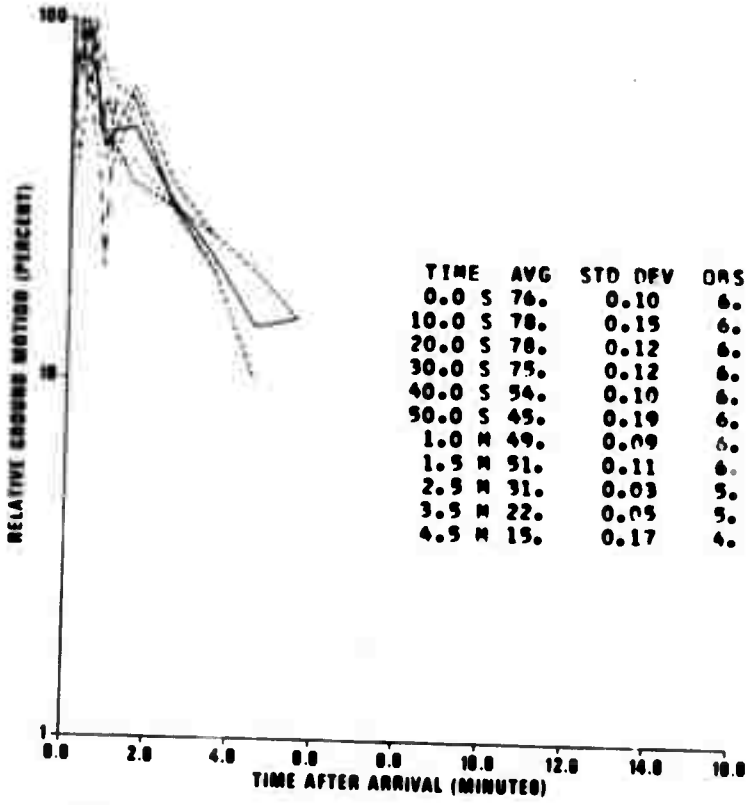


Figure. 68. P coda characteristics, Alaska, DAV.

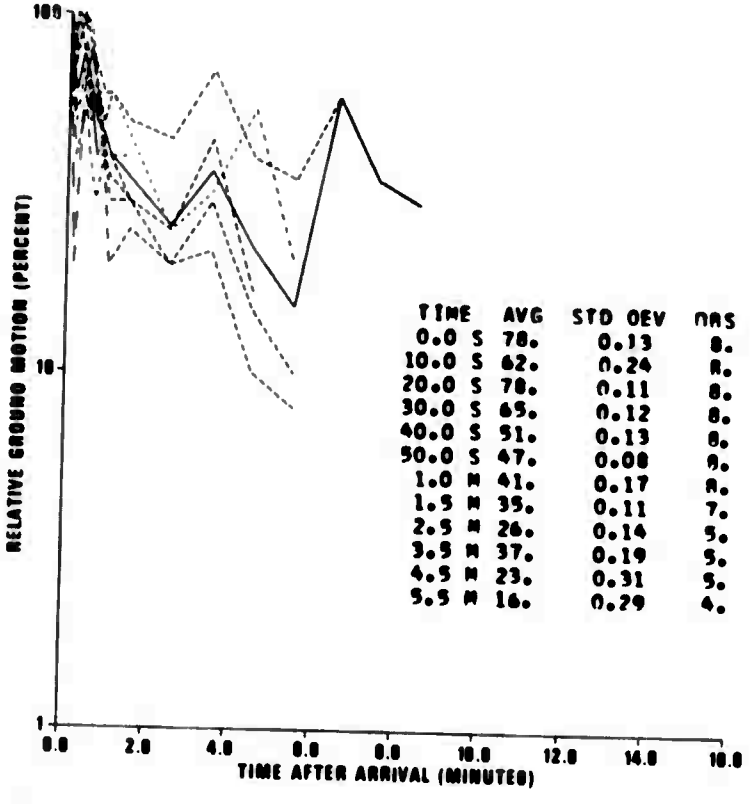


Figure 69. P coda characteristics, Alaska, IST.

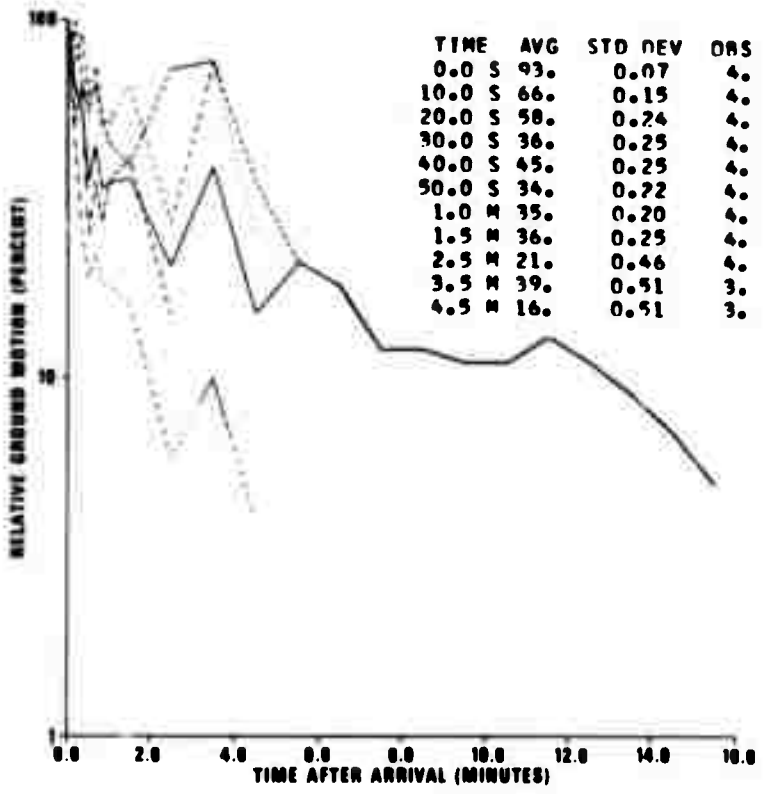


Figure 70. P. coda characteristics, Alaska, KBL.

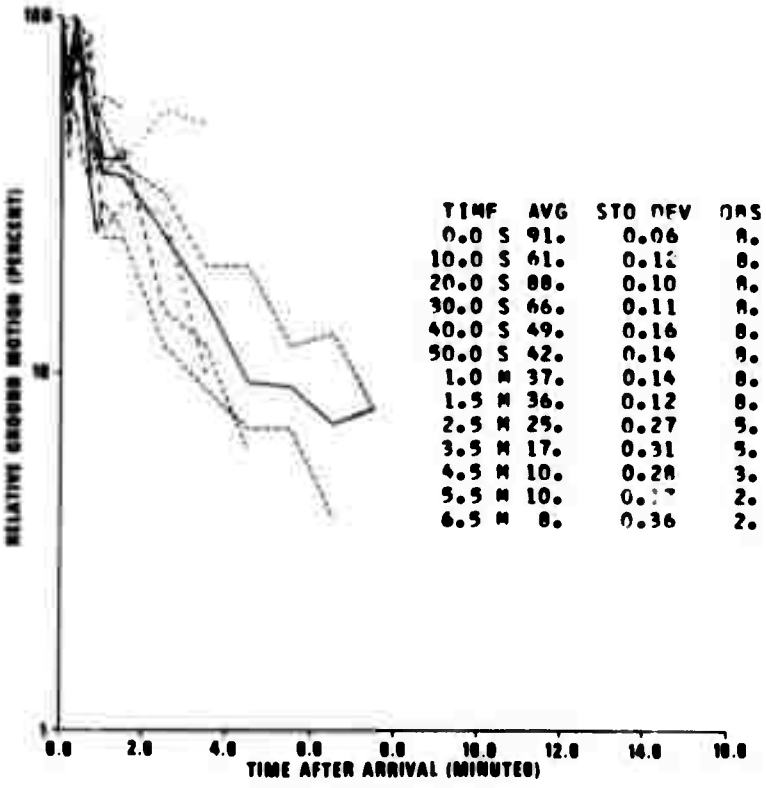


Figure 71. P coda characteristics, Alaska, KON.

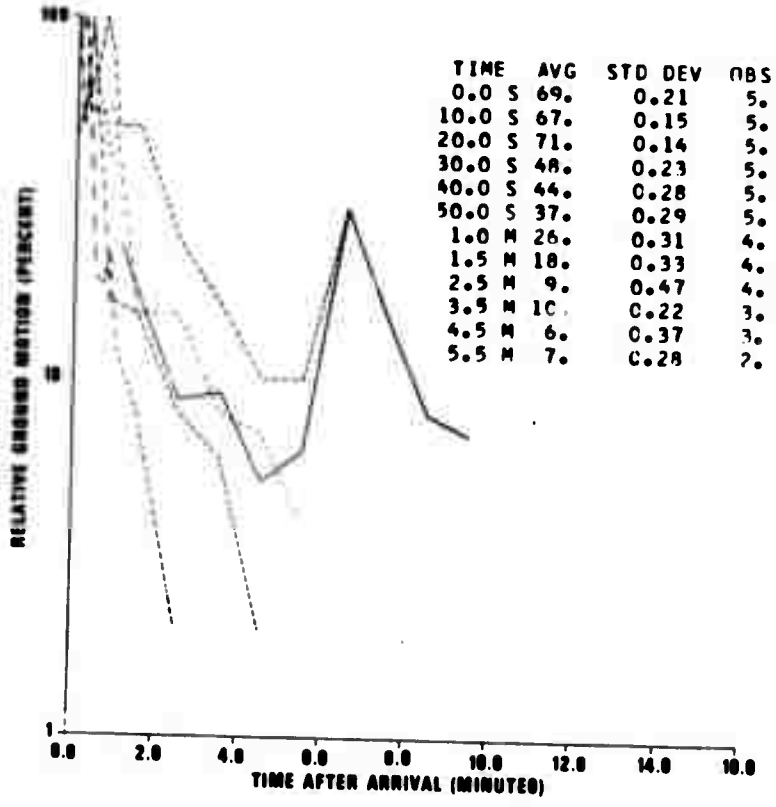


Figure 72. P coda characteristics, Alaska, MAL.

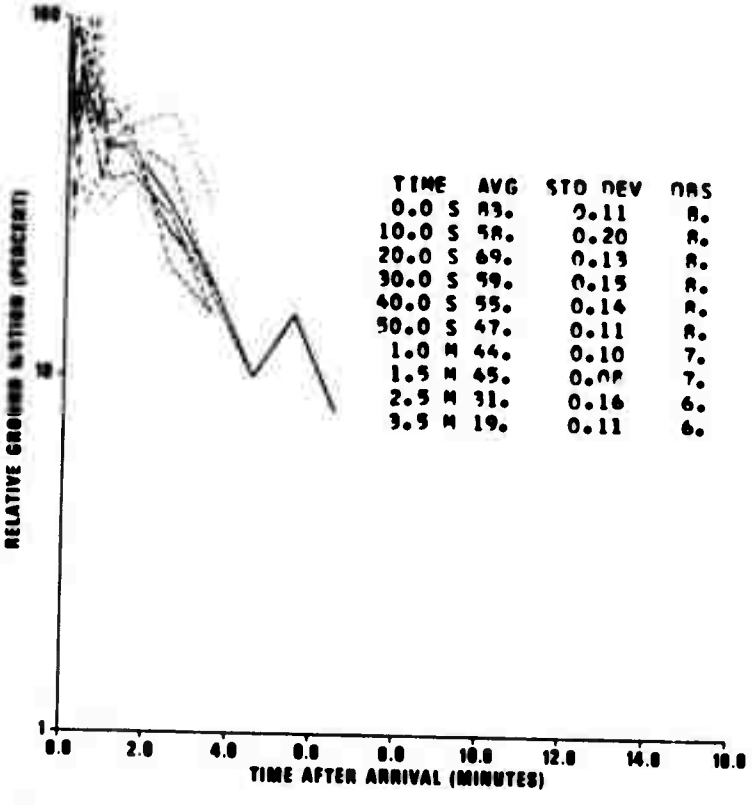


Figure 73. P coda characteristics, Alaska, MAT.

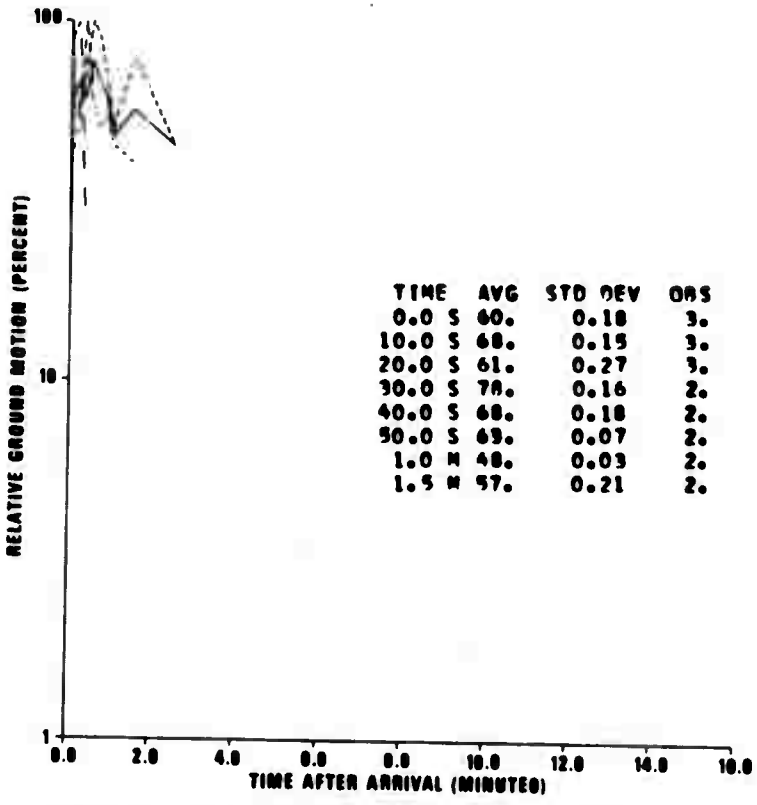


Figure 74. PKP coda characteristics, Alaska, MUN.

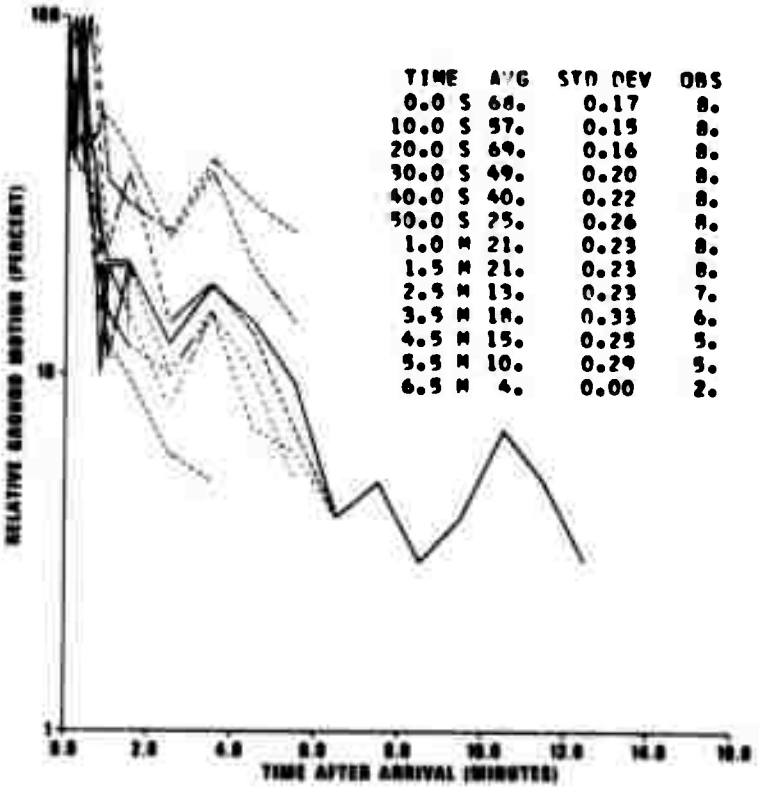


Figure 75. P coda characteristics, Alaska, NDI.

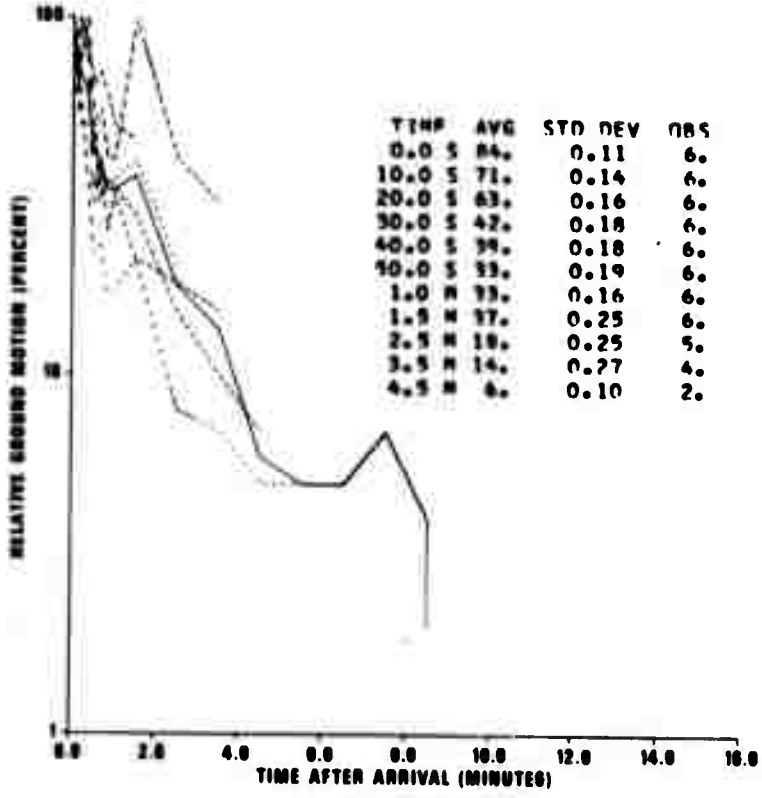


Figure 76. P coda characteristics, Alaska, SEO.

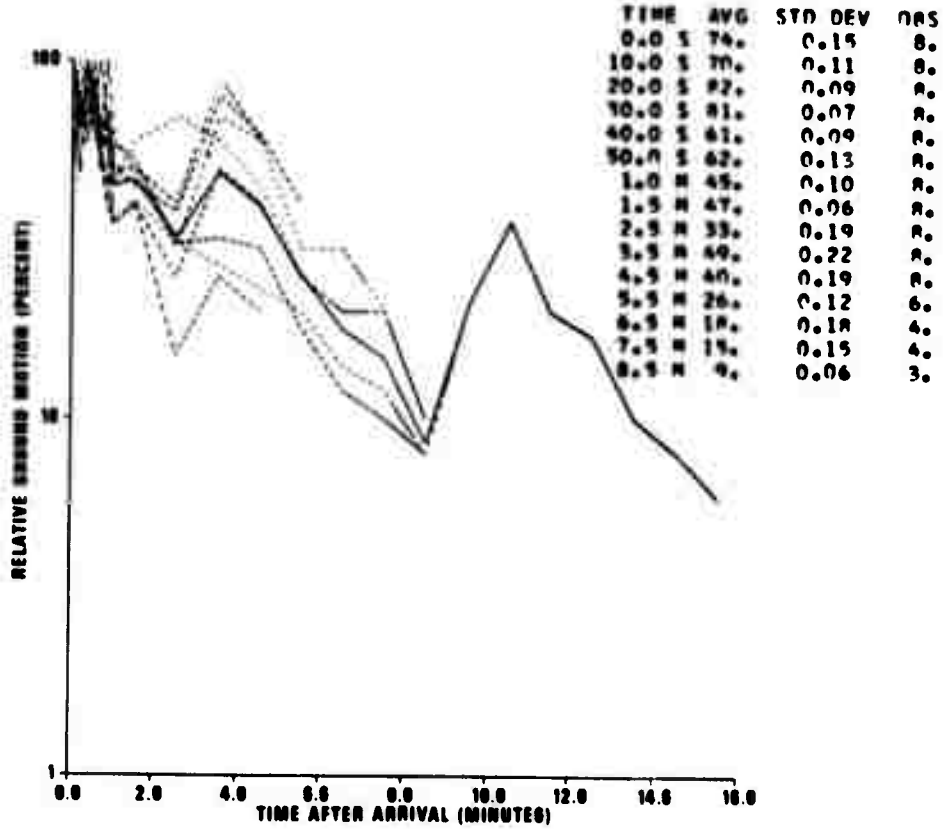


Figure 77. P coda characteristics, Alaska, SHI.

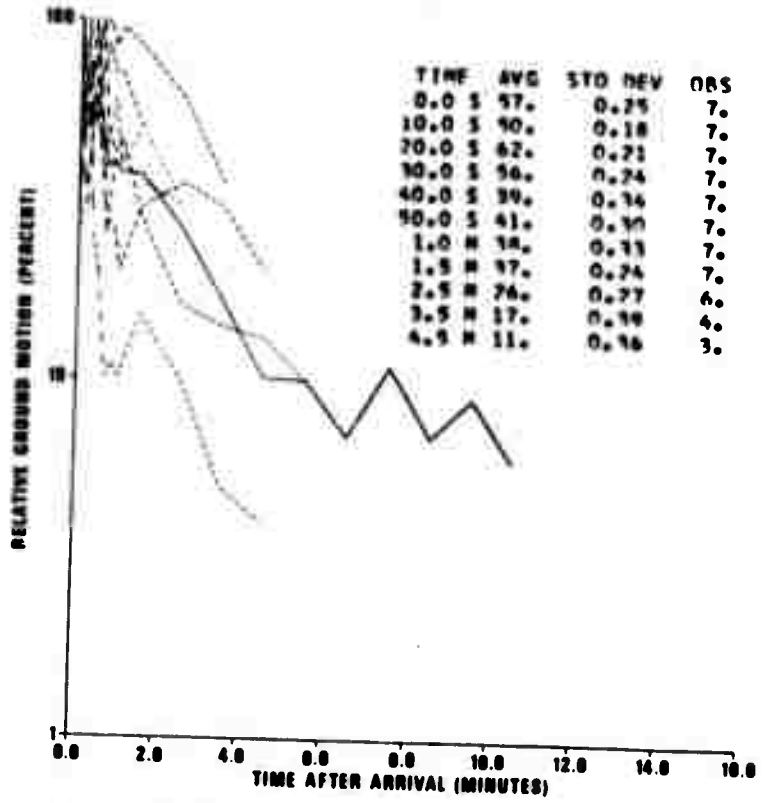


Figure 78. P coda characteristics, Alaska, WES.

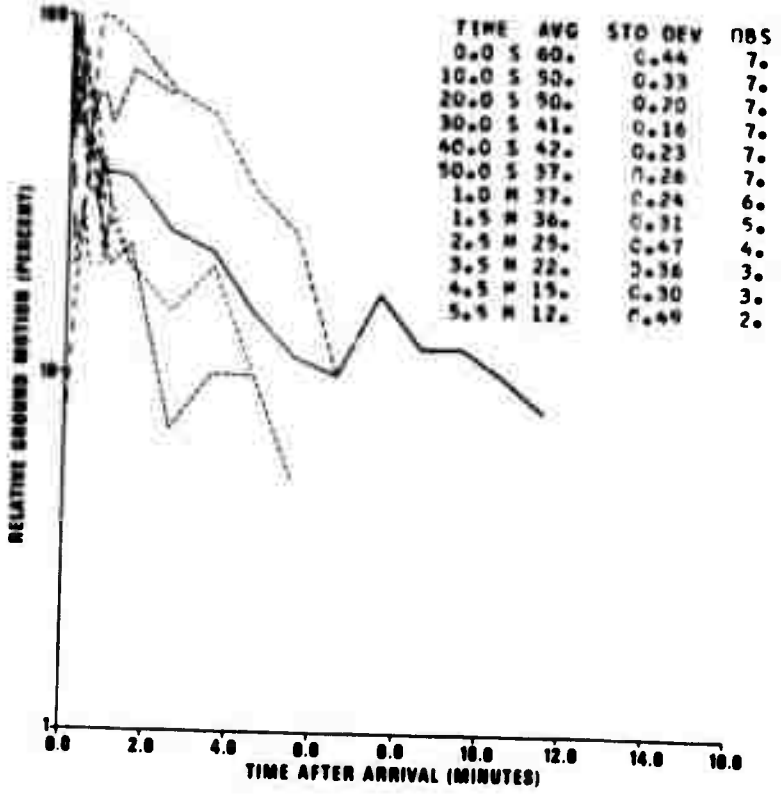
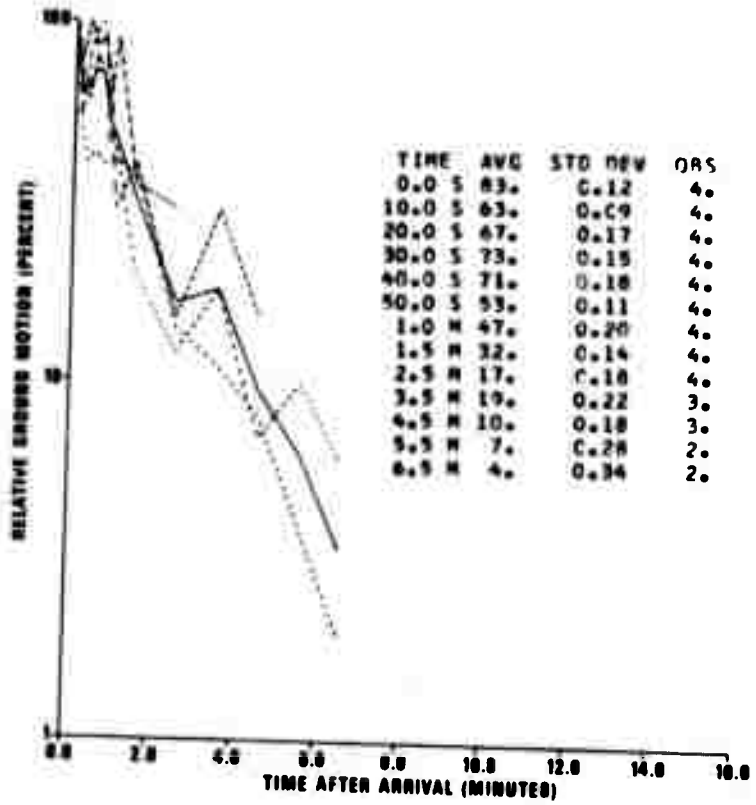
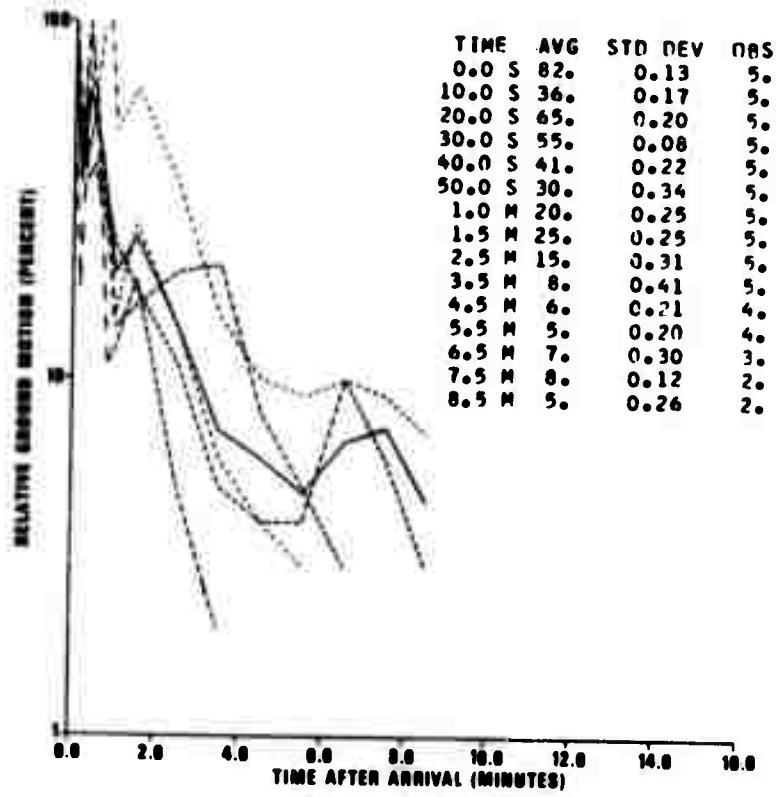


Figure 79. P coda characteristics, Aleutian Islands, ADE.



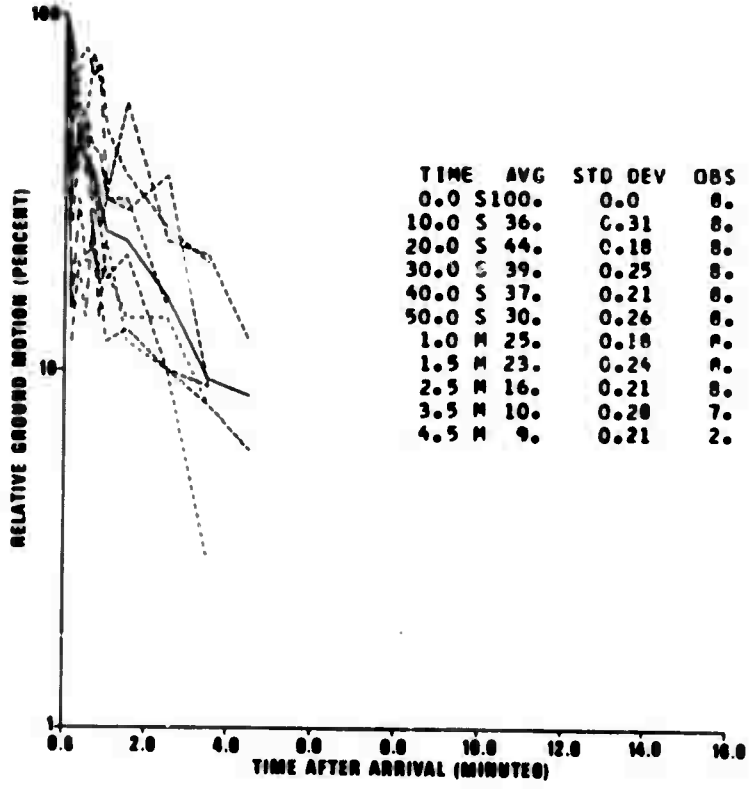
TIME	AVG	STD DEV	OBS
0.0 S	83.	0.12	4.
10.0 S	63.	0.09	4.
20.0 S	67.	0.17	4.
30.0 S	73.	0.15	4.
40.0 S	71.	0.18	4.
50.0 S	53.	0.11	4.
1.0 M	47.	0.20	4.
1.5 M	32.	0.14	4.
2.5 M	17.	0.18	4.
3.5 M	19.	0.22	3.
4.5 M	10.	0.18	3.
5.5 M	7.	0.28	2.
6.5 M	4.	0.34	2.

Figure 80. P coda characteristics, Aleutian Islands, AQU.



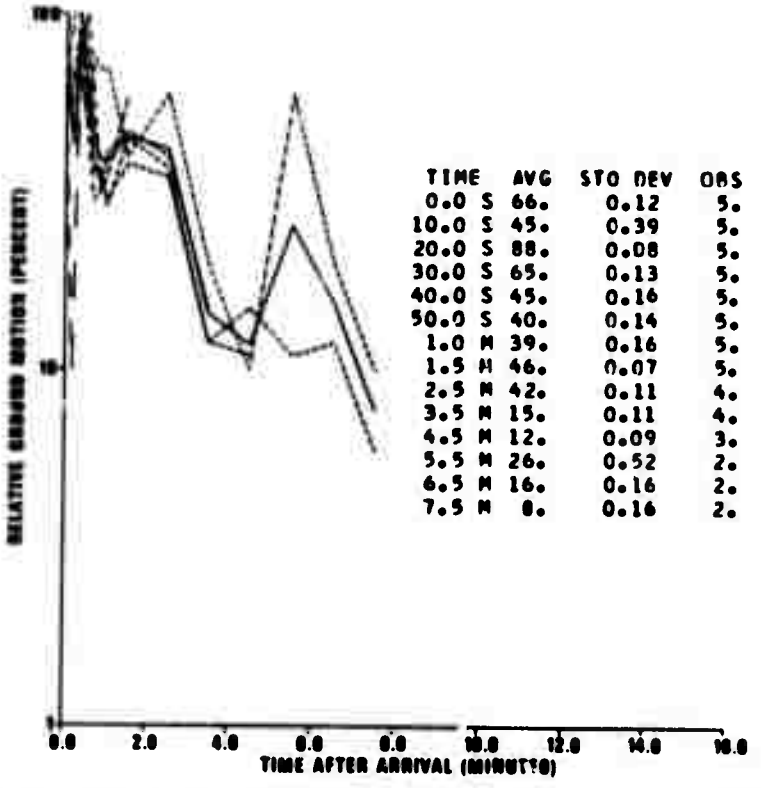
TIME	AVG	STD DEV	OBS
0.0 S	82.	0.13	5.
10.0 S	36.	0.17	5.
20.0 S	65.	0.20	5.
30.0 S	55.	0.08	5.
40.0 S	41.	0.22	5.
50.0 S	30.	0.34	5.
1.0 M	20.	0.25	5.
1.5 M	25.	0.25	5.
2.5 M	15.	0.31	5.
3.5 M	8.	0.41	5.
4.5 M	6.	0.21	4.
5.5 M	5.	0.20	4.
6.5 M	7.	0.30	3.
7.5 M	8.	0.12	2.
8.5 M	5.	0.26	2.

Figure 81. P coda characteristics, Aleutian Islands, BOZ.



TIME		AVG	STD DEV	OBS
0.0	S	100.	0.0	8.
10.0	S	36.	0.31	8.
20.0	S	44.	0.18	8.
30.0	S	39.	0.25	8.
40.0	S	37.	0.21	8.
50.0	S	30.	0.26	8.
1.0	M	25.	0.18	8.
1.5	M	23.	0.24	8.
2.5	M	16.	0.21	8.
3.5	M	10.	0.20	7.
4.5	M	9.	0.21	2.

Figure 82. P coda characteristics, Aleutian Islands, CHG.



TIME		AVG	STD DEV	OBS
0.0	S	66.	0.12	5.
10.0	S	45.	0.39	5.
20.0	S	88.	0.08	5.
30.0	S	65.	0.13	5.
40.0	S	45.	0.16	5.
50.0	S	40.	0.14	5.
1.0	M	39.	0.16	5.
1.5	M	46.	0.07	5.
2.5	M	42.	0.11	4.
3.5	M	15.	0.11	4.
4.5	M	12.	0.09	3.
5.5	M	26.	0.52	2.
6.5	M	16.	0.16	2.
7.5	M	8.	0.16	2.

Figure 83. P coda characteristics, Aleutian Islands, CMC.

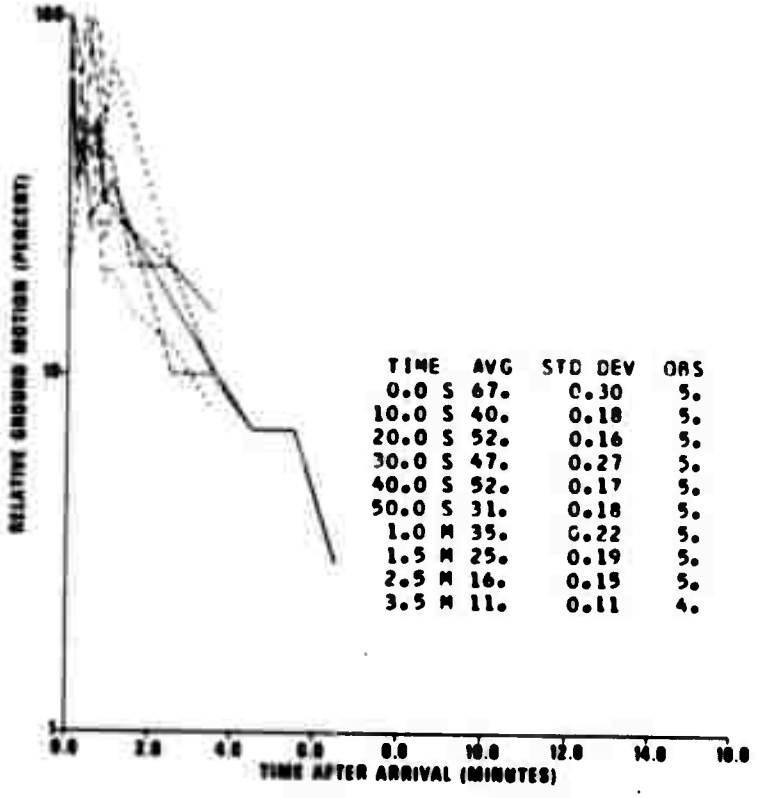


Figure 84. P coda characteristics, Aleutian Islands, DAL.

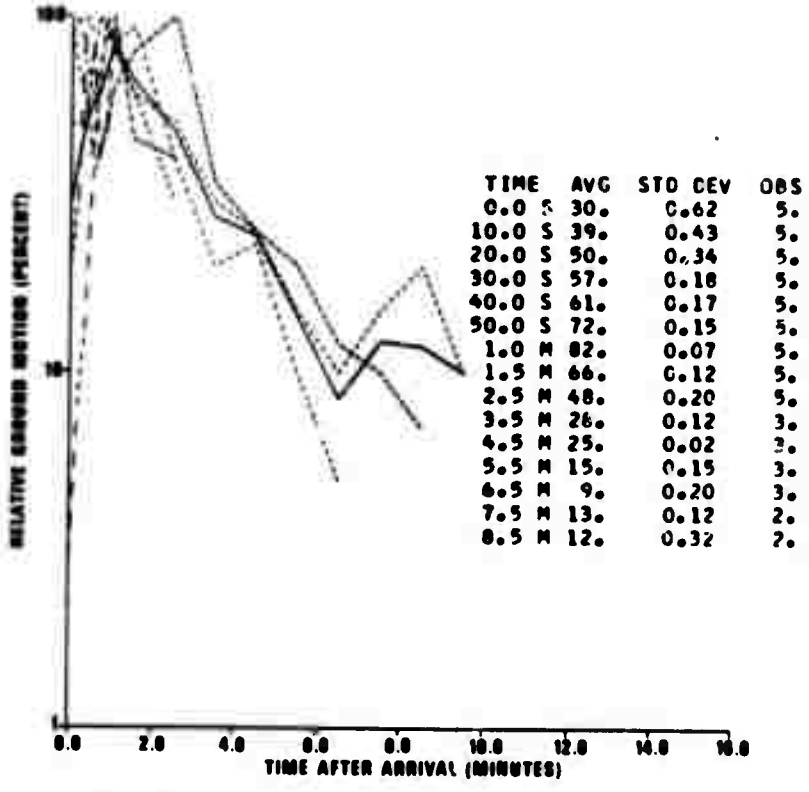


Figure 85. P coda characteristics, Aleutian Islands, DAV.

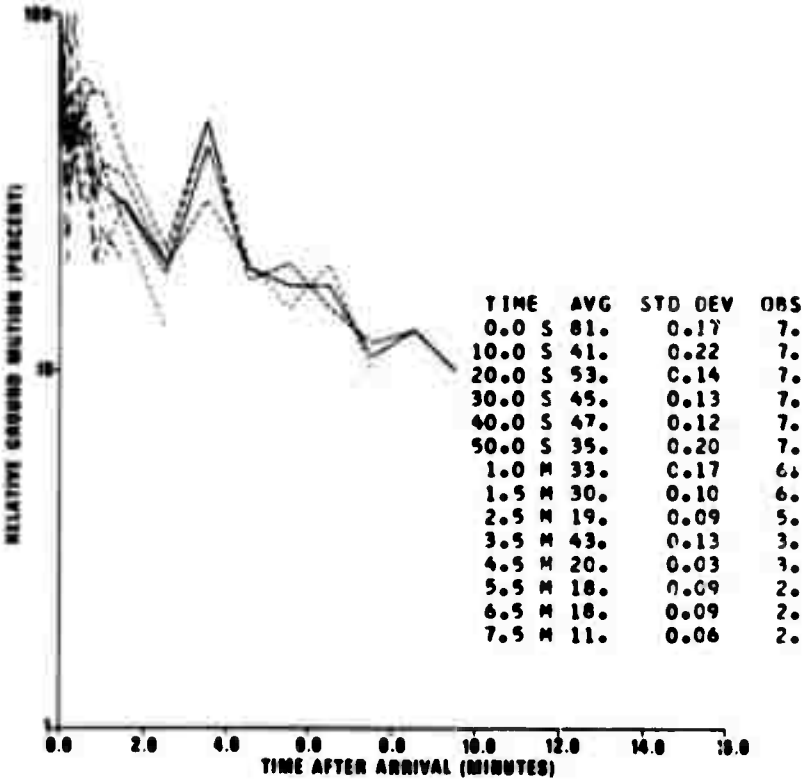


Figure 86. P coda characteristics, Aleutian Islands, IST.

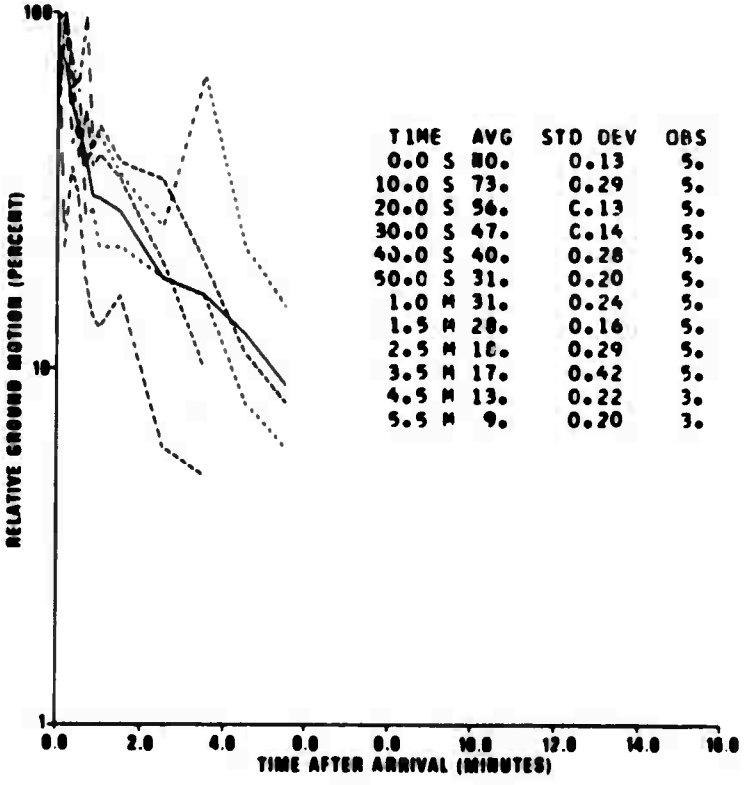
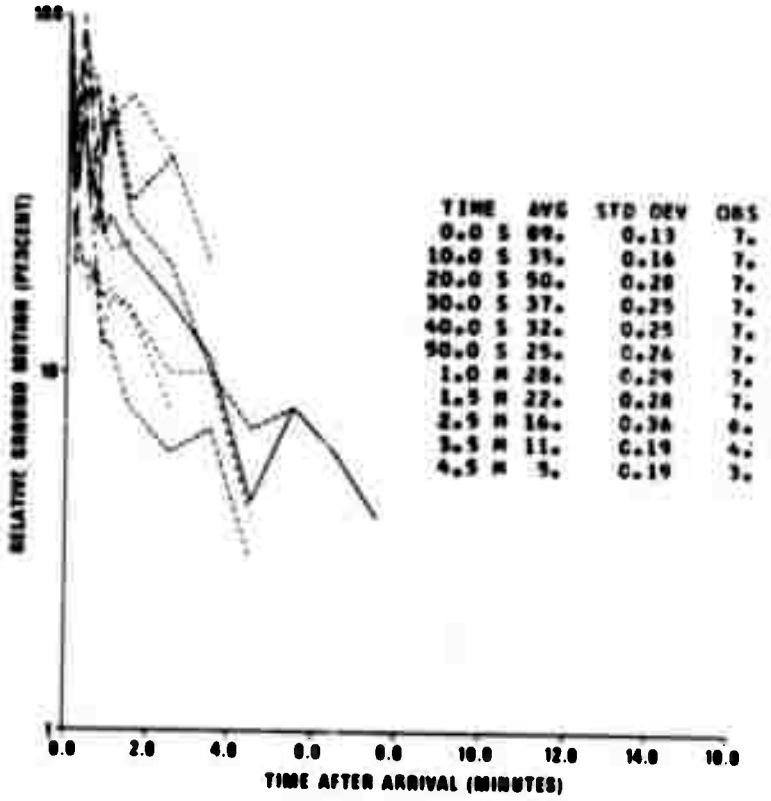
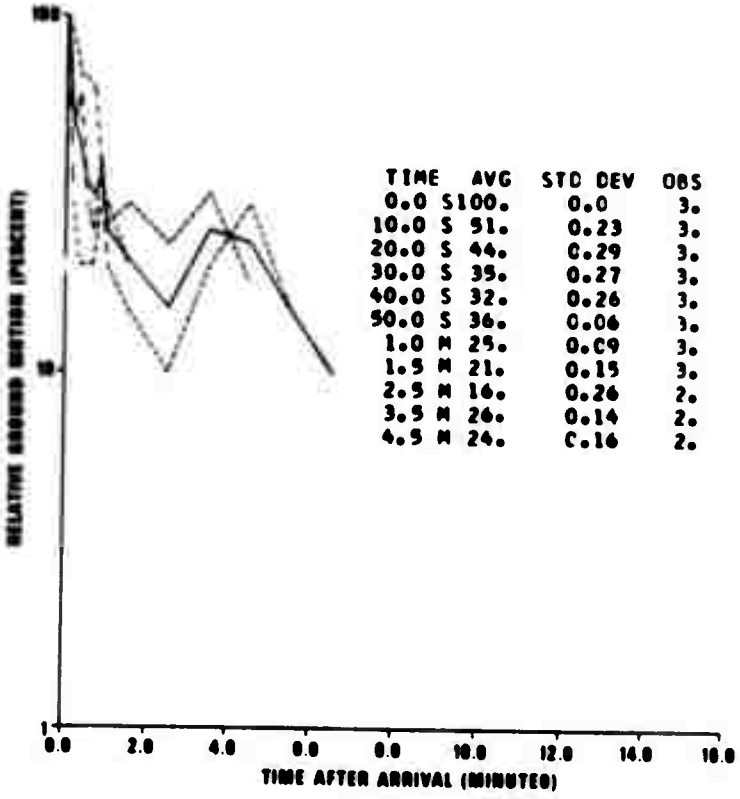


Figure 87. P coda characteristics, Aleutian Islands, KBL.



TIME	AVG	STD DEV	OBS
0.0 S	89.	0.13	7.
10.0 S	35.	0.16	7.
20.0 S	50.	0.28	7.
30.0 S	37.	0.25	7.
40.0 S	32.	0.25	7.
50.0 S	25.	0.26	7.
1.0 M	28.	0.29	7.
1.5 M	22.	0.28	7.
2.5 M	16.	0.36	6.
3.5 M	11.	0.19	4.
4.5 M	9.	0.19	3.

Figure 88. P coda characteristics, Aleutian Islands, KON.



TIME	AVG	STD DEV	OBS
0.0 S	100.	0.0	3.
10.0 S	51.	0.23	3.
20.0 S	44.	0.29	3.
30.0 S	35.	0.27	3.
40.0 S	32.	0.26	3.
50.0 S	36.	0.06	3.
1.0 M	25.	0.09	3.
1.5 M	21.	0.15	3.
2.5 M	16.	0.26	2.
3.5 M	26.	0.14	2.
4.5 M	24.	0.16	2.

Figure 89. P coda characteristics, Aleutian Islands, MAL.

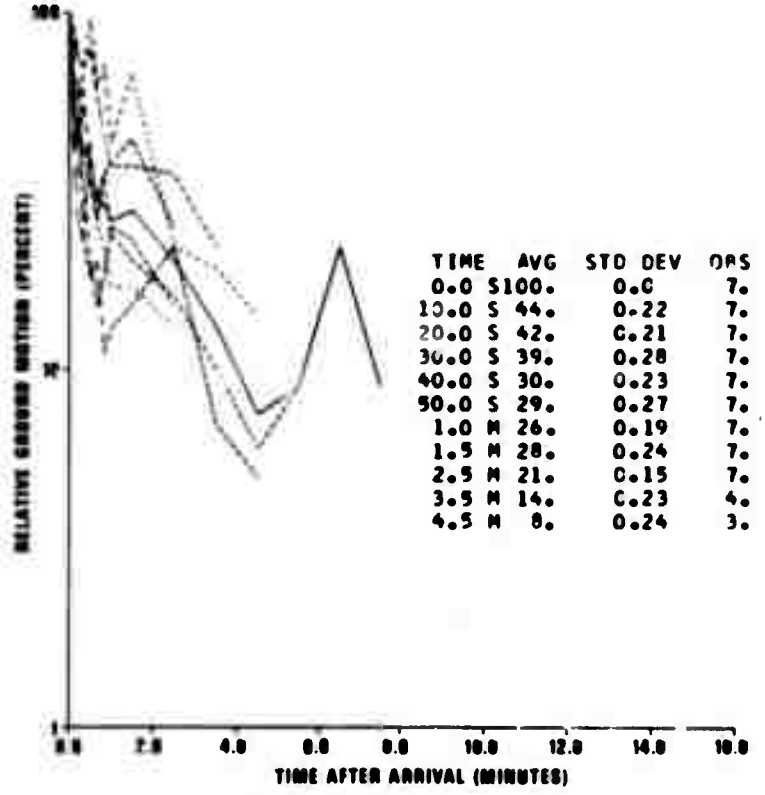


Figure 90. P coda characteristics, Aleutian Islands, MAT.

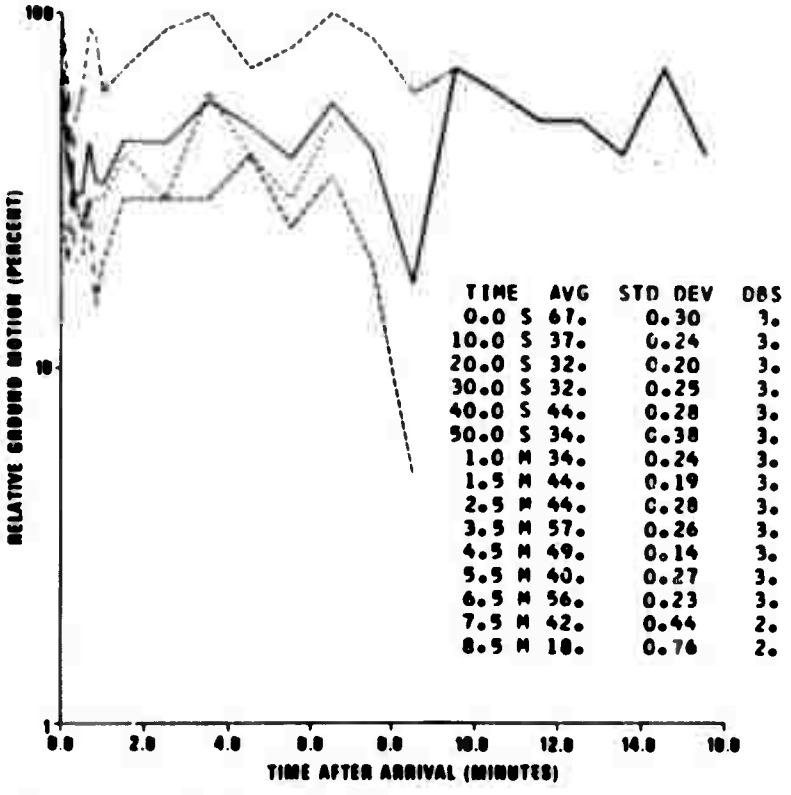


Figure 91. P coda characteristics, Aleutian Islands, MUN.

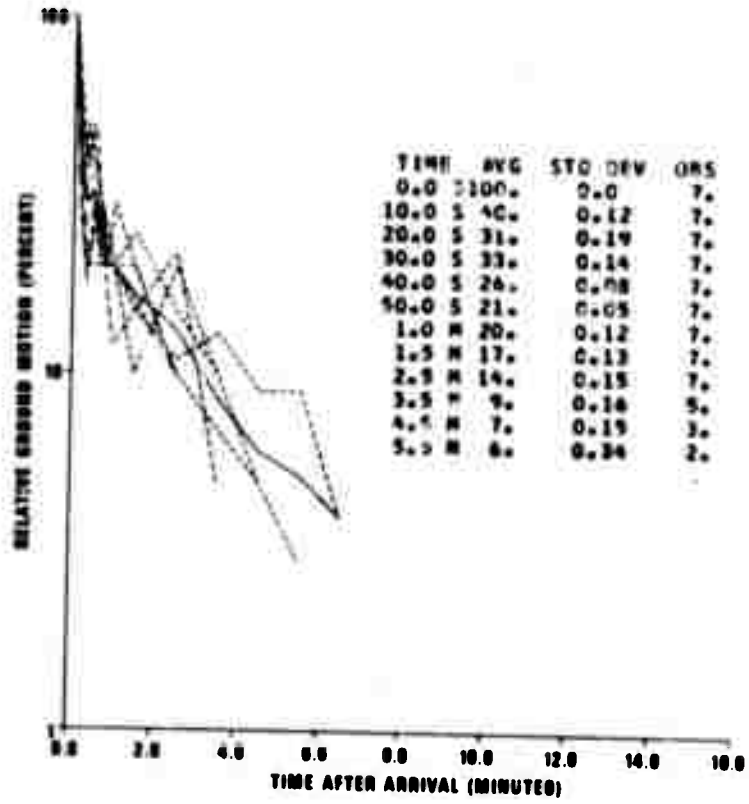


Figure 92. P coda characteristics, Aleutian Islands, NDI.

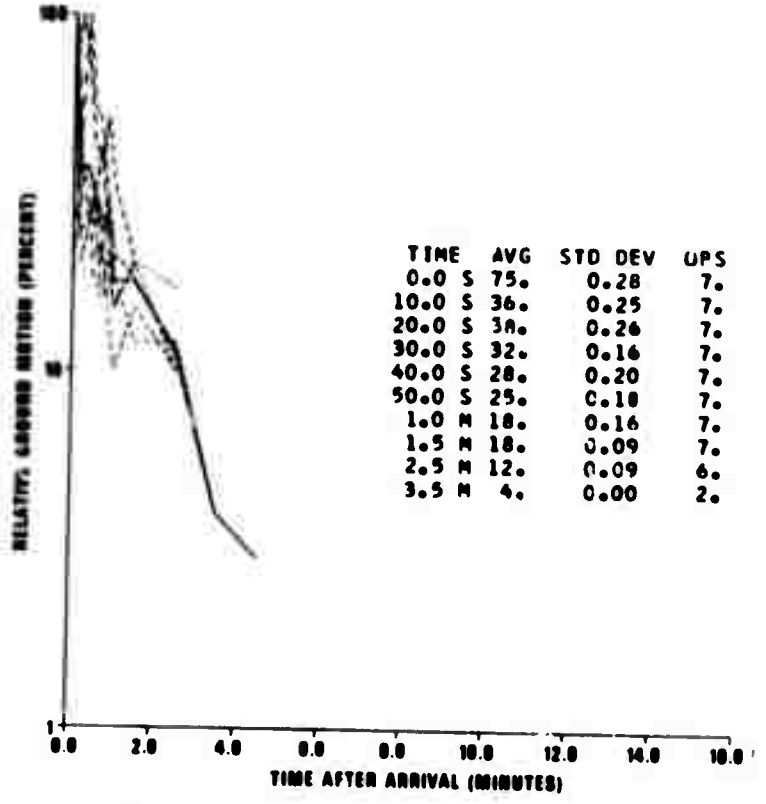
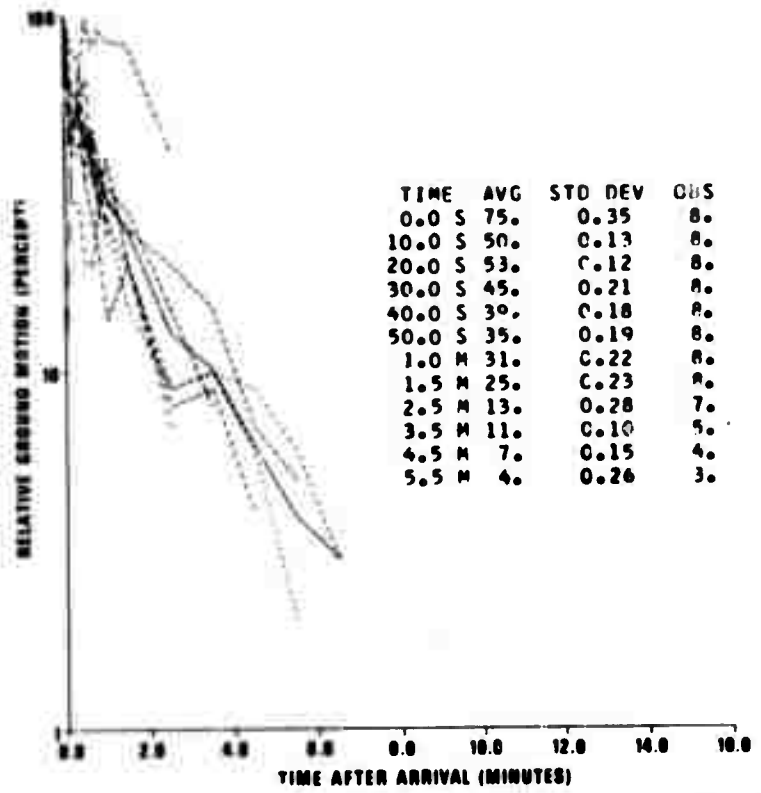
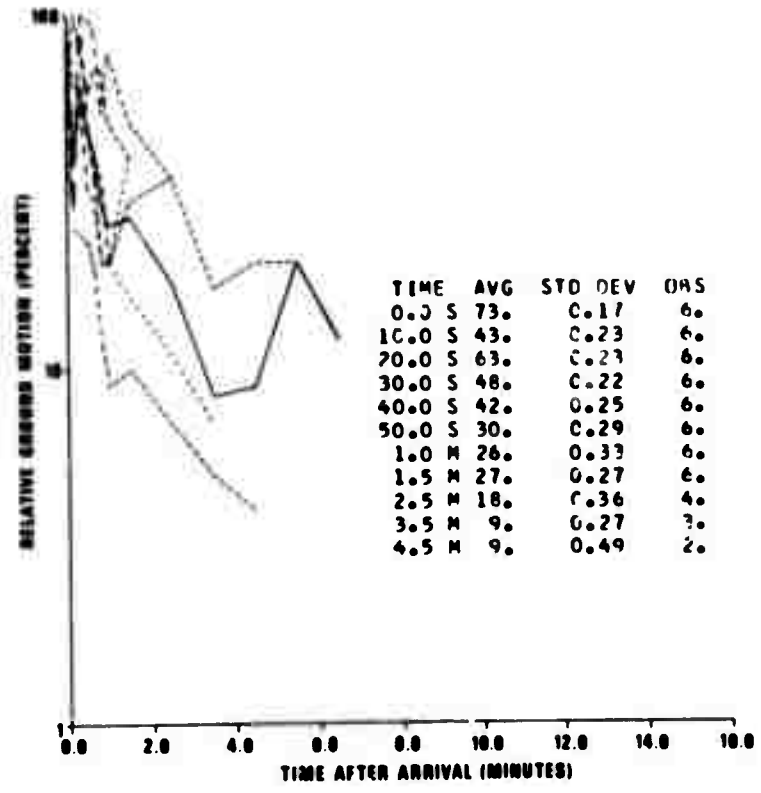


Figure 93. P coda characteristics, Aleutian Islands, SEO.



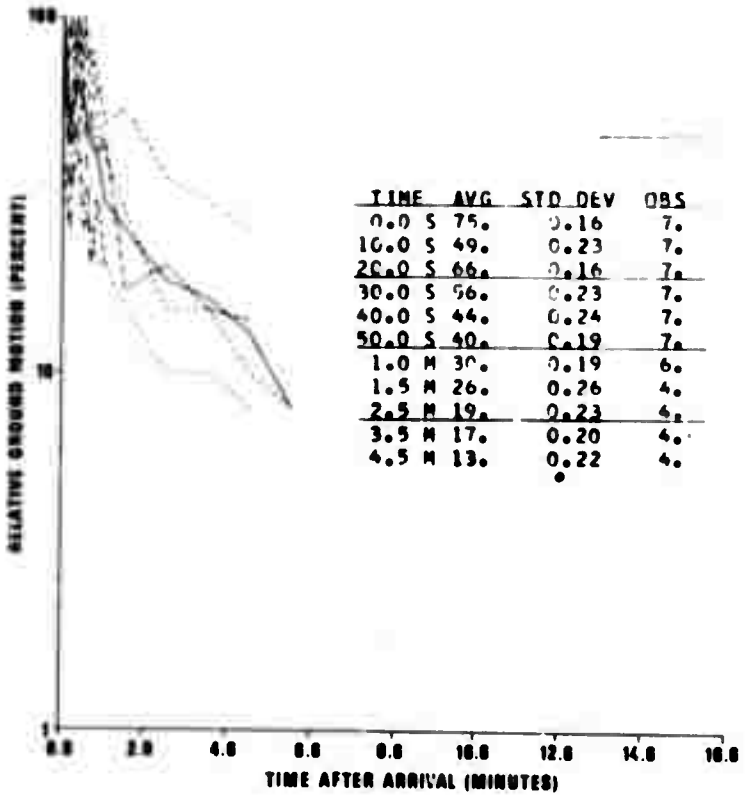
TIME	AVG	STD DEV	OBS
0.0 S	75.	0.35	8.
10.0 S	50.	0.13	8.
20.0 S	53.	0.12	8.
30.0 S	45.	0.21	8.
40.0 S	39.	0.18	8.
50.0 S	35.	0.19	8.
1.0 M	31.	0.22	8.
1.5 M	25.	0.23	8.
2.5 M	13.	0.28	7.
3.5 M	11.	0.10	5.
4.5 M	7.	0.15	4.
5.5 M	4.	0.26	3.

Figure 94. P coda characteristics, Aleutian Islands, SHI.



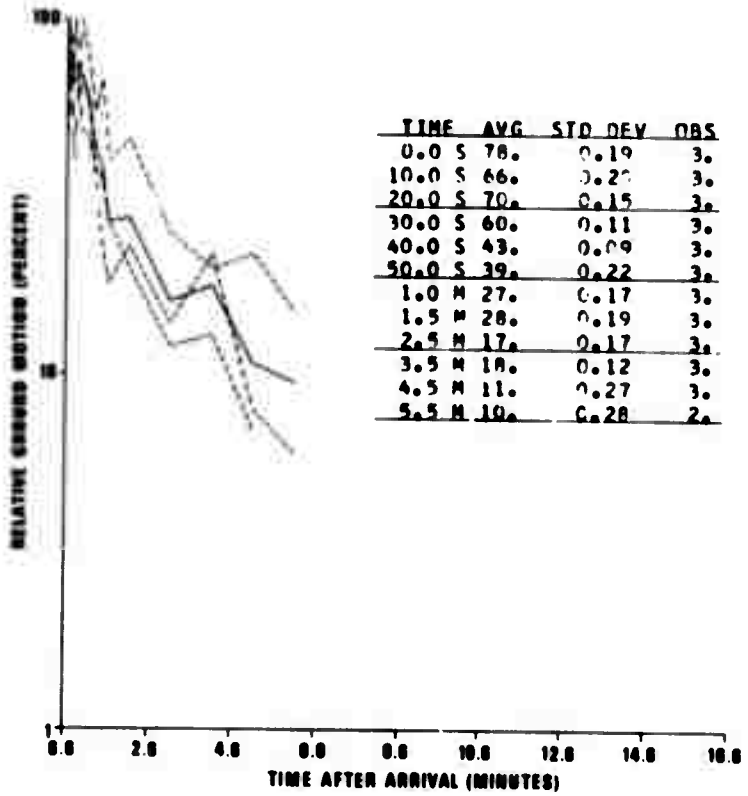
TIME	AVG	STD DEV	OBS
0.0 S	73.	0.17	6.
10.0 S	43.	0.23	6.
20.0 S	63.	0.23	6.
30.0 S	48.	0.22	6.
40.0 S	42.	0.25	6.
50.0 S	30.	0.29	6.
1.0 M	26.	0.33	6.
1.5 M	27.	0.27	6.
2.5 M	18.	0.36	4.
3.5 M	9.	0.27	3.
4.5 M	9.	0.49	2.

Figure 95. P coda characteristics, Aleutian Islands, WES.



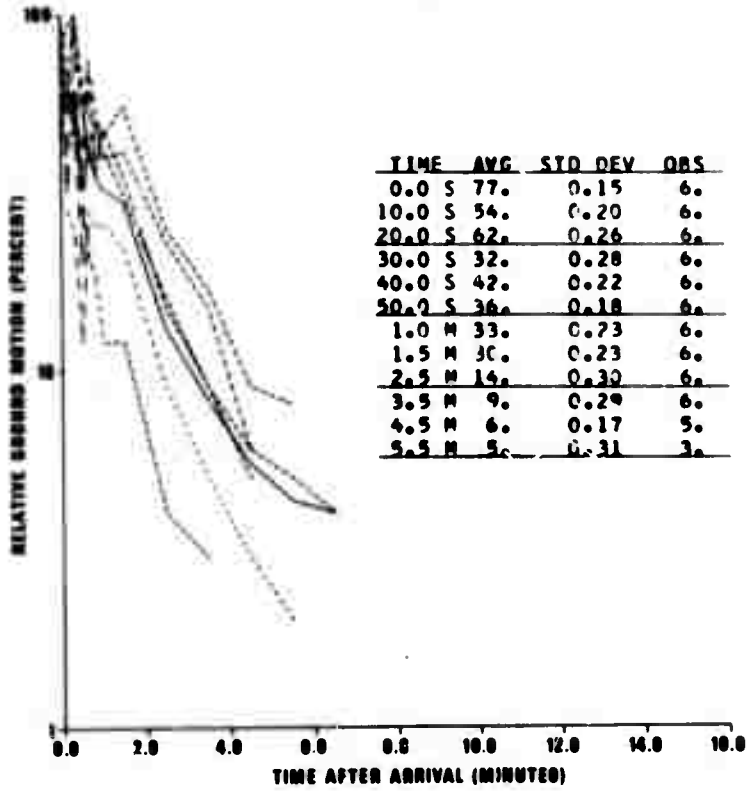
TIME	AVG	STD DEV	OBS
0.0 S	75.	0.16	7.
10.0 S	49.	0.23	7.
20.0 S	66.	0.16	7.
30.0 S	56.	0.23	7.
40.0 S	44.	0.24	7.
50.0 S	40.	0.19	7.
1.0 M	30.	0.19	6.
1.5 M	26.	0.26	4.
2.5 M	19.	0.23	4.
3.5 M	17.	0.20	4.
4.5 M	13.	0.22	4.

Figure 96. P coda characteristics, Kamchatka-Kurile Islands, ADE.



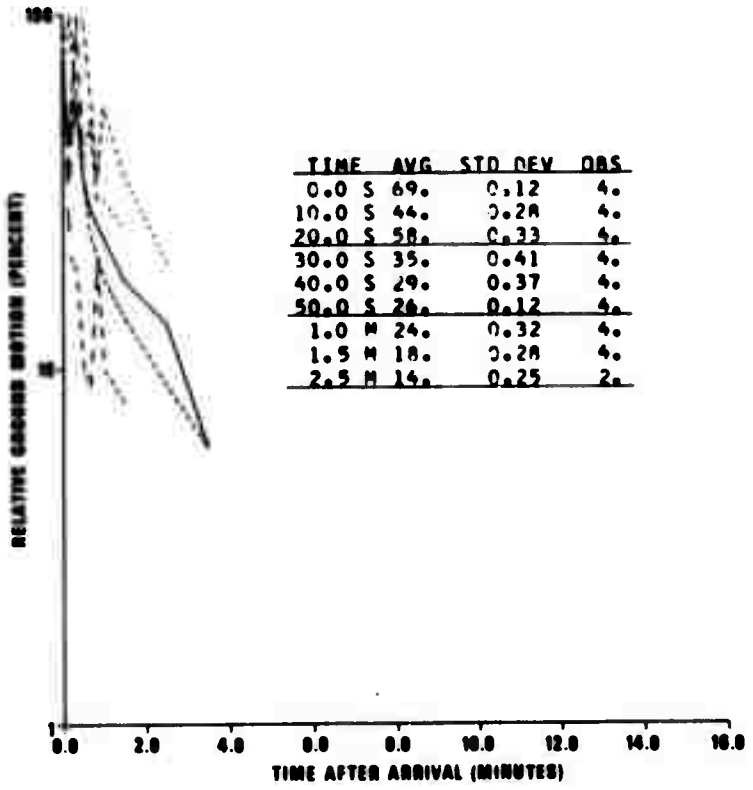
TIME	AVG	STD DEV	OBS
0.0 S	78.	0.19	3.
10.0 S	66.	0.23	3.
20.0 S	70.	0.15	3.
30.0 S	60.	0.11	3.
40.0 S	43.	0.09	3.
50.0 S	39.	0.22	3.
1.0 M	27.	0.17	3.
1.5 M	28.	0.19	3.
2.5 M	17.	0.17	3.
3.5 M	18.	0.12	3.
4.5 M	11.	0.27	3.
5.5 M	10.	0.28	2.

Figure 97. P coda characteristics, Kamchatka-Kurile Islands, AQU.



TIME	AVG	STD DEV	OBS
0.0 S	77.	0.15	6.
10.0 S	54.	0.20	6.
20.0 S	62.	0.26	6.
30.0 S	32.	0.28	6.
40.0 S	42.	0.22	6.
50.0 S	36.	0.18	6.
1.0 M	33.	0.23	6.
1.5 M	30.	0.23	6.
2.5 M	14.	0.30	6.
3.5 M	9.	0.29	6.
4.5 M	6.	0.17	5.
5.5 M	5.	0.31	3.

Figure 98. P coda characteristics, Kamchatka-Kurile Islands, BOZ.



TIME	AVG	STD DEV	OBS
0.0 S	69.	0.12	4.
10.0 S	44.	0.28	4.
20.0 S	58.	0.33	4.
30.0 S	35.	0.41	4.
40.0 S	29.	0.37	4.
50.0 S	26.	0.12	4.
1.0 M	24.	0.32	4.
1.5 M	18.	0.28	4.
2.5 M	14.	0.25	2.

Figure 99. P coda characteristics, Kamchatka-Kurile Islands, CHG.

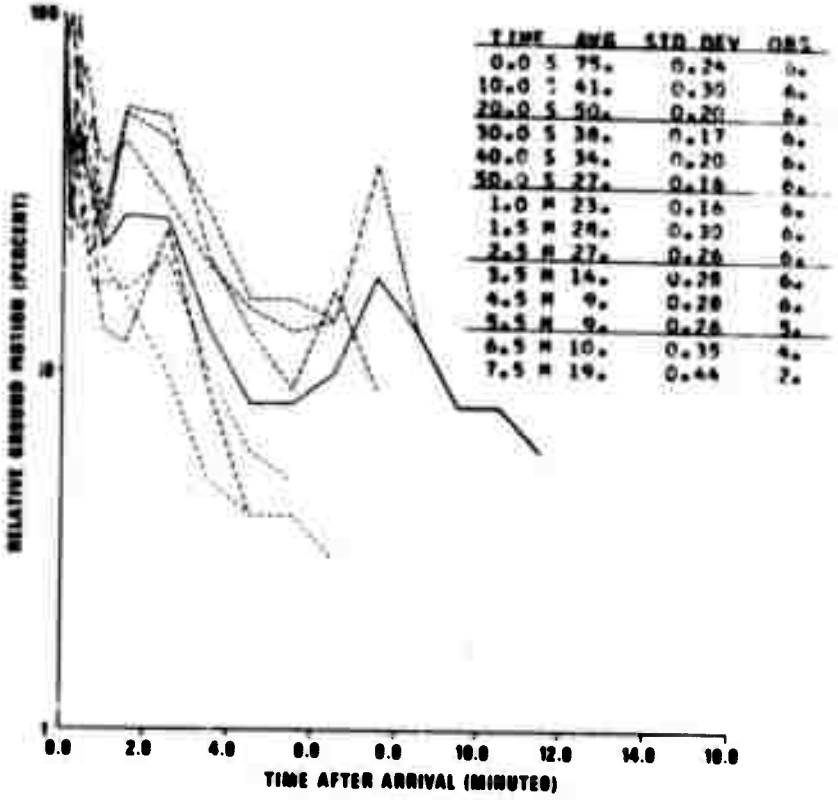


Figure 100. P coda characteristics, Kamchatka-Kurile Islands, CMC.

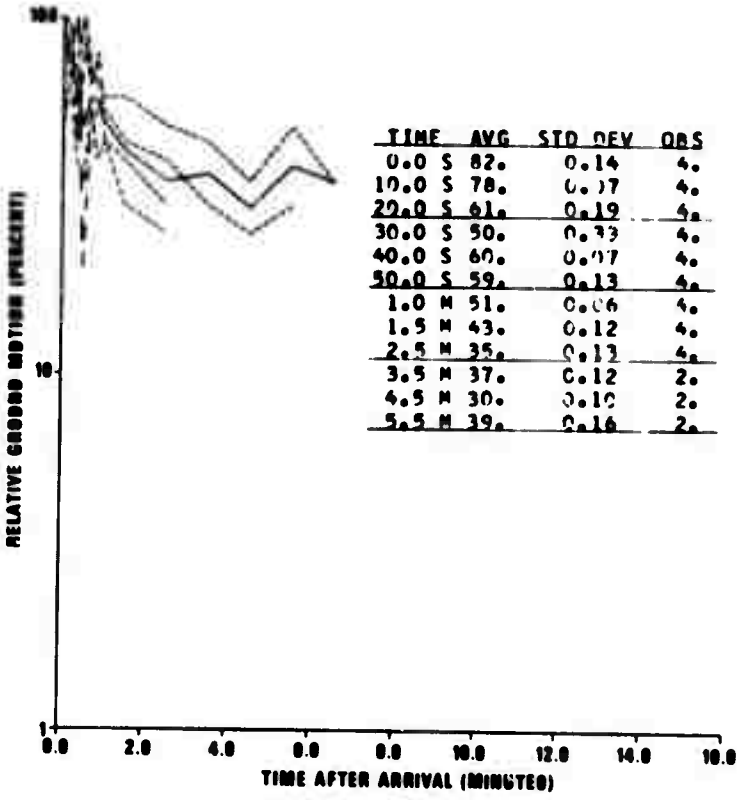
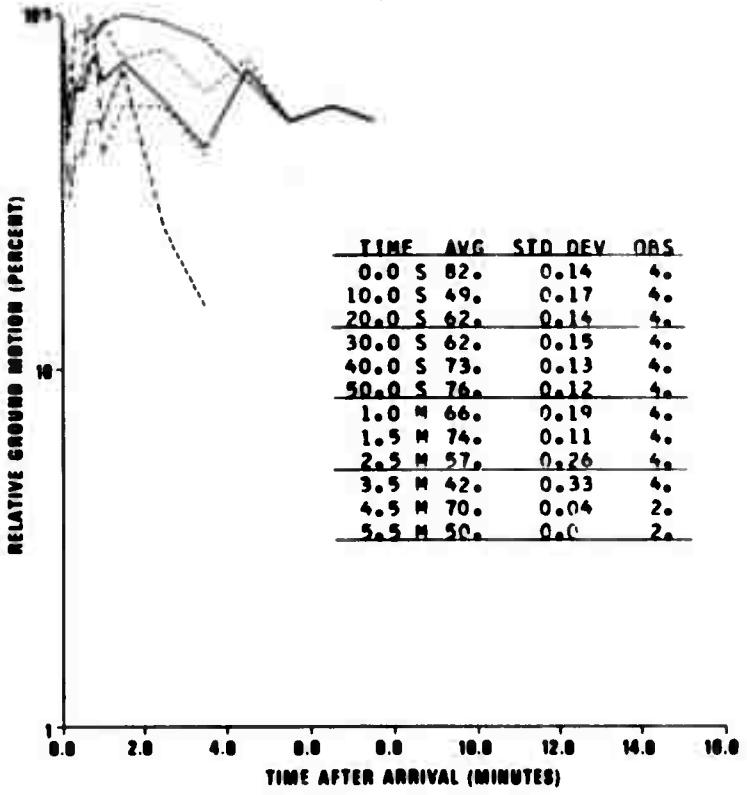
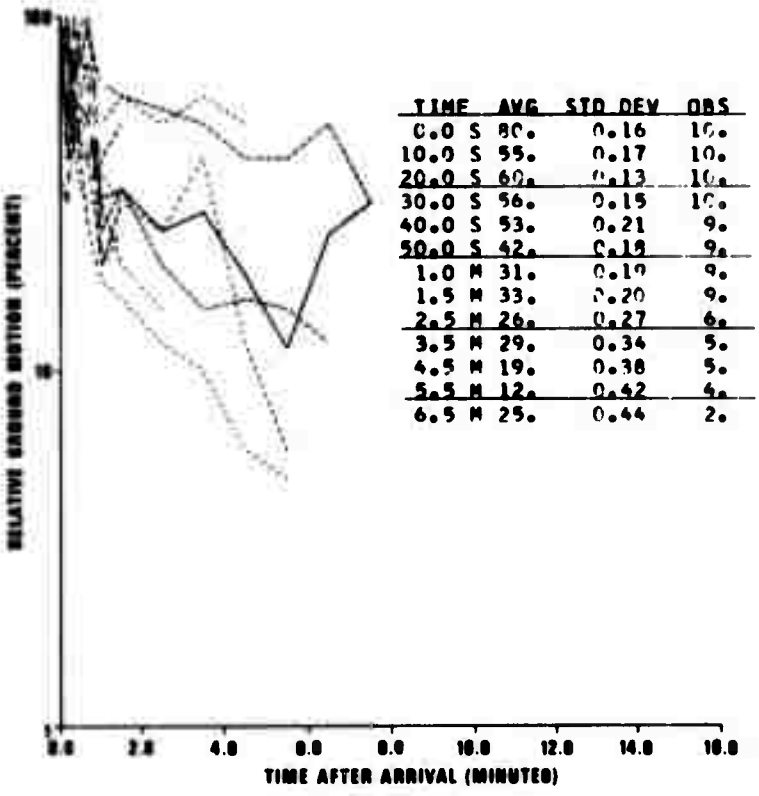


Figure 101. P coda characteristics, Kamchatka-Kurile Islands, DAL.



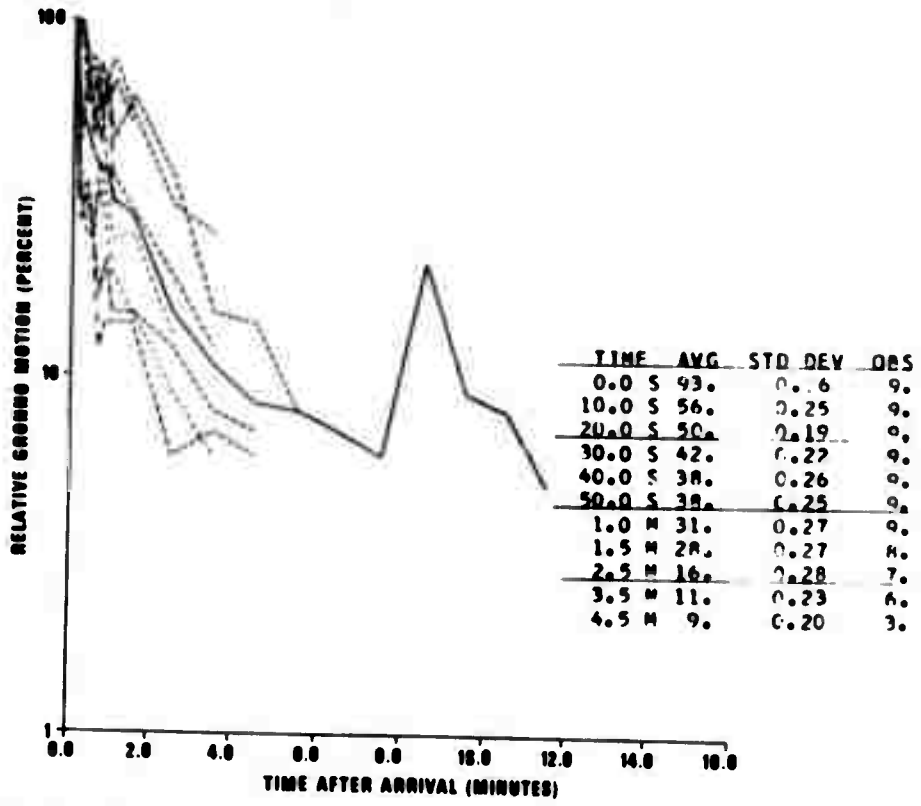
TIME	AVG	STD DEV	OBS
0.0 S	82.	0.14	4.
10.0 S	49.	0.17	4.
20.0 S	62.	0.14	4.
30.0 S	62.	0.15	4.
40.0 S	73.	0.13	4.
50.0 S	76.	0.12	4.
1.0 M	66.	0.19	4.
1.5 M	74.	0.11	4.
2.5 M	57.	0.26	4.
3.5 M	42.	0.33	4.
4.5 M	70.	0.04	2.
5.5 M	50.	0.0	2.

Figure 102. P coda characteristics, Kamchatka-Kurile Islands, DAV.



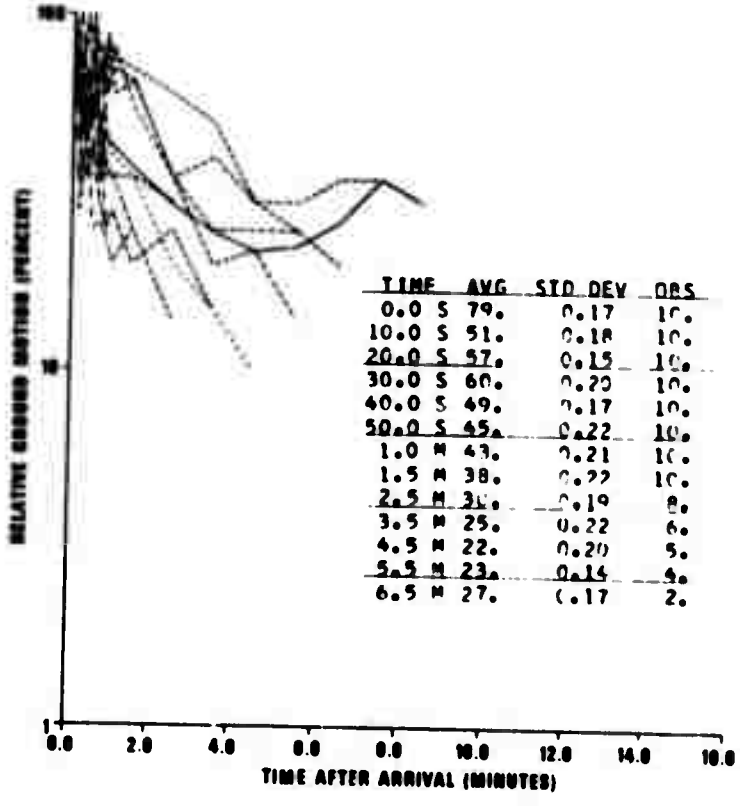
TIME	AVG	STD DEV	OBS
0.0 S	80.	0.16	10.
10.0 S	55.	0.17	10.
20.0 S	60.	0.13	10.
30.0 S	56.	0.15	10.
40.0 S	53.	0.21	9.
50.0 S	42.	0.18	9.
1.0 M	31.	0.19	9.
1.5 M	33.	0.20	9.
2.5 M	26.	0.27	6.
3.5 M	29.	0.34	5.
4.5 M	19.	0.38	5.
5.5 M	12.	0.42	4.
6.5 M	25.	0.44	2.

Figure 103. P coda characteristics, Kamchatka-Kurile Islands, IST.



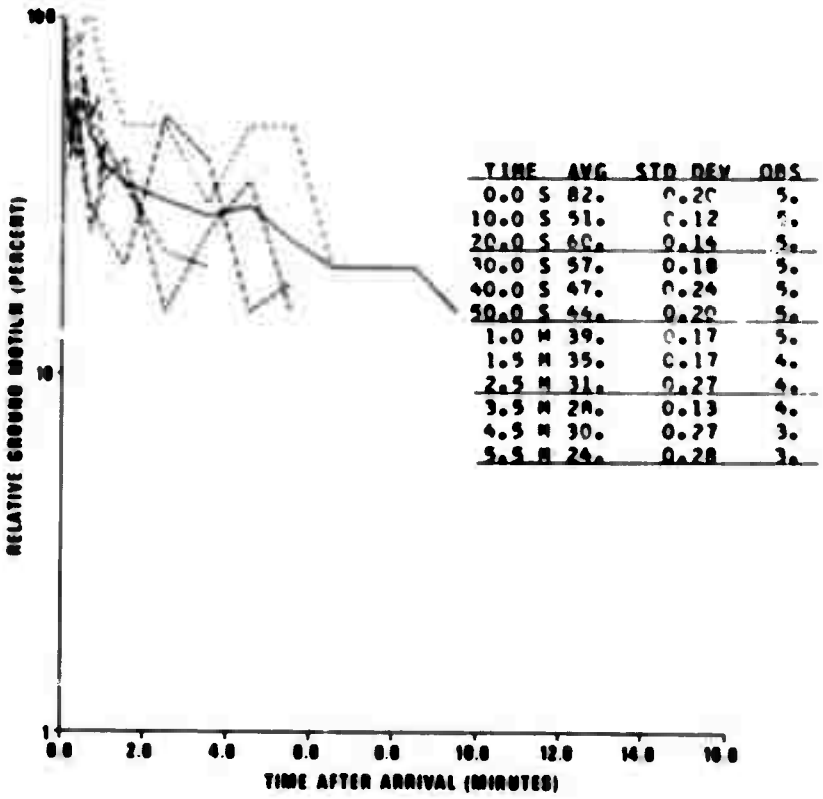
TIME	AVG	STD DEV	OBS
0.0 S	93.	0..6	9.
10.0 S	56.	0.25	9.
20.0 S	50.	0.19	9.
30.0 S	42.	0.27	9.
40.0 S	38.	0.26	9.
50.0 S	38.	0.25	9.
1.0 M	31.	0.27	9.
1.5 M	28.	0.27	8.
2.5 M	16.	0.28	7.
3.5 M	11.	0.23	6.
4.5 M	9.	0.20	3.

Figure 104. P coda characteristics, Kamchatka-Kurile Islands, KBL.



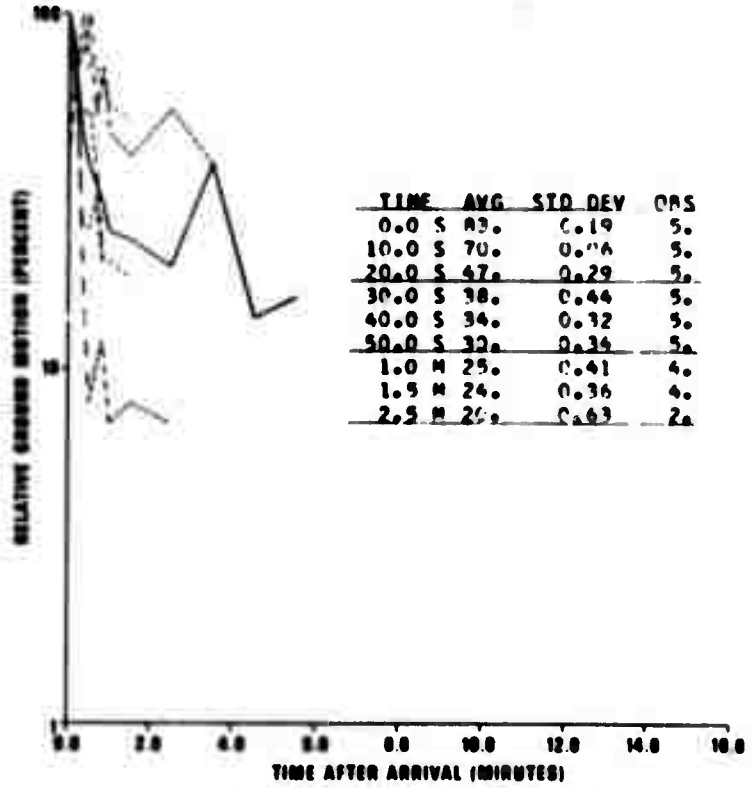
TIME	AVG	STD DEV	OBS
0.0 S	79.	0.17	10.
10.0 S	51.	0.18	10.
20.0 S	57.	0.15	10.
30.0 S	60.	0.20	10.
40.0 S	49.	0.17	10.
50.0 S	45.	0.22	10.
1.0 M	43.	0.21	10.
1.5 M	38.	0.22	10.
2.5 M	31.	0.19	8.
3.5 M	25.	0.22	6.
4.5 M	22.	0.20	5.
5.5 M	23.	0.14	4.
6.5 M	27.	0.17	2.

Figure 105. P coda characteristics, Kamchatka-Kurile Islands, KON.



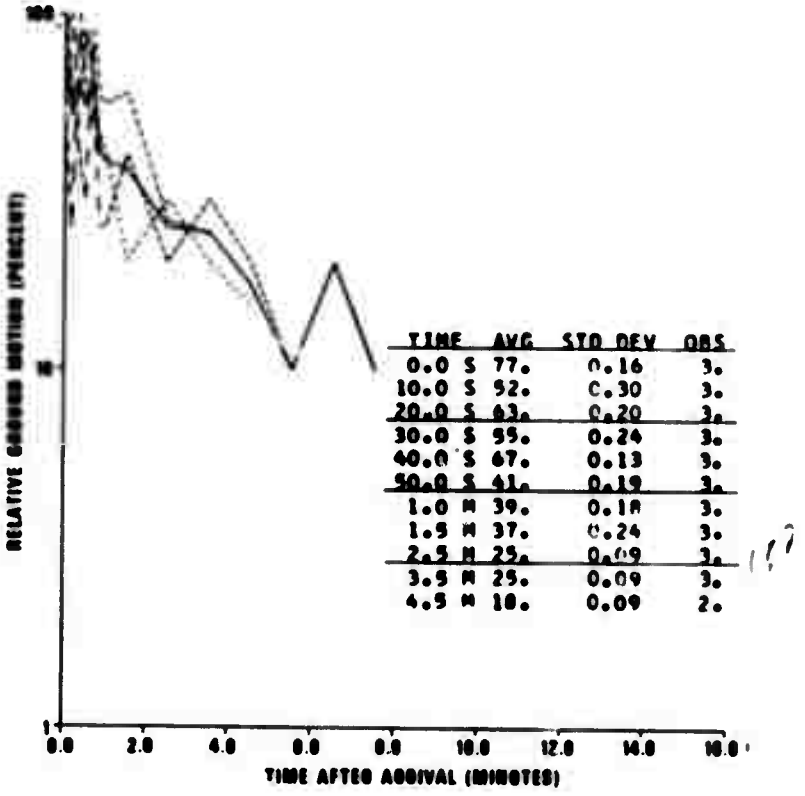
TIME	AVG	STD DEV	OBS
0.0 S	82.	0.20	5.
10.0 S	51.	0.12	5.
20.0 S	66.	0.14	5.
30.0 S	57.	0.18	5.
40.0 S	47.	0.24	5.
50.0 S	44.	0.20	5.
1.0 M	39.	0.17	5.
1.5 M	35.	0.17	4.
2.5 M	31.	0.27	4.
3.5 M	28.	0.13	4.
4.5 M	30.	0.27	3.
5.5 M	24.	0.28	3.

Figure 106. P coda characteristics, Kamchatka-Kurile Islands, MAL.



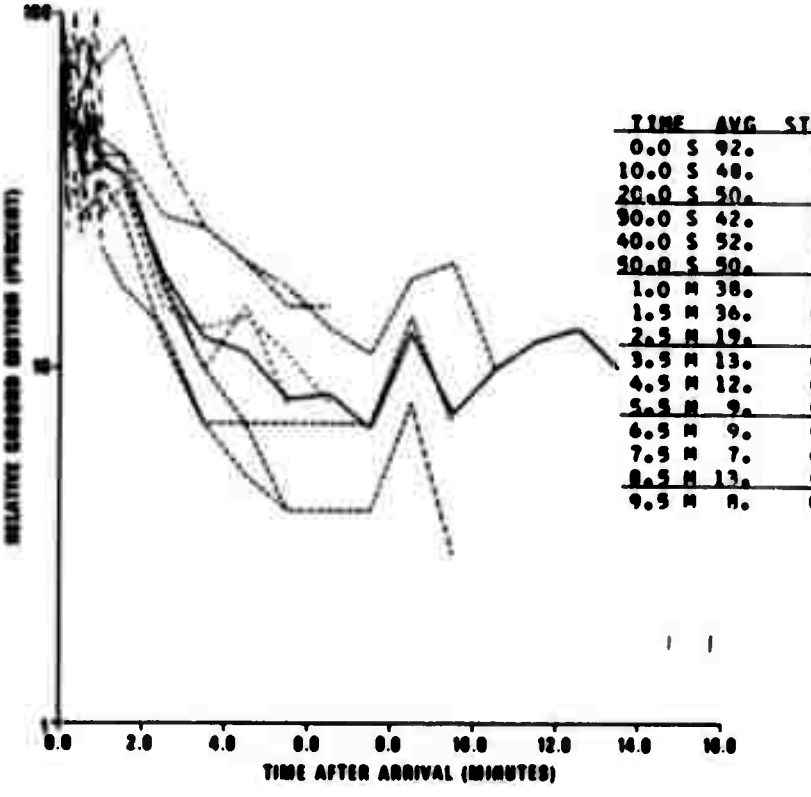
TIME	AVG	STD DEV	OBS
0.0 S	83.	0.19	5.
10.0 S	70.	0.06	5.
20.0 S	47.	0.29	5.
30.0 S	38.	0.44	5.
40.0 S	34.	0.32	5.
50.0 S	32.	0.34	5.
1.0 M	25.	0.41	4.
1.5 M	24.	0.36	4.
2.5 M	20.	0.63	2.

Figure 107. P coda characteristics, Kamchatka-Kurile Islands, MAT.



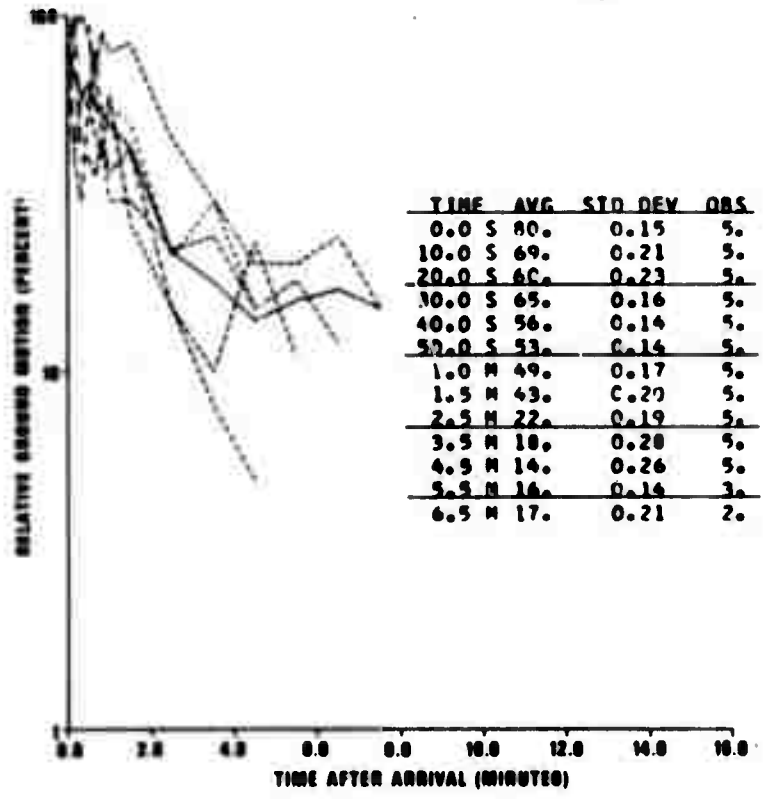
TIME	AVG	STD DEV	OBS
0.0 S	77.	0.16	3.
10.0 S	52.	0.30	3.
20.0 S	63.	0.20	3.
30.0 S	55.	0.24	3.
40.0 S	67.	0.13	3.
50.0 S	41.	0.19	3.
1.0 M	39.	0.18	3.
1.5 M	37.	0.24	3.
2.5 M	25.	0.09	3.
3.5 M	25.	0.09	3.
4.5 M	18.	0.09	2.

Figure 108. P coda characteristics, Kamchatka-Kurile Islands, MUN.



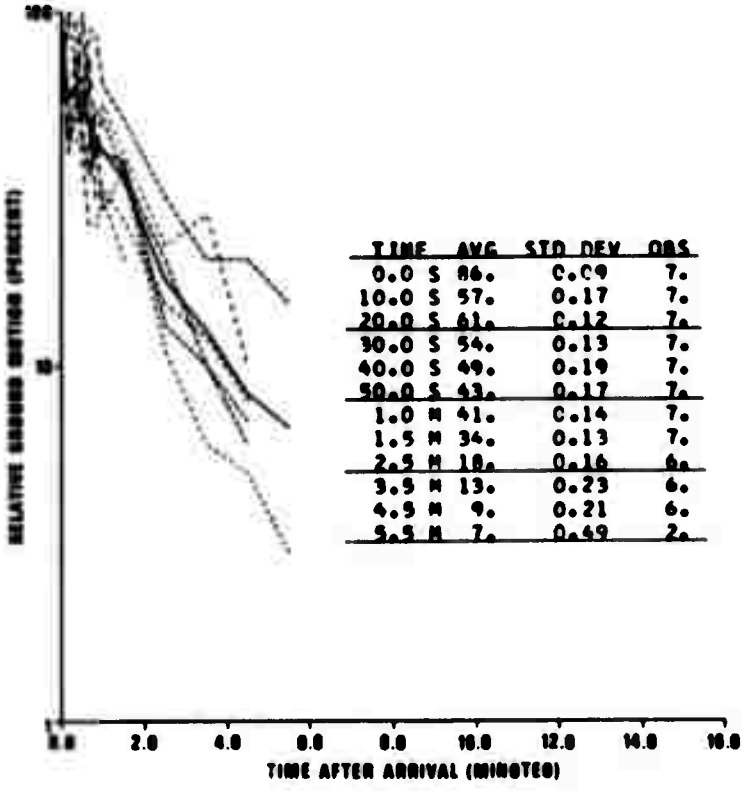
TIME	AVG	STD DEV	OBS
0.0 S	92.	0.10	7.
10.0 S	48.	0.18	7.
20.0 S	50.	0.18	7.
30.0 S	42.	0.18	7.
40.0 S	52.	0.18	7.
50.0 S	50.	0.18	7.
1.0 M	38.	0.17	7.
1.5 M	36.	0.21	7.
2.5 M	19.	0.19	7.
3.5 M	13.	0.23	7.
4.5 M	12.	0.24	7.
5.5 M	9.	0.25	7.
6.5 M	9.	0.23	5.
7.5 M	7.	0.22	3.
8.5 M	13.	0.18	3.
9.5 M	8.	0.41	3.

Figure 109. P coda characteristics, Kamchatka-Kurile Islands, NDI.



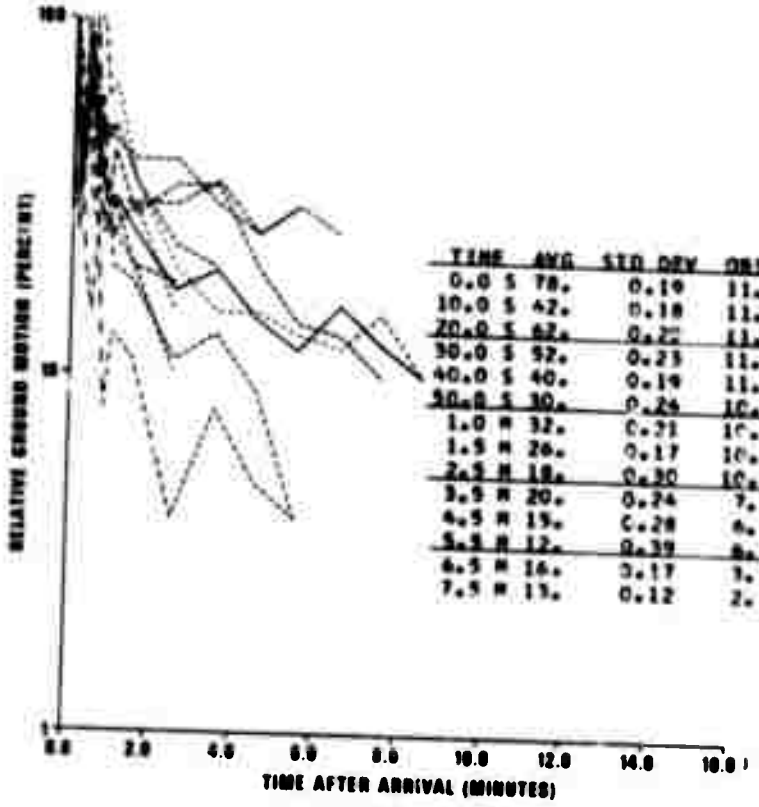
TIME	AVG	STD DEV	OBS
0.0 S	80.	0.15	5.
10.0 S	69.	0.21	5.
20.0 S	60.	0.23	5.
30.0 S	65.	0.16	5.
40.0 S	56.	0.14	5.
50.0 S	53.	0.14	5.
1.0 M	49.	0.17	5.
1.5 M	43.	0.20	5.
2.5 M	22.	0.19	5.
3.5 M	18.	0.28	5.
4.5 M	14.	0.26	5.
5.5 M	16.	0.14	3.
6.5 M	17.	0.21	2.

Figure 110. P coda characteristics, Kamchatka-Kurile Islands, SEO.



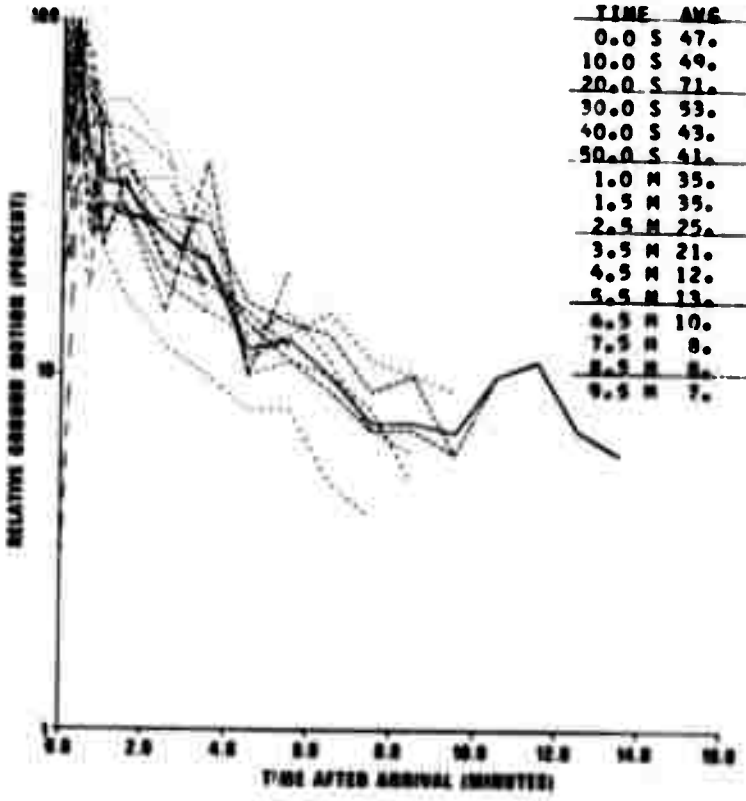
TIME	AVG	STD DEV	OBS
0.0 S	86.	0.09	7.
10.0 S	57.	0.17	7.
20.0 S	61.	0.12	7.
30.0 S	54.	0.13	7.
40.0 S	49.	0.19	7.
50.0 S	43.	0.17	7.
1.0 M	41.	0.14	7.
1.5 M	34.	0.13	7.
2.5 M	18.	0.16	6.
3.5 M	13.	0.23	6.
4.5 M	9.	0.21	6.
5.5 M	7.	0.49	2.

Figure 111. P coda characteristics, Kamchatka-Kurile Islands, SHI.



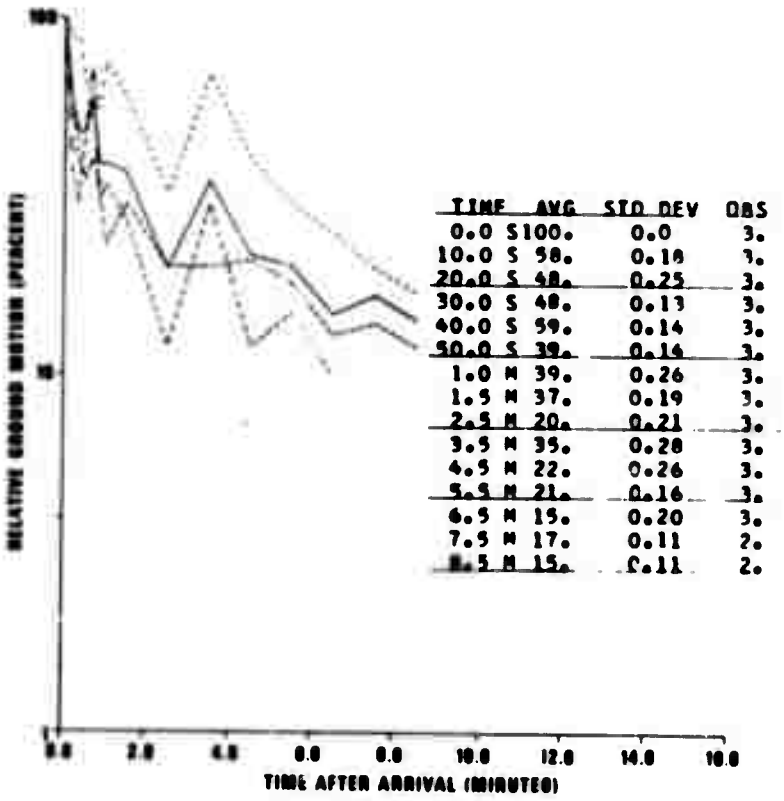
TIME	AVG	STD DEV	OBS
0.0 S	78.	0.19	11.
10.0 S	42.	0.18	11.
20.0 S	62.	0.27	11.
30.0 S	52.	0.23	11.
40.0 S	40.	0.19	11.
50.0 S	30.	0.24	10.
1.0 N	32.	0.21	10.
1.5 N	26.	0.17	10.
2.5 N	18.	0.20	10.
3.5 N	20.	0.24	7.
4.5 N	15.	0.28	6.
5.5 N	12.	0.39	8.
6.5 N	16.	0.17	3.
7.5 N	15.	0.12	2.

Figure 112. P coda characteristics, Kamchatka-Kurile Islands, WES.



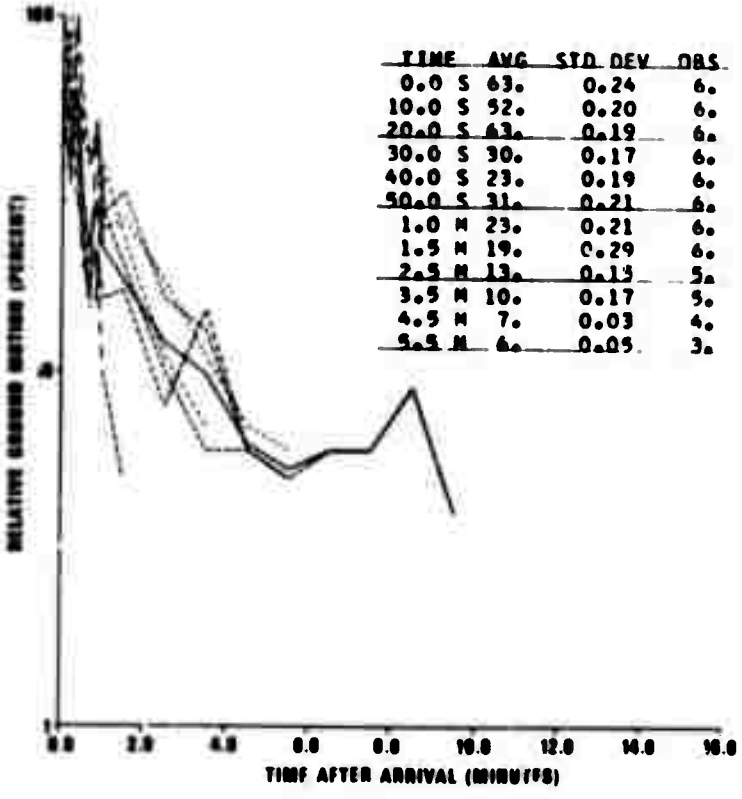
TIME	AVG	STD DEV	OBS
0.0 S	47.	0.48	11.
10.0 S	49.	0.33	11.
20.0 S	71.	0.11	11.
30.0 S	53.	0.17	11.
40.0 S	43.	0.21	11.
50.0 S	41.	0.13	11.
1.0 N	35.	0.15	11.
1.5 N	35.	0.15	11.
2.5 N	25.	0.18	11.
3.5 N	21.	0.17	11.
4.5 N	12.	0.10	8.
5.5 N	13.	0.12	8.
6.5 N	10.	0.17	6.
7.5 N	8.	0.15	6.
8.5 N	8.	0.13	5.
9.5 N	7.	0.10	3.

Figure 113. P coda characteristics, Japan, ADE.



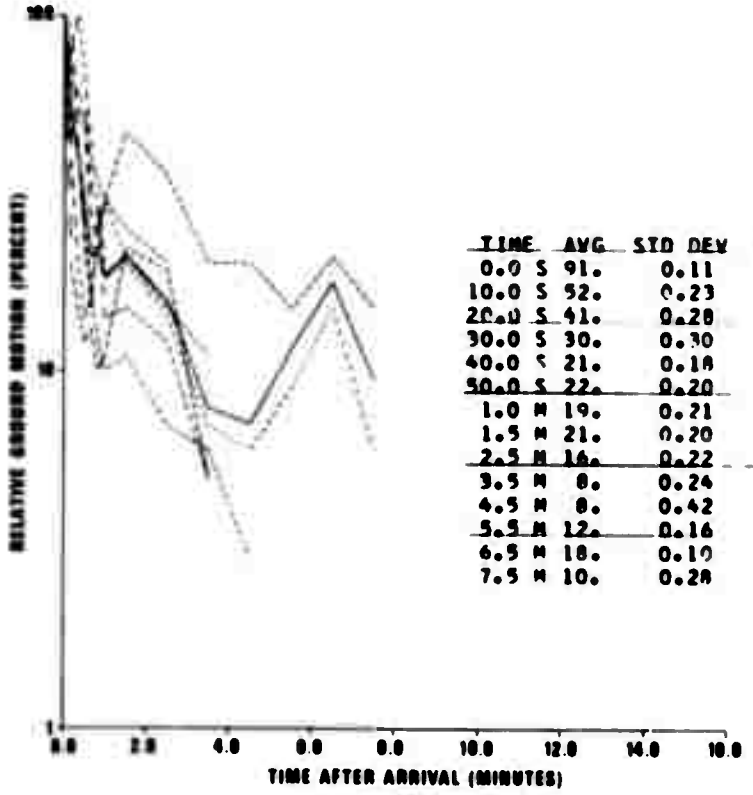
TIME		AVG	STD DEV	OBS
0.0	S	100.	0.0	3.
10.0	S	58.	0.10	3.
20.0	S	48.	0.25	3.
30.0	S	40.	0.13	3.
40.0	S	39.	0.14	3.
50.0	S	39.	0.14	3.
1.0	M	39.	0.26	3.
1.5	M	37.	0.19	3.
2.5	M	20.	0.21	3.
3.5	M	35.	0.28	3.
4.5	M	22.	0.26	3.
5.5	M	21.	0.16	3.
6.5	M	15.	0.20	3.
7.5	M	17.	0.11	2.
8.5	M	15.	0.11	2.

Figure 114. P coda characteristics, Japan, AQU.



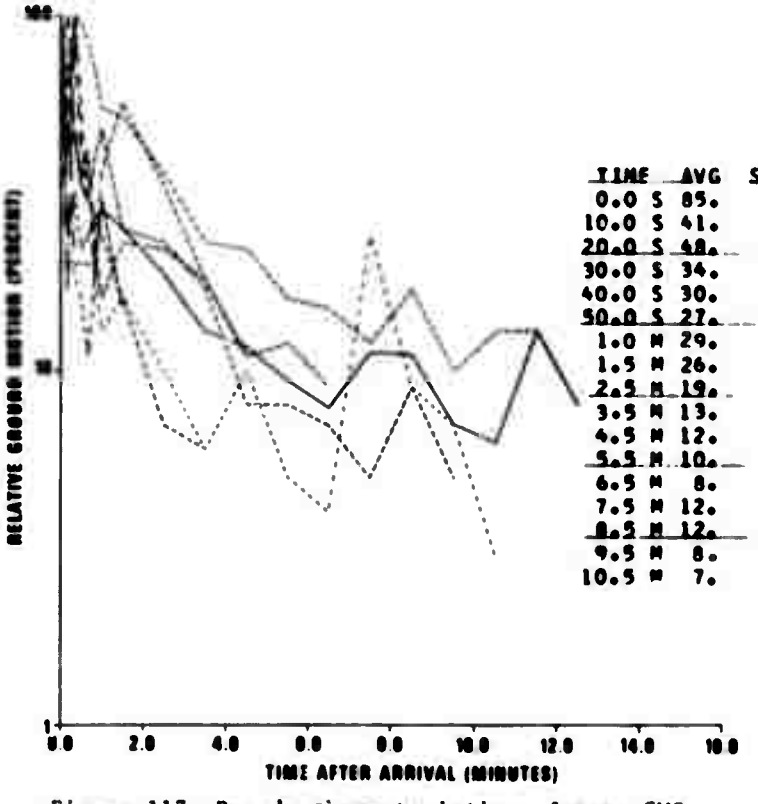
TIME		AVG	STD DEV	OBS
0.0	S	63.	0.24	6.
10.0	S	52.	0.20	6.
20.0	S	43.	0.19	6.
30.0	S	30.	0.17	6.
40.0	S	23.	0.19	6.
50.0	S	31.	0.21	6.
1.0	M	23.	0.21	6.
1.5	M	19.	0.29	6.
2.5	M	13.	0.13	5.
3.5	M	10.	0.17	5.
4.5	M	7.	0.03	4.
5.5	M	6.	0.05	3.

Figure 115. P coda characteristics, Japan, BOZ.



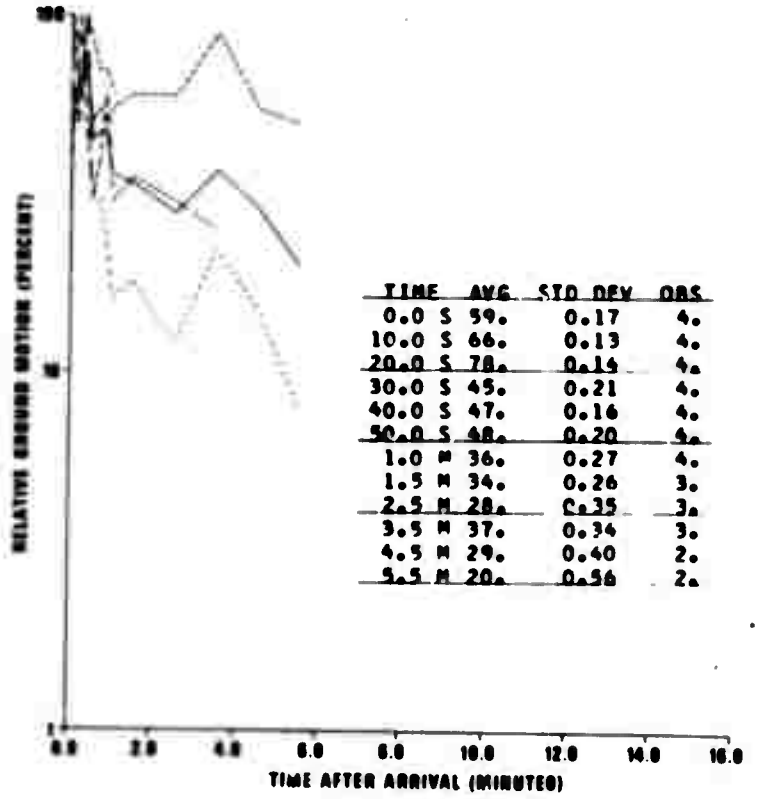
TIME		AVG	STD DEV	OBS
0.0	S	91.	0.11	7.
10.0	S	52.	0.23	7.
20.0	S	41.	0.28	7.
30.0	S	30.	0.30	7.
40.0	S	21.	0.18	7.
50.0	S	22.	0.20	7.
1.0	M	19.	0.21	7.
1.5	M	21.	0.20	7.
2.5	M	16.	0.22	7.
3.5	M	8.	0.24	6.
4.5	M	8.	0.42	3.
5.5	M	12.	0.16	2.
6.5	M	18.	0.10	2.
7.5	M	10.	0.28	2.

Figure 116. P coda characteristics, Japan, CHG.



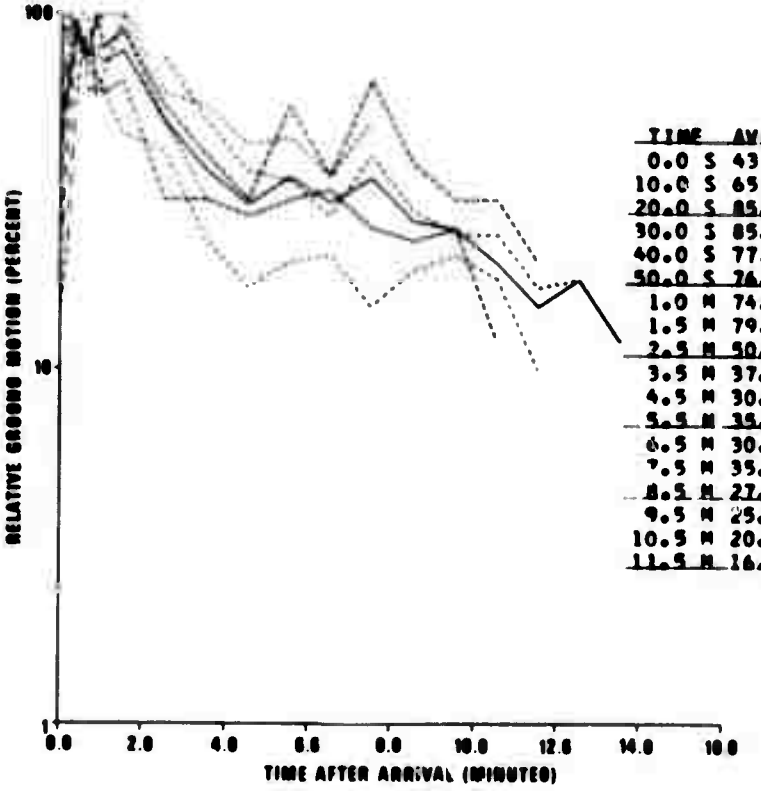
TIME		AVG	STD DEV	OBS
0.0	S	85.	0.08	7.
10.0	S	41.	0.28	7.
20.0	S	48.	0.33	7.
30.0	S	34.	0.27	7.
40.0	S	30.	0.28	7.
50.0	S	27.	0.22	7.
1.0	M	29.	0.23	7.
1.5	M	26.	0.24	7.
2.5	M	19.	0.29	6.
3.5	M	13.	0.26	6.
4.5	M	12.	0.16	5.
5.5	M	10.	0.22	4.
6.5	M	8.	0.24	4.
7.5	M	12.	0.34	3.
8.5	M	12.	0.16	3.
9.5	M	8.	0.15	3.
10.5	M	7.	0.45	2.

Figure 117. P coda characteristics, Japan, CMC.



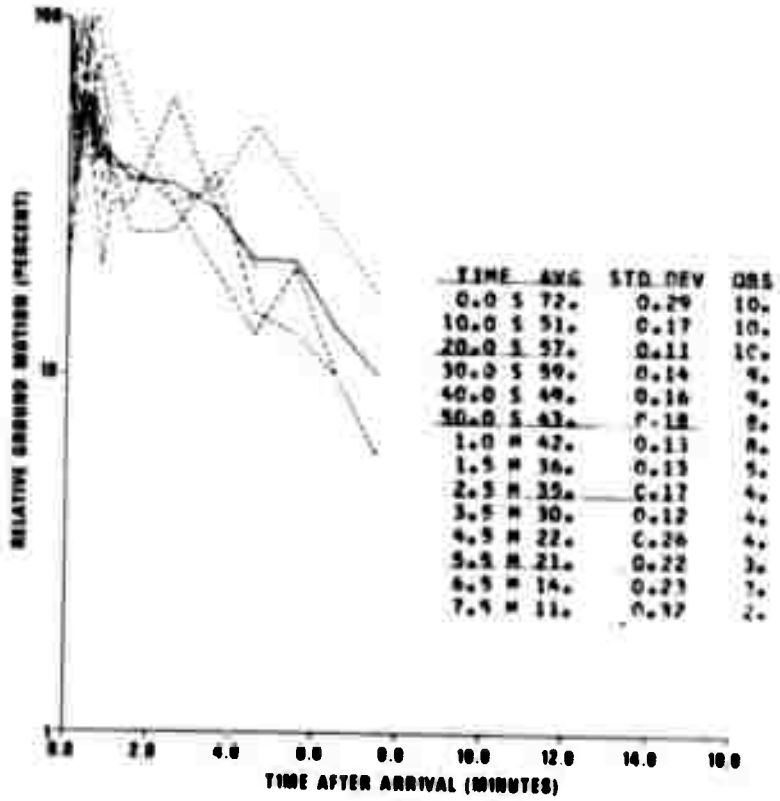
TIME	AVG	STD DEV	OBS
0.0 S	59.	0.17	4.
10.0 S	66.	0.13	4.
20.0 S	78.	0.14	4.
30.0 S	45.	0.21	4.
40.0 S	47.	0.16	4.
50.0 S	48.	0.20	4.
1.0 M	36.	0.27	4.
1.5 M	34.	0.26	3.
2.5 M	28.	0.35	3.
3.5 M	37.	0.34	3.
4.5 M	29.	0.40	2.
5.5 M	20.	0.56	2.

Figure 118. P coda characteristics, Japan, DAL.



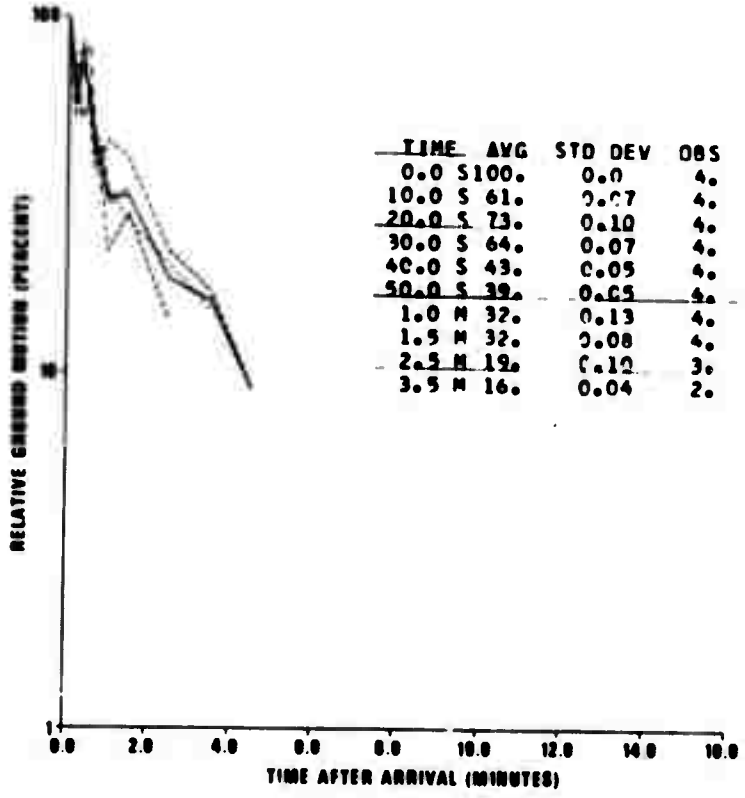
TIME	AVG	STD DEV	OBS
0.0 S	43.	0.33	6.
10.0 S	65.	0.25	6.
20.0 S	85.	0.09	6.
30.0 S	85.	0.04	6.
40.0 S	77.	0.07	6.
50.0 S	76.	0.09	6.
1.0 M	74.	0.09	6.
1.5 M	79.	0.13	6.
2.5 M	50.	0.14	6.
3.5 M	37.	0.15	6.
4.5 M	30.	0.15	5.
5.5 M	35.	0.17	5.
6.5 M	30.	0.09	5.
7.5 M	35.	0.25	5.
8.5 M	27.	0.13	4.
9.5 M	25.	0.06	4.
10.5 M	20.	0.17	4.
11.5 M	16.	0.16	3.

Figure 119. P coda characteristics, Japan, DAV.



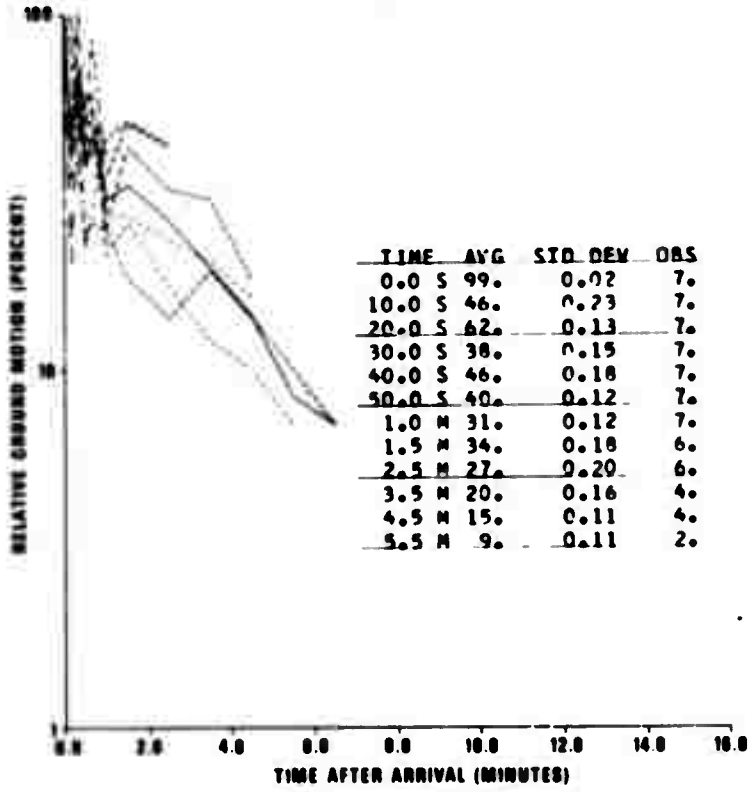
TIME	AVG	STD DEV	OBS
0.0 S	72.	0.29	10.
10.0 S	51.	0.17	10.
20.0 S	57.	0.11	10.
30.0 S	59.	0.14	9.
40.0 S	49.	0.16	9.
50.0 S	43.	0.18	9.
1.0 M	42.	0.11	8.
1.5 M	36.	0.13	5.
2.5 M	35.	0.17	4.
3.5 M	30.	0.12	4.
4.5 M	22.	0.26	4.
5.5 M	21.	0.22	3.
6.5 M	14.	0.23	3.
7.5 M	11.	0.32	2.

Figure 120. P coda characteristics, Japan, IST.



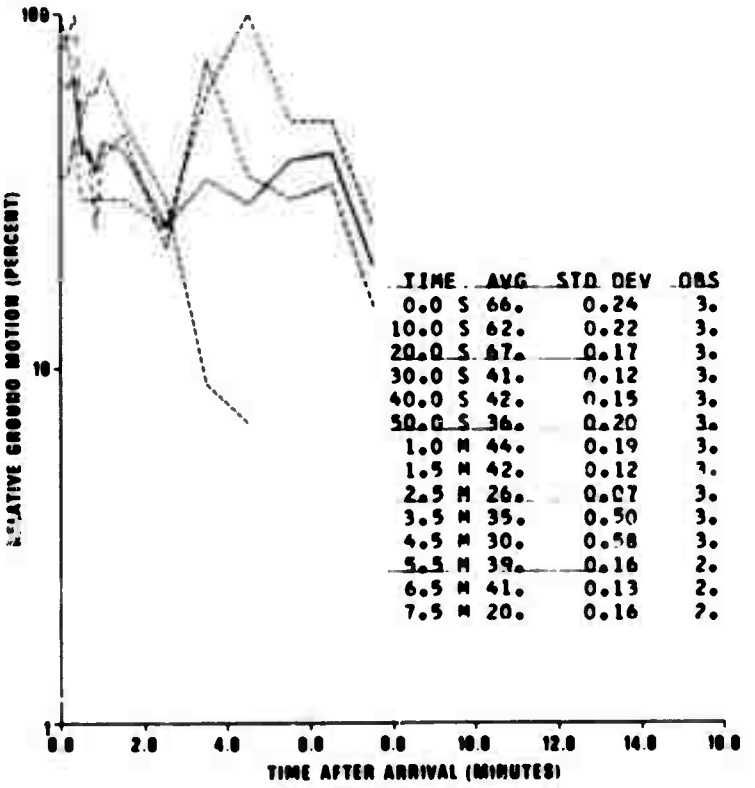
TIME	AVG	STD DEV	OBS
0.0 S	100.	0.0	4.
10.0 S	61.	0.07	4.
20.0 S	73.	0.10	4.
30.0 S	64.	0.07	4.
40.0 S	43.	0.05	4.
50.0 S	39.	0.05	4.
1.0 M	32.	0.13	4.
1.5 M	32.	0.08	4.
2.5 M	19.	0.12	3.
3.5 M	16.	0.04	2.

Figure 121. P coda characteristics, Japan, KBL.



TIME	AVG	STD DEV	OBS
0.0 S	99.	0.02	7.
10.0 S	46.	0.23	7.
20.0 S	62.	0.13	7.
30.0 S	38.	0.15	7.
40.0 S	46.	0.18	7.
50.0 S	40.	0.12	7.
1.0 M	31.	0.12	7.
1.5 M	34.	0.18	6.
2.5 M	27.	0.20	6.
3.5 M	20.	0.16	4.
4.5 M	15.	0.11	4.
5.5 M	9.	0.11	2.

Figure 122. P coda characteristics, Japan, KON.



TIME	AVG	STD DEV	OBS
0.0 S	66.	0.24	3.
10.0 S	62.	0.22	3.
20.0 S	67.	0.17	3.
30.0 S	41.	0.12	3.
40.0 S	42.	0.15	3.
50.0 S	36.	0.20	3.
1.0 M	44.	0.19	3.
1.5 M	42.	0.12	3.
2.5 M	26.	0.07	3.
3.5 M	35.	0.50	3.
4.5 M	30.	0.58	3.
5.5 M	39.	0.16	2.
6.5 M	41.	0.13	2.
7.5 M	20.	0.16	2.

Figure 123. P coda characteristics, Japan, MAL.

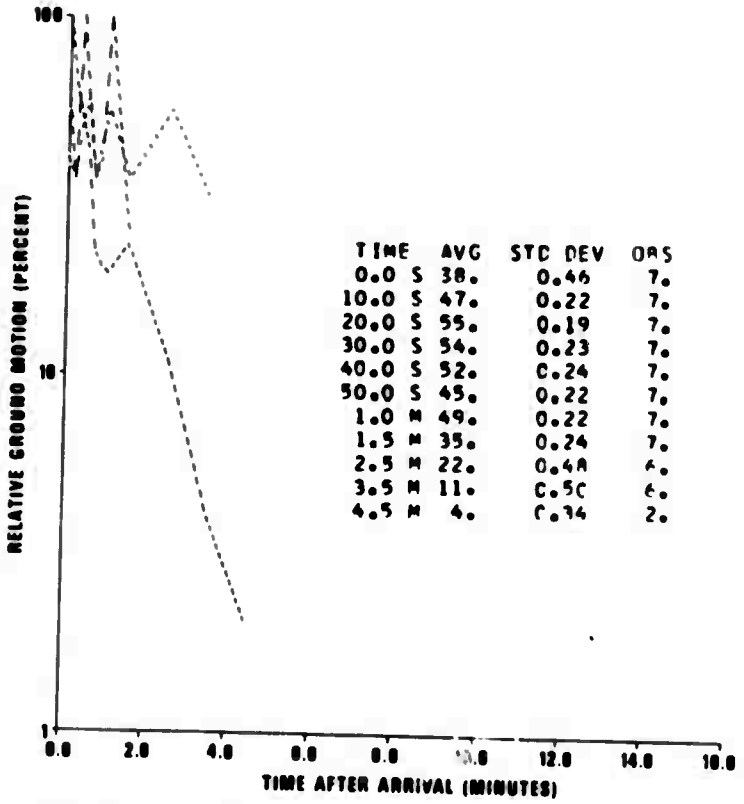


Figure 124. P coda characteristics, Japan, MAT.

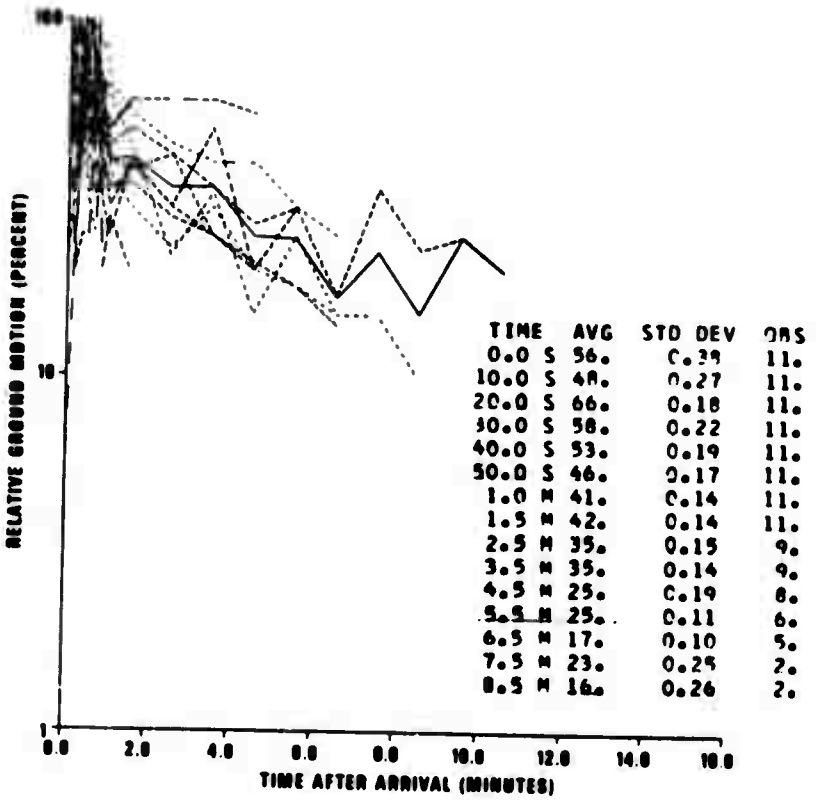
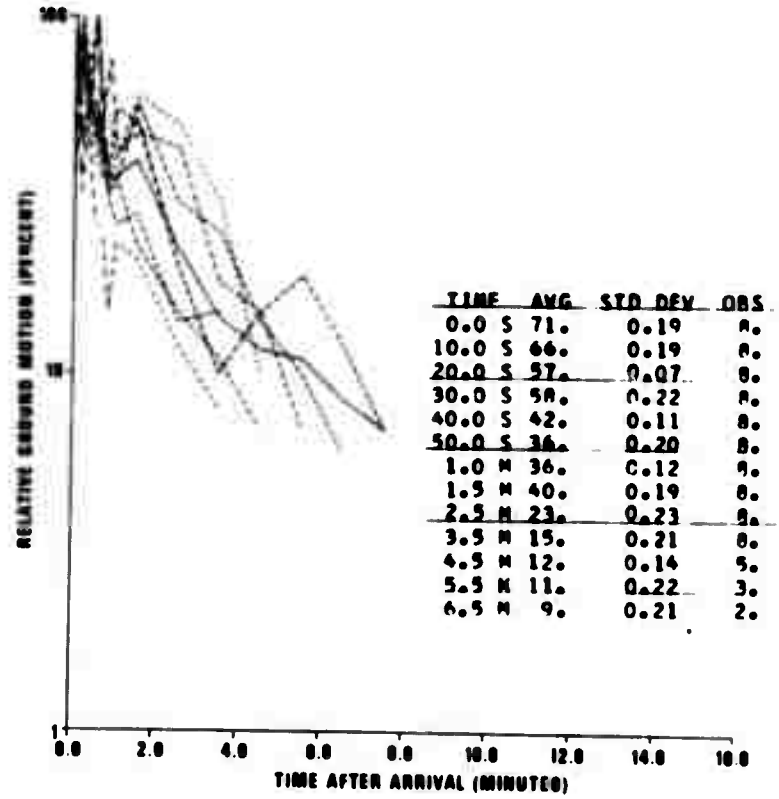
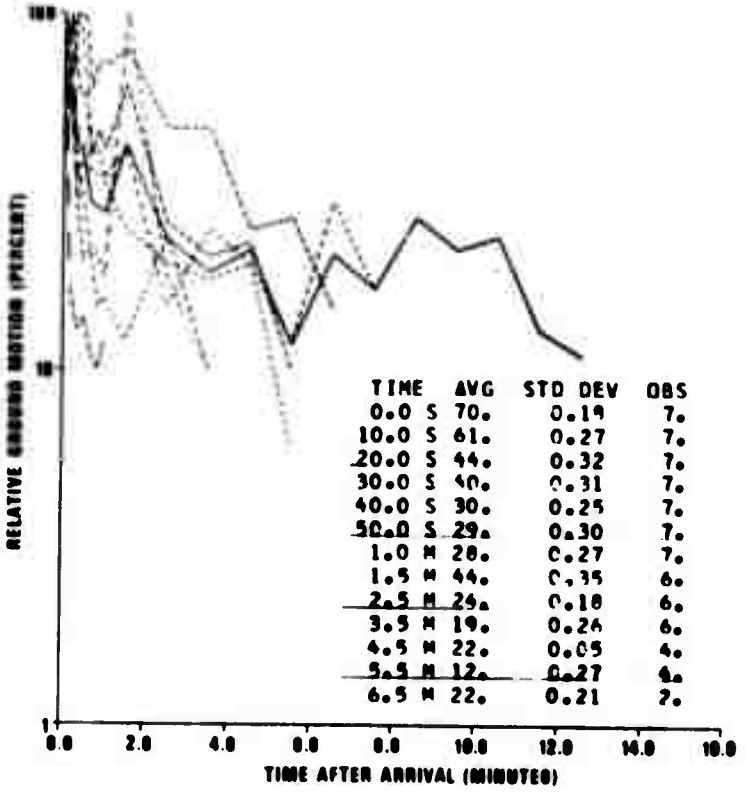


Figure 125. P coda characteristics, Japan, MUN.



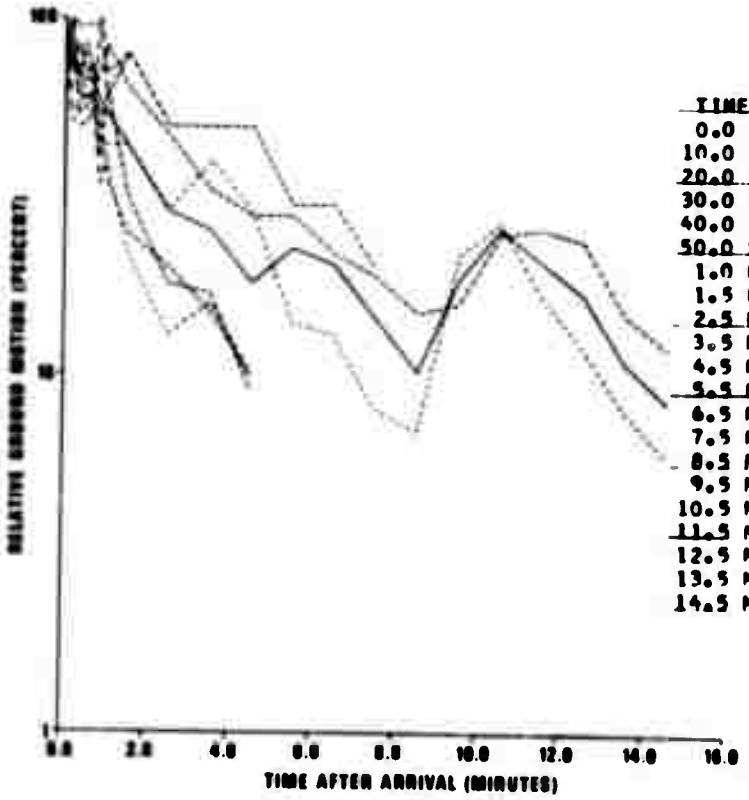
TIME	AVG	STD DEV	OBS
0.0 S	71.	0.19	8.
10.0 S	66.	0.19	8.
20.0 S	57.	0.07	8.
30.0 S	50.	0.22	8.
40.0 S	42.	0.11	8.
50.0 S	36.	0.20	8.
1.0 M	36.	0.12	9.
1.5 M	40.	0.19	8.
2.5 M	23.	0.23	8.
3.5 M	15.	0.21	8.
4.5 M	12.	0.14	5.
5.5 M	11.	0.22	3.
6.5 M	9.	0.21	2.

Figure 126. P coda characteristics, Japan, NDI.



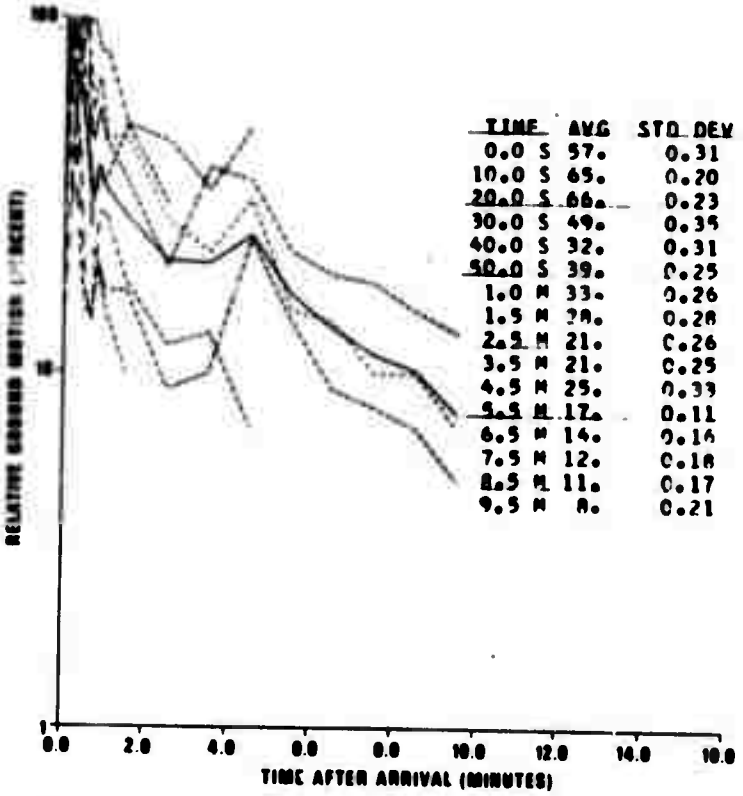
TIME	AVG	STD DEV	OBS
0.0 S	70.	0.19	7.
10.0 S	61.	0.27	7.
20.0 S	44.	0.32	7.
30.0 S	40.	0.31	7.
40.0 S	30.	0.25	7.
50.0 S	29.	0.30	7.
1.0 M	28.	0.27	7.
1.5 M	44.	0.35	6.
2.5 M	24.	0.18	6.
3.5 M	19.	0.24	6.
4.5 M	22.	0.05	4.
5.5 M	12.	0.27	4.
6.5 M	22.	0.21	2.

Figure 127. P coda characteristics, Japan, SEO.



TIME	AVG	STD DEV	OBS
0.0 S	88.	0.10	7.
10.0 S	77.	0.10	7.
20.0 S	68.	0.10	7.
30.0 S	66.	0.10	7.
40.0 S	66.	0.08	7.
50.0 S	59.	0.19	7.
1.0 M	55.	0.14	7.
1.5 M	44.	0.23	7.
2.5 M	29.	0.24	7.
3.5 M	26.	0.23	6.
4.5 M	19.	0.32	6.
5.5 M	23.	0.18	3.
6.5 M	21.	0.18	3.
7.5 M	15.	0.22	3.
8.5 M	11.	0.23	2.
9.5 M	19.	0.10	2.
10.5 M	26.	0.02	2.
11.5 M	22.	0.13	2.
12.5 M	17.	0.21	2.
13.5 M	11.	0.19	2.
14.5 M	9.	0.21	2.

Figure 128. P coda characteristics, Japan, SHI.



TIME	AVG	STD DEV	OBS
0.0 S	57.	0.31	7.
10.0 S	65.	0.20	7.
20.0 S	66.	0.23	7.
30.0 S	49.	0.35	7.
40.0 S	32.	0.31	7.
50.0 S	39.	0.25	7.
1.0 M	33.	0.26	7.
1.5 M	29.	0.28	7.
2.5 M	21.	0.26	6.
3.5 M	21.	0.25	5.
4.5 M	25.	0.33	5.
5.5 M	17.	0.11	3.
6.5 M	14.	0.16	3.
7.5 M	12.	0.18	3.
8.5 M	11.	0.17	3.
9.5 M	8.	0.21	3.

Figure 129. P coda characteristics, Japan, WES.

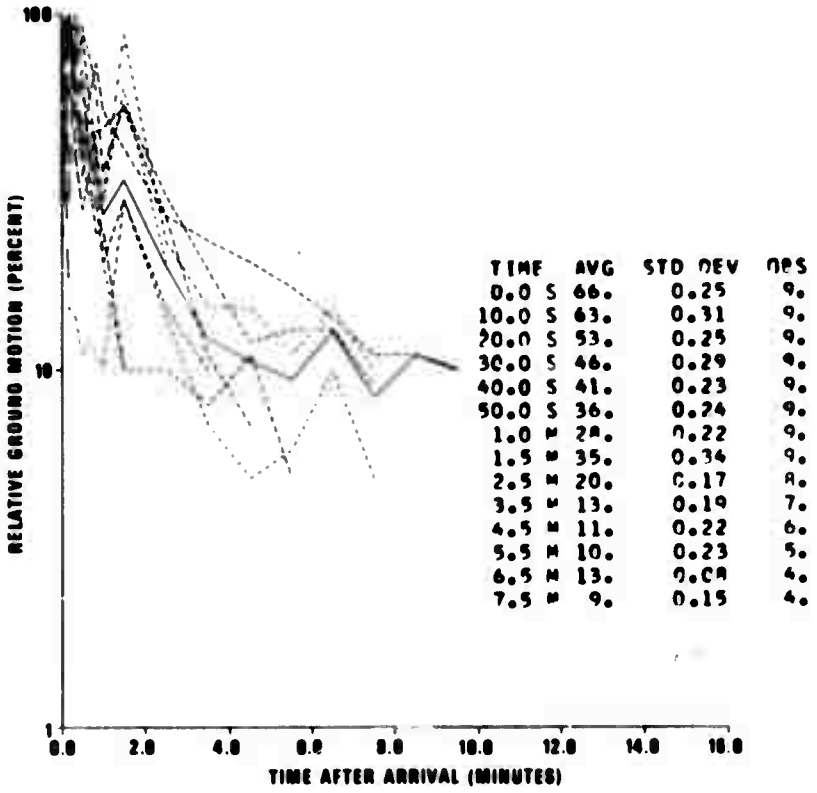


Figure 130. P coda characteristics, Philippine Islands-Taiwan, ADE.

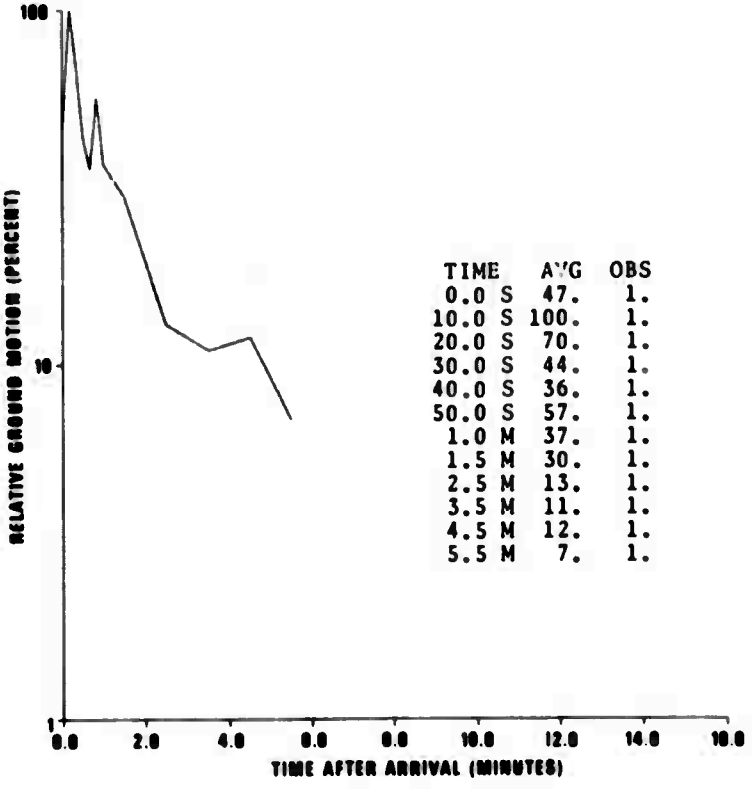


Figure 131. P coda characteristics, Philippine Islands-Taiwan, AQU.

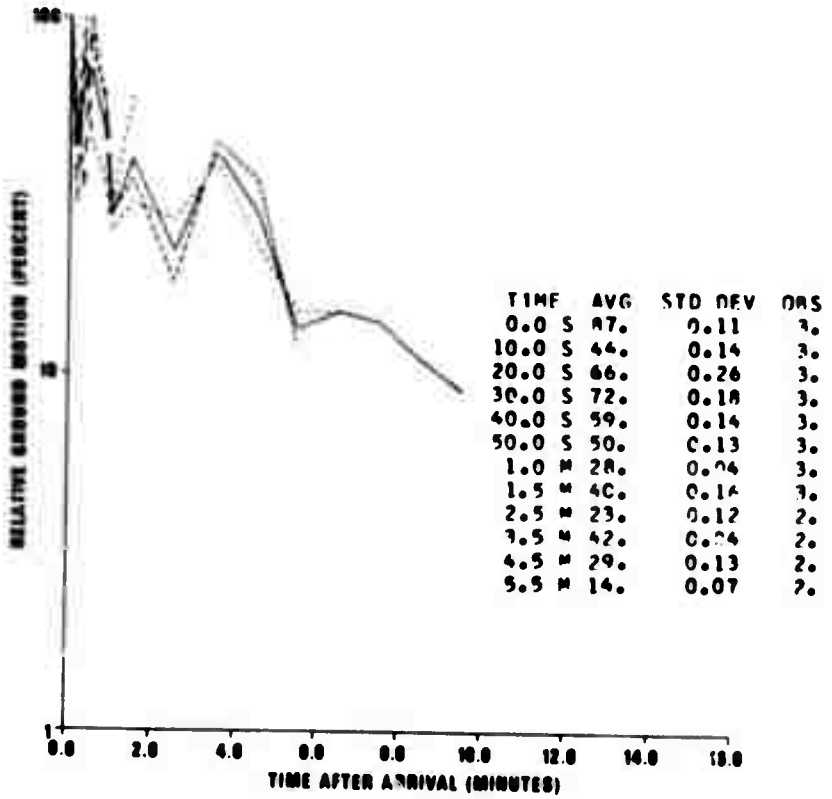


Figure 132. P coda characteristics, Philippine Islands-Taiwan, BOZ.

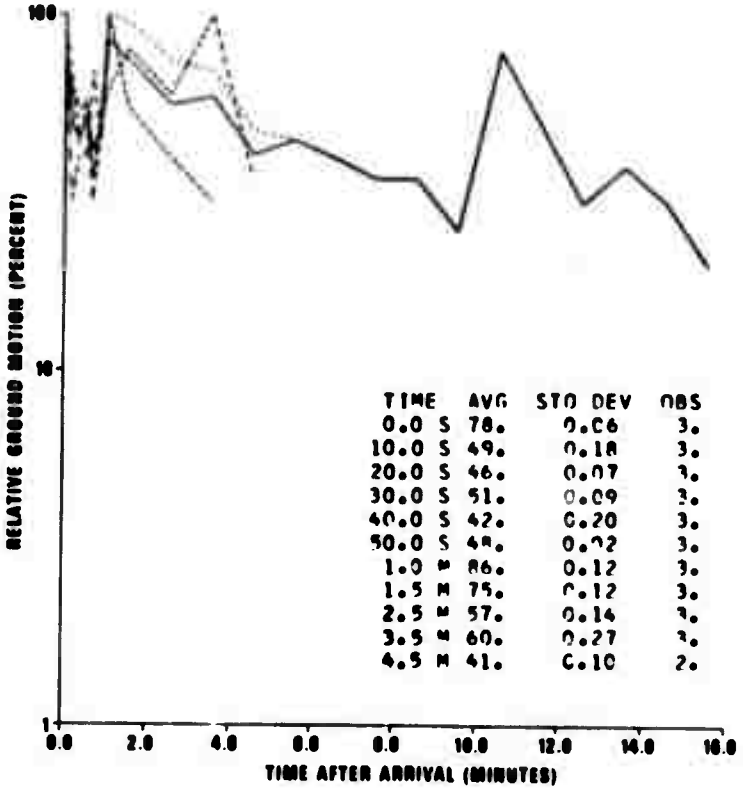


Figure 133. PKP coda characteristics, Philippine Islands-Taiwan, BOZ.

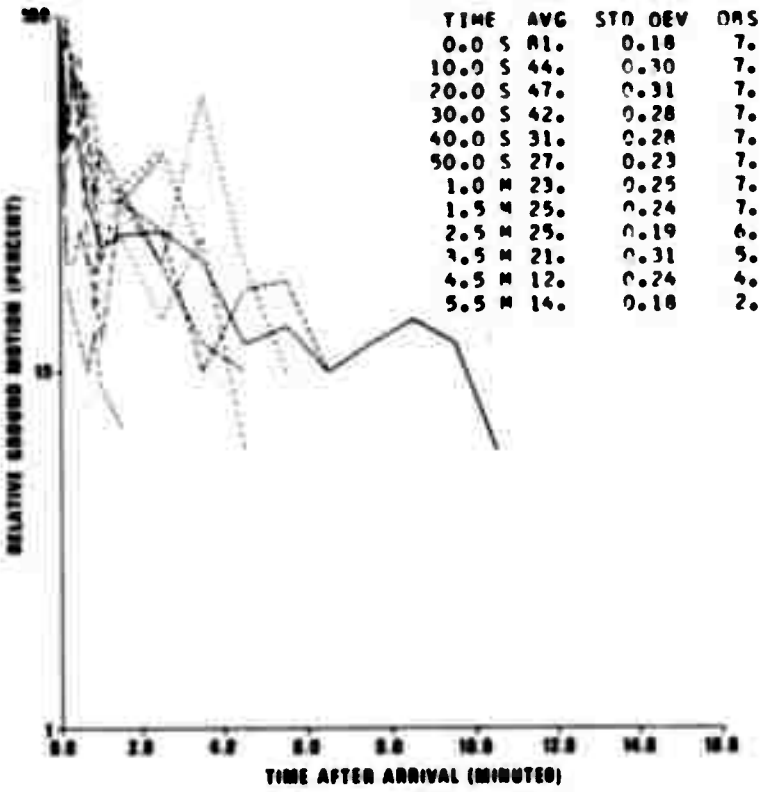


Figure 134. P coda characteristics, Philippine Islands-Taiwan, CHG.

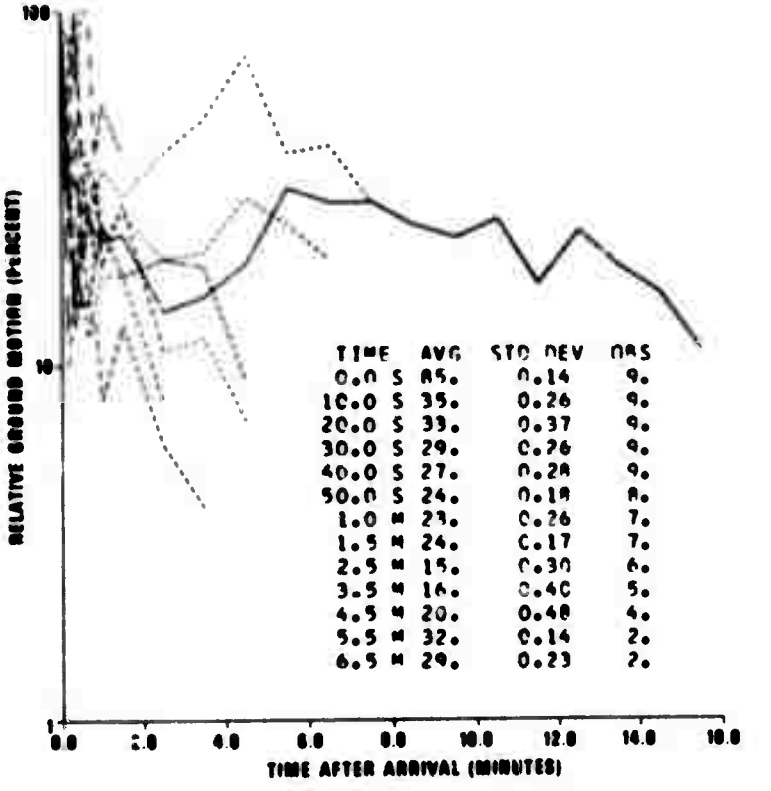


Figure 135. P coda characteristics, Philippine Islands-Taiwan, CMC.

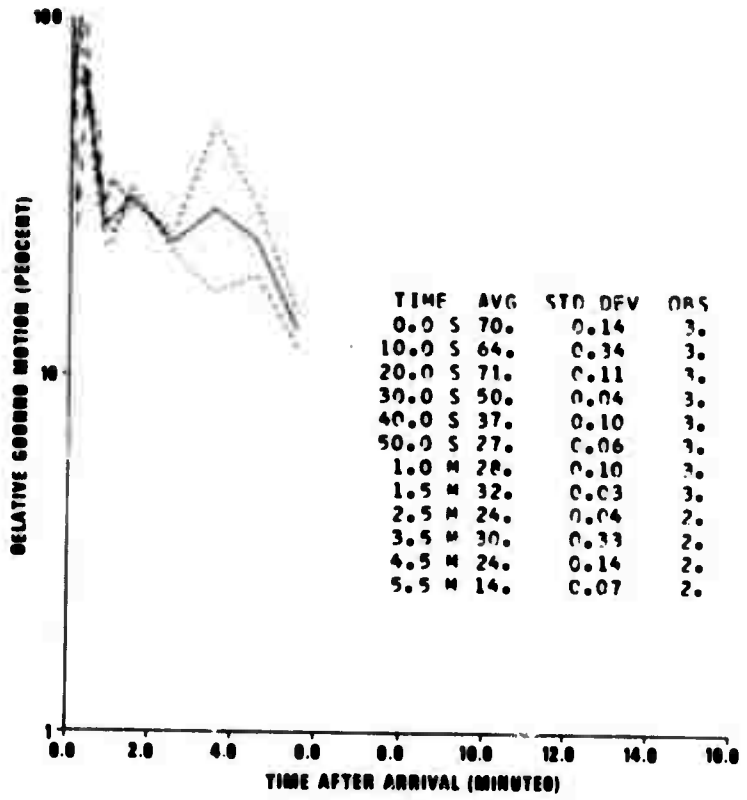


Figure 136. PKP coda characteristics, Philippine Islands-Taiwan, DAL.

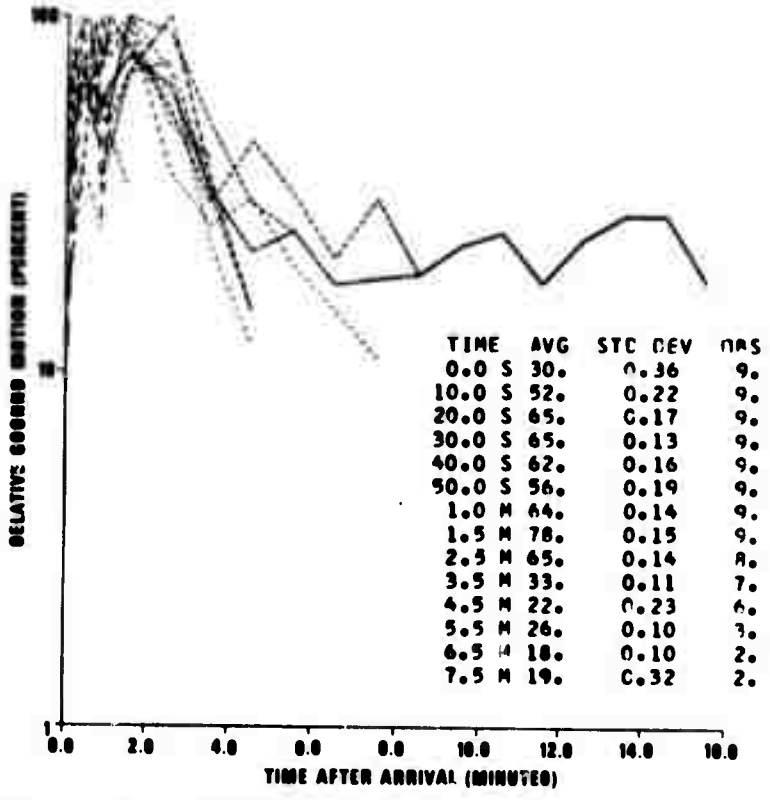


Figure 137. P coda characteristics, Philippine Islands-Taiwan, DAV.

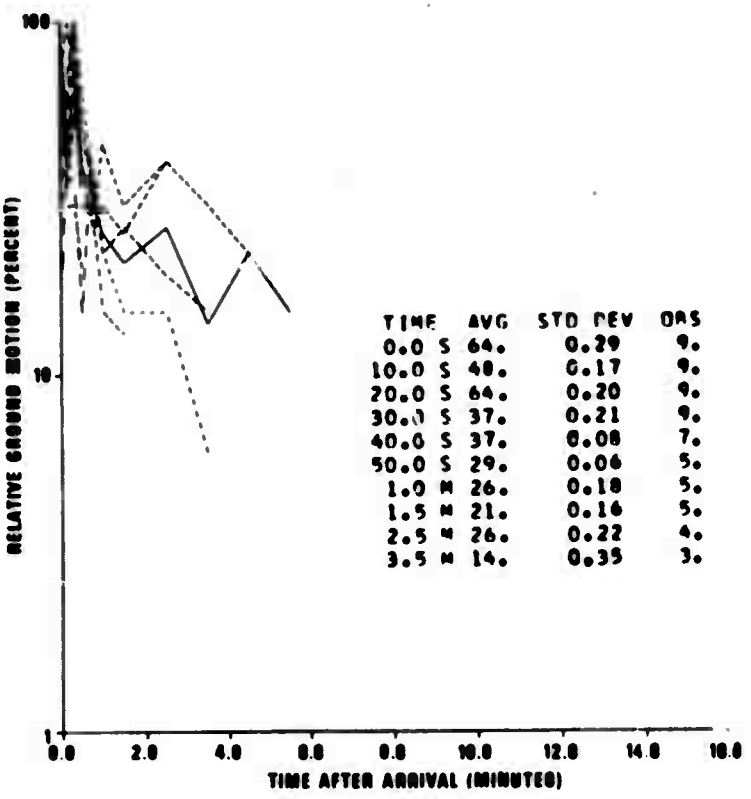


Figure 138. P coda characteristics, Philippine Islands-Taiwan, IST.

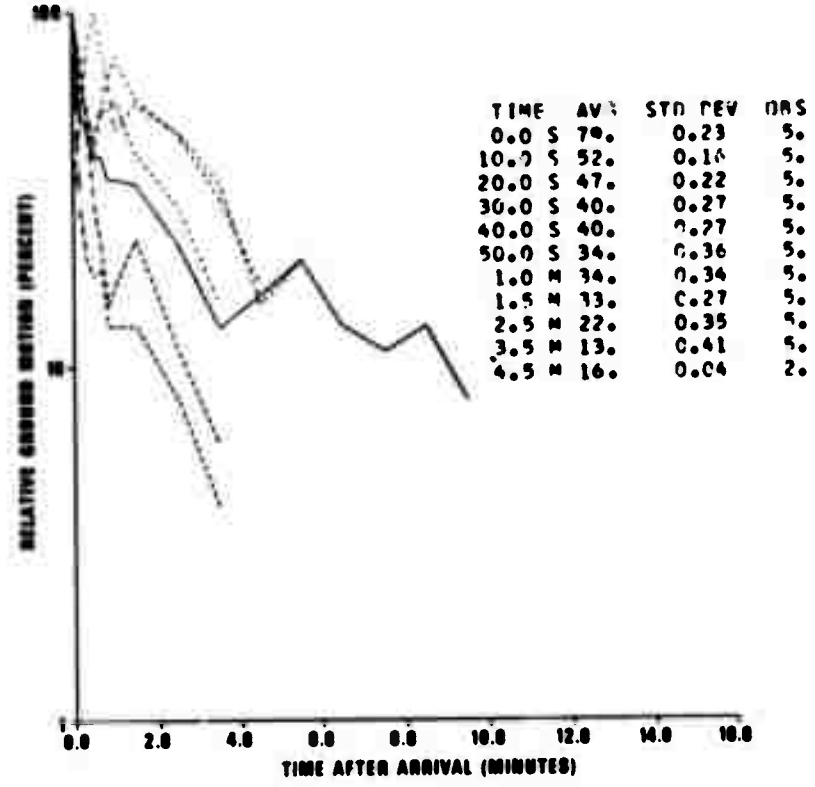


Figure 139. P coda characteristics, Philippine Islands-Taiwan, KBL.

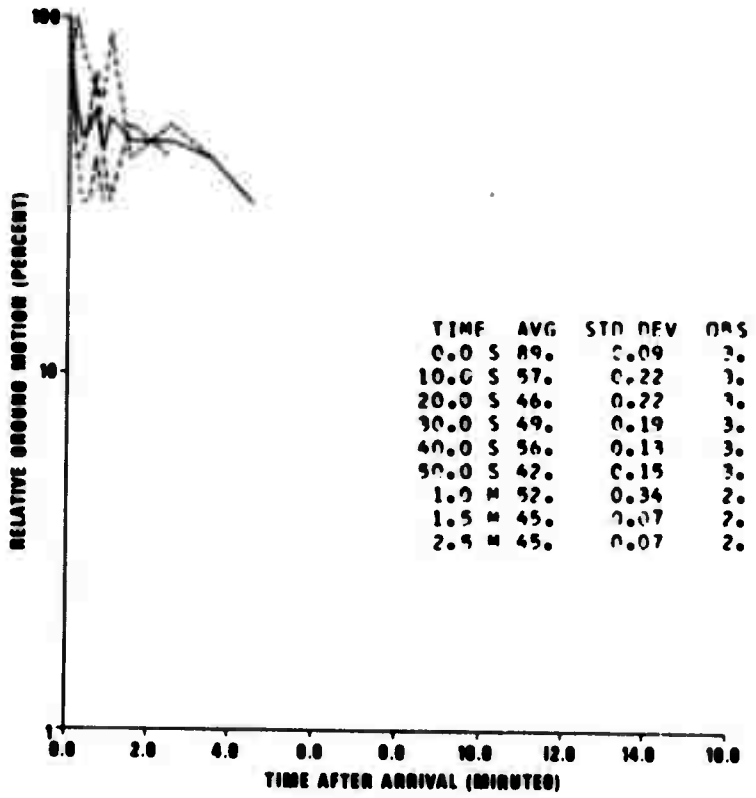


Figure 140. P coda characteristics, Philippine Islands-Taiwan, KON.

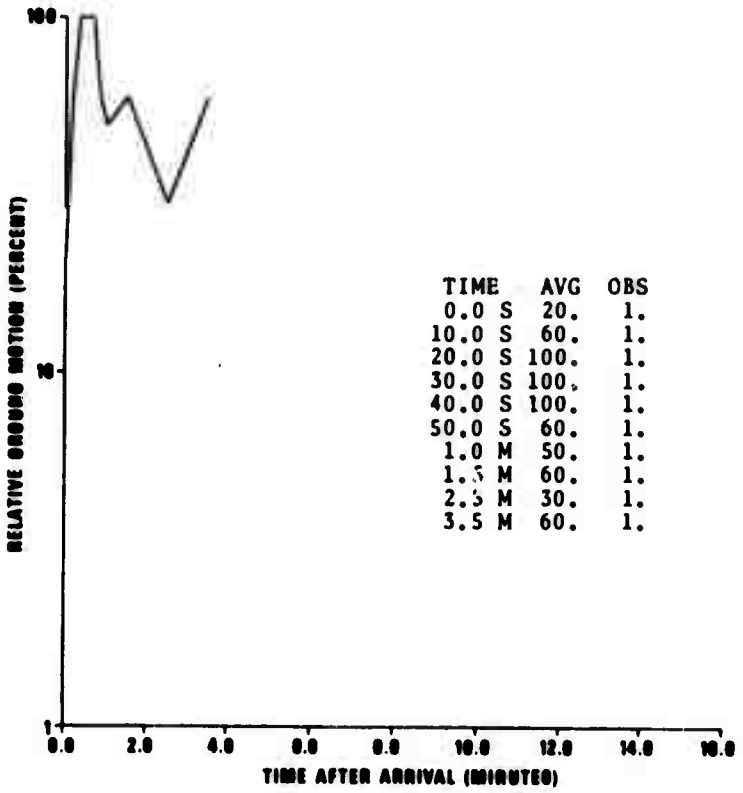


Figure 141. P coda characteristics, Philippine Islands-Taiwan, MAL.

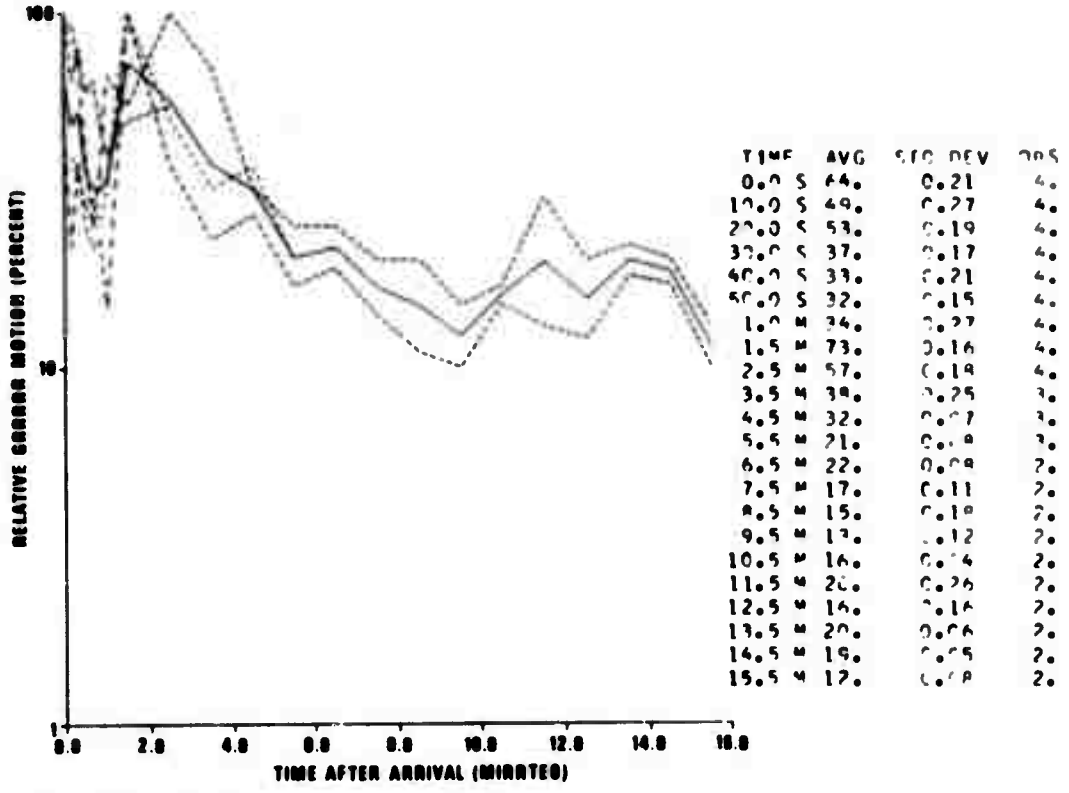


Figure 142. PKP coda characteristics, Philippine Islands-Taiwan, MAL.

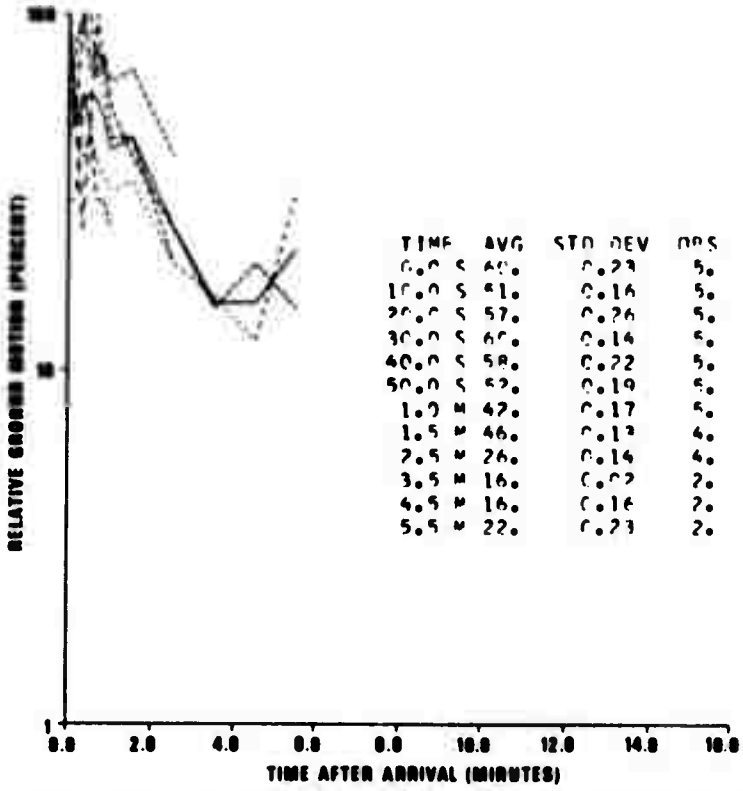


Figure 143. P coda characteristics, Philippine Islands-Taiwan, MAT.

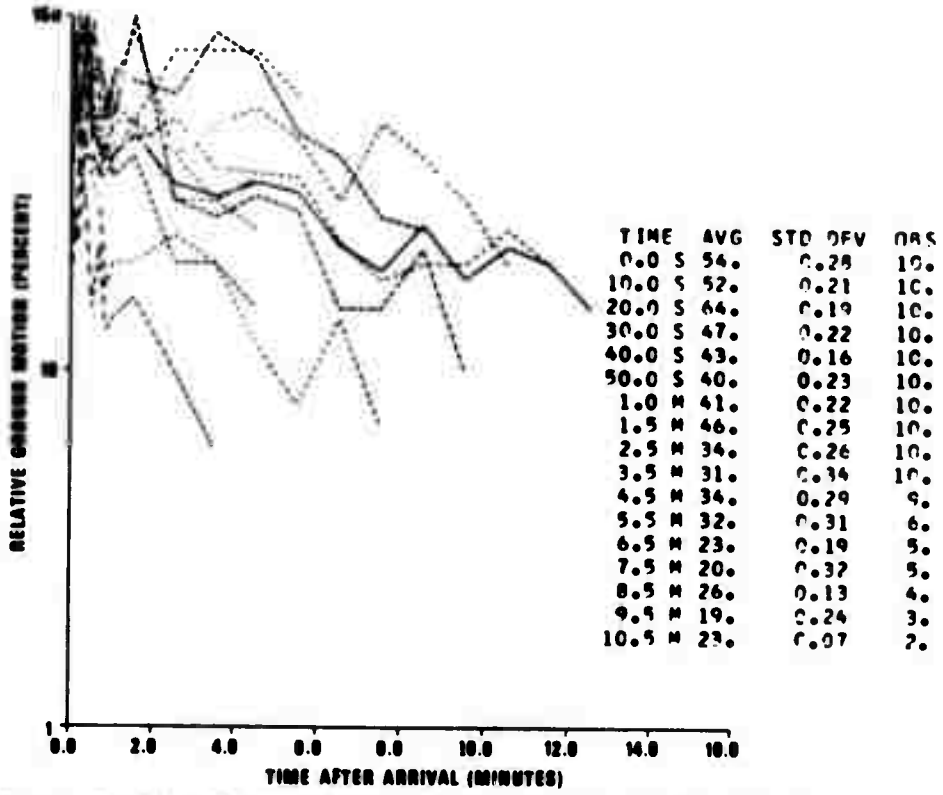


Figure 144. P coda characteristics, Philippine Islands-Taiwan, MUN.

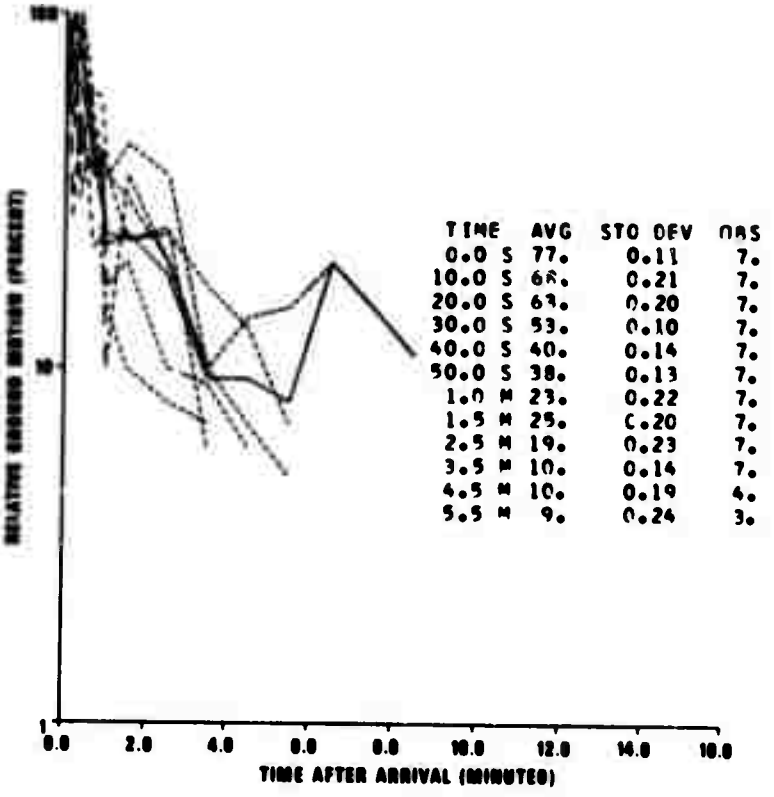


Figure 145. P coda characteristics, Philippine Islands-Taiwan, NDI.

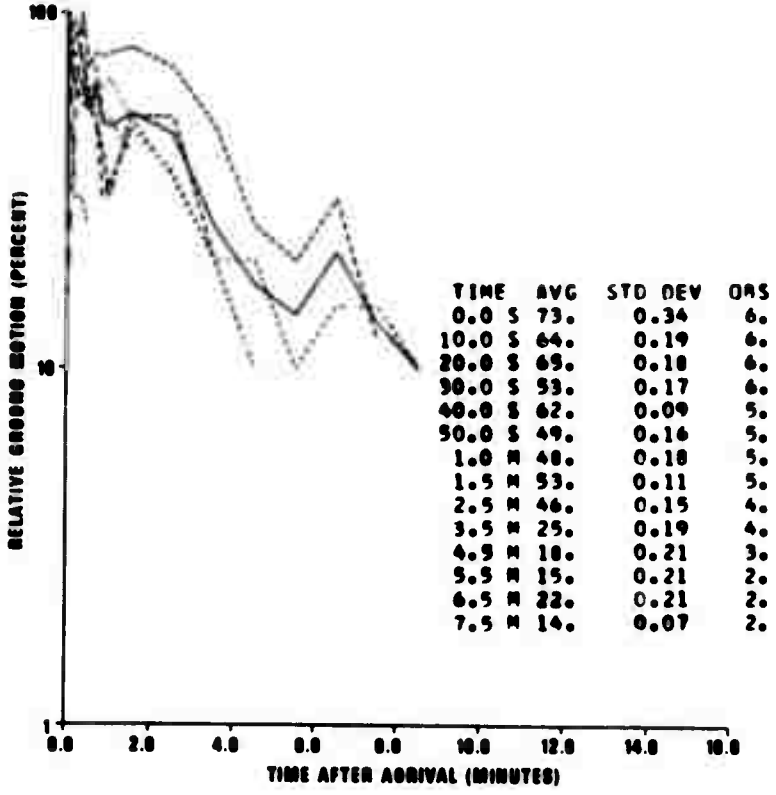


Figure 146. P coda characteristics, Philippine Islands-Taiwan, SEO.

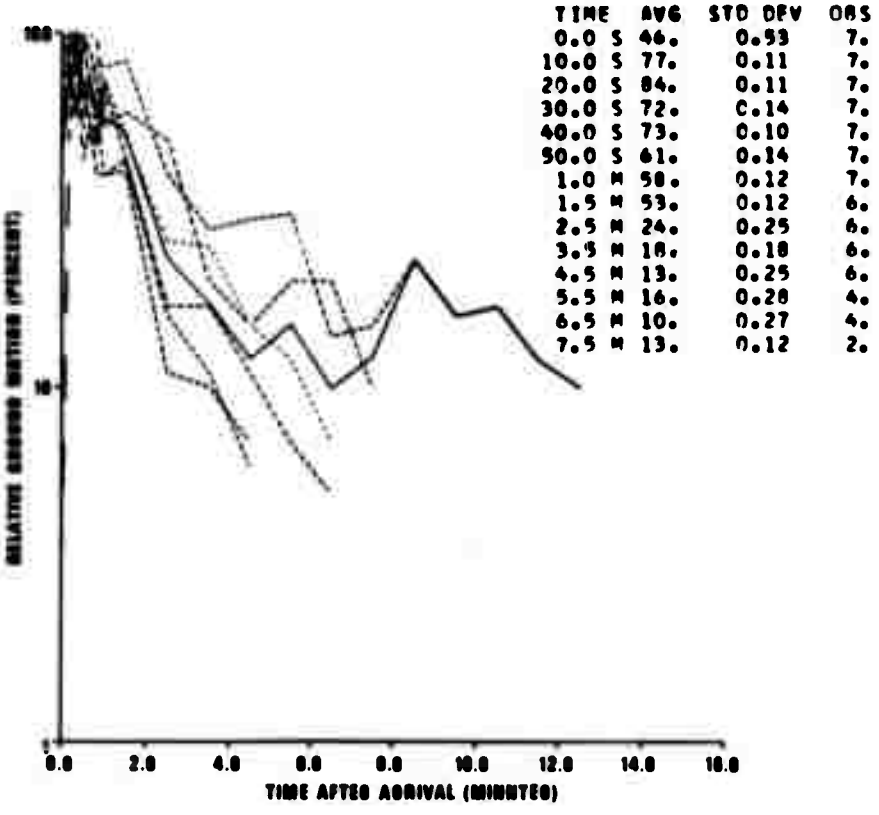


Figure 147. P coda characteristics, Philippine Islands-Taiwan, SHI.

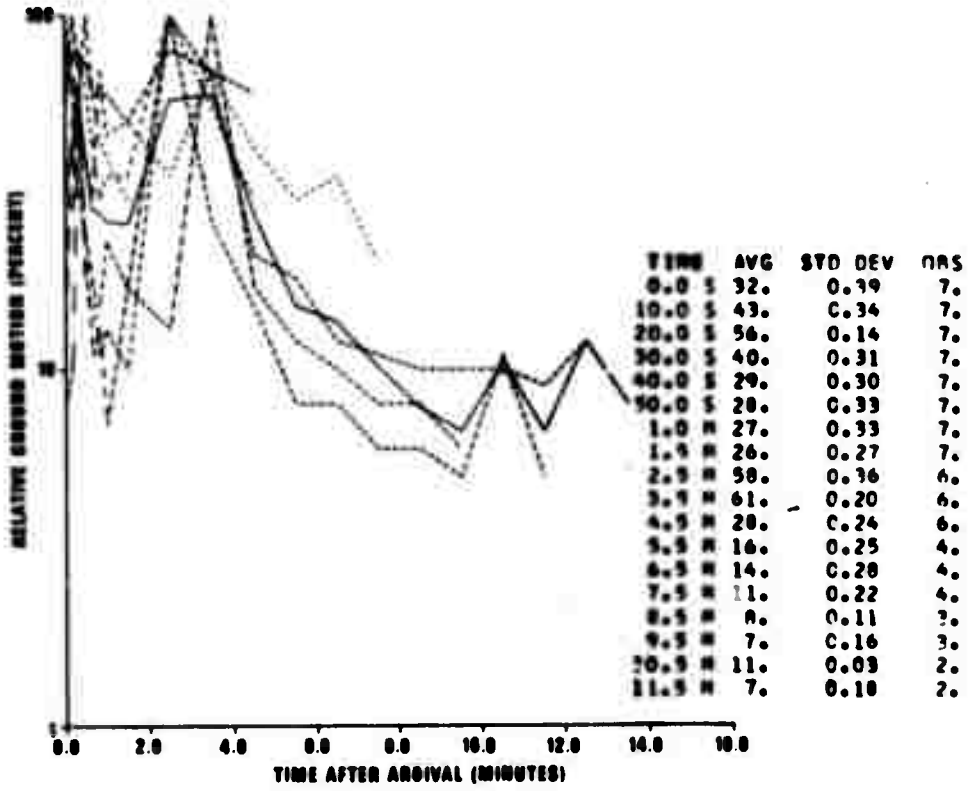


Figure 148. PKP coda characteristics, Philippine Islands-Taiwan, WES.

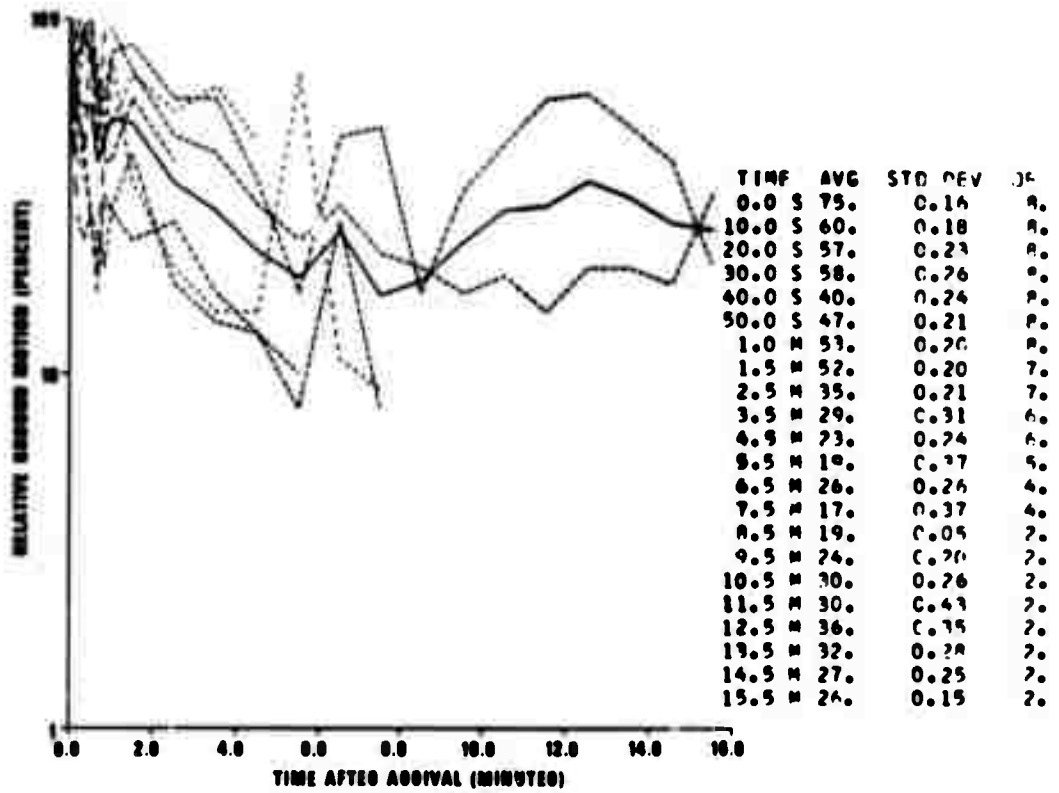


Figure 149. P coda characteristics, Solomon Islands-New Hebrides, ADE.

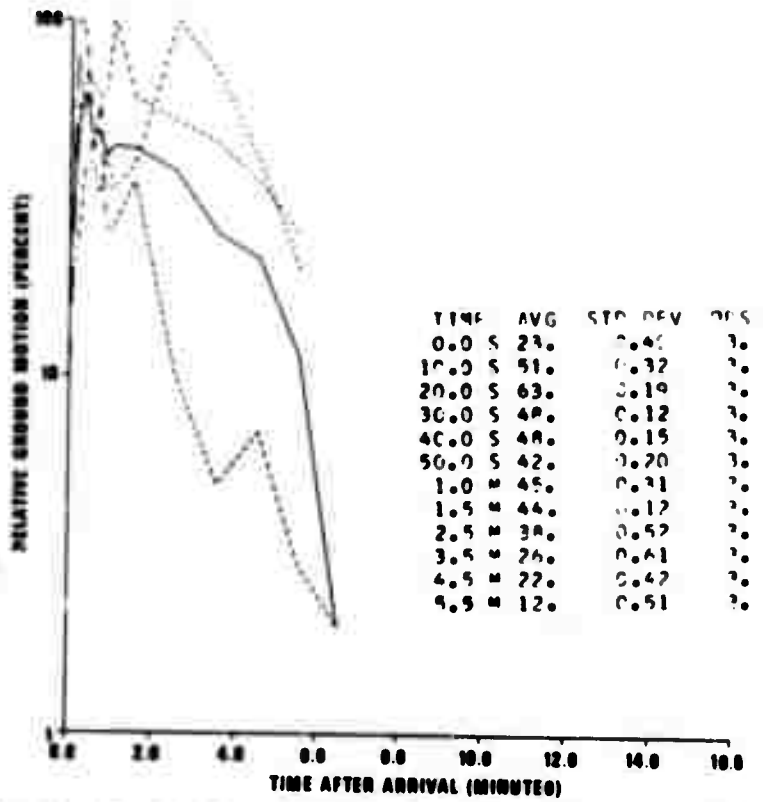


Figure 150. PKP coda characteristics, Solomon Islands-New Hebrides, AQU.

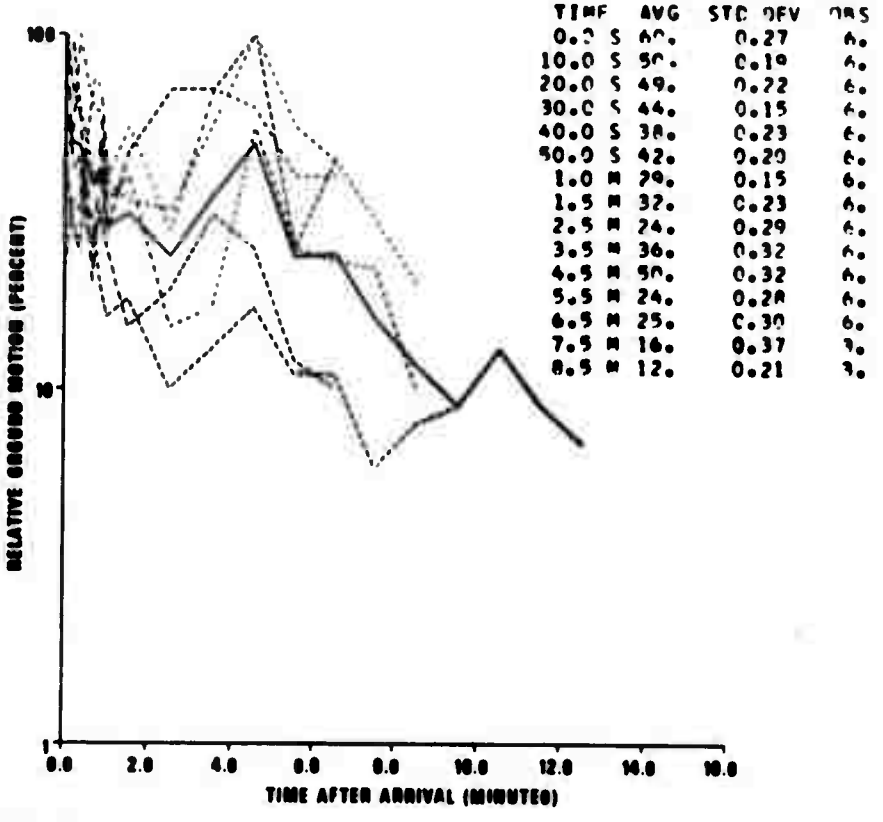


Figure 151. P coda characteristics, Solomon Islands-New Hebrides, BOZ.

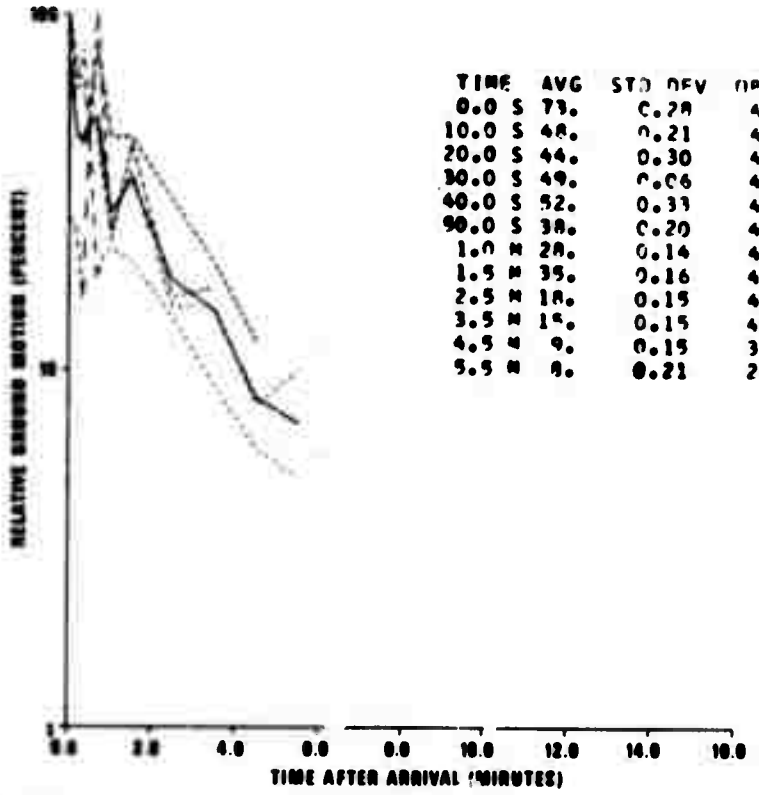


Figure 152. P coda characteristics, Solomon Islands-New Hebrides, CHG.

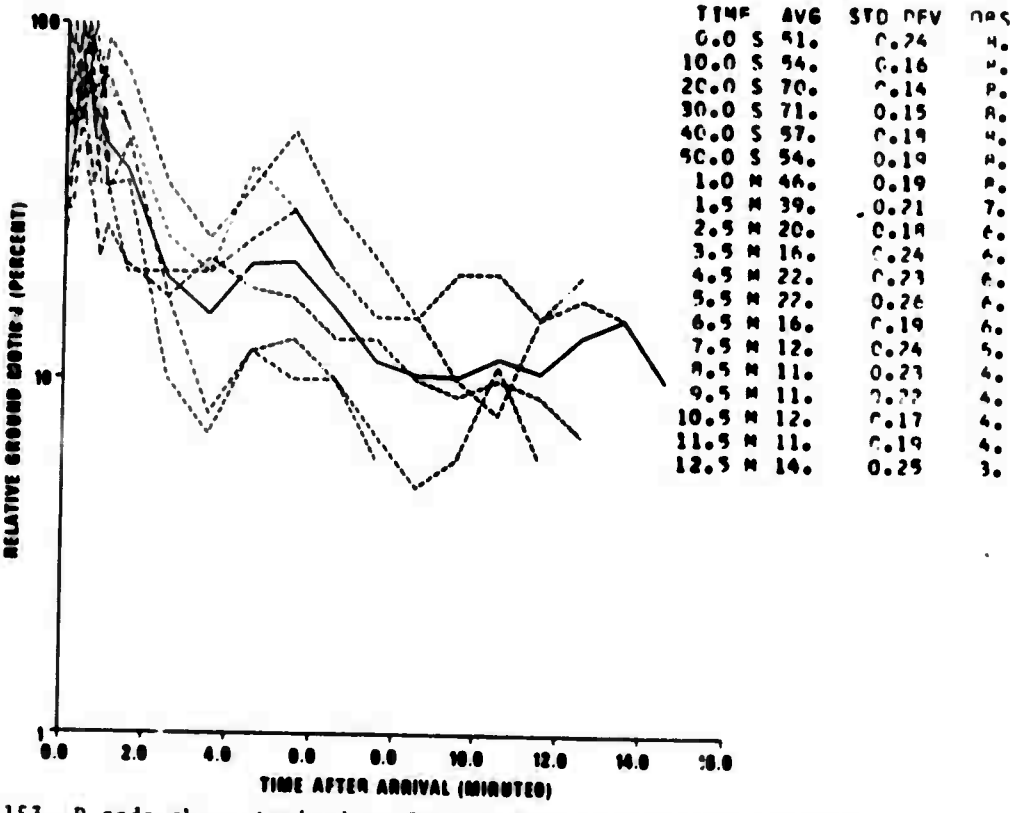


Figure 153. P coda characteristics, Solomon Islands-New Hebrides, CNC.

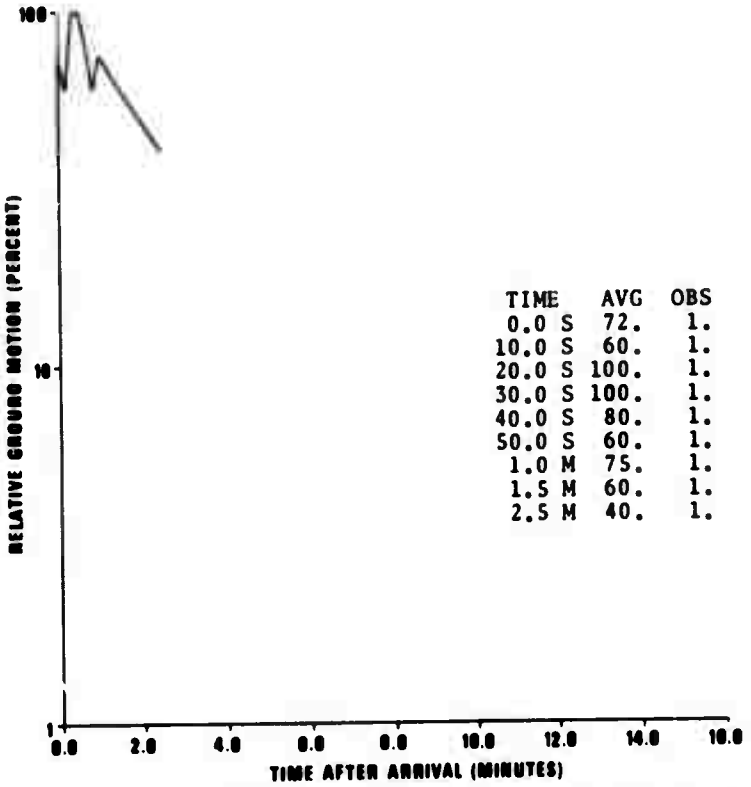


Figure 154. PKP coda characteristics, Solomon Islands-New Hebrides, DAL.

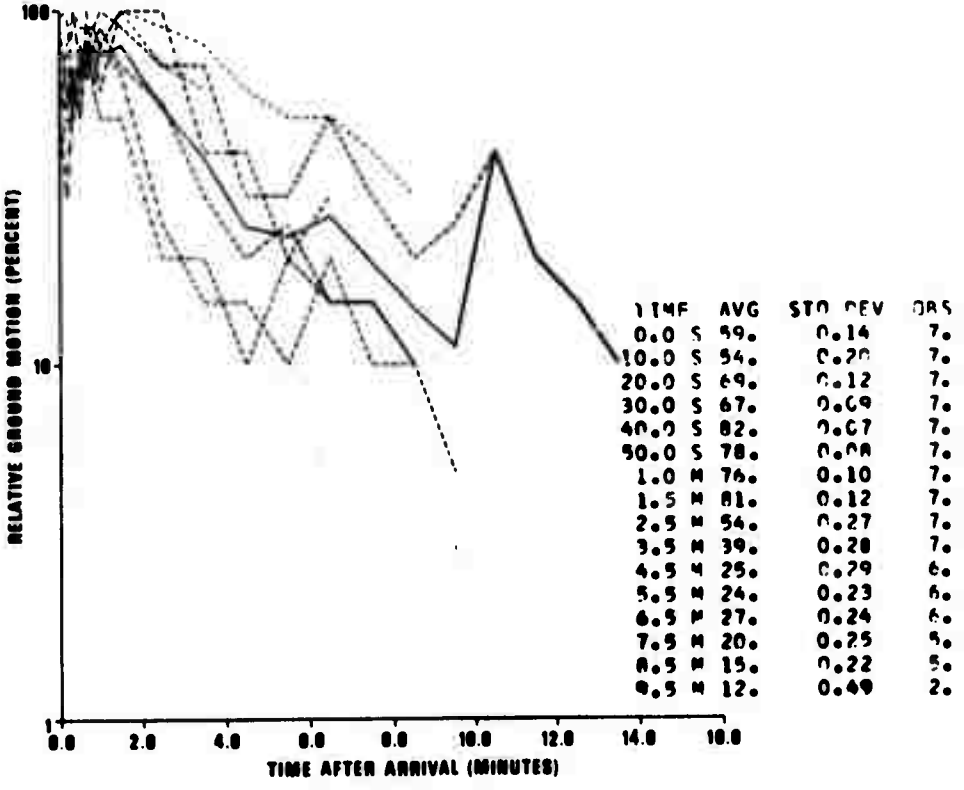


Figure 155. P coda characteristics, Solomon Islands-New Hebrides, DAV.

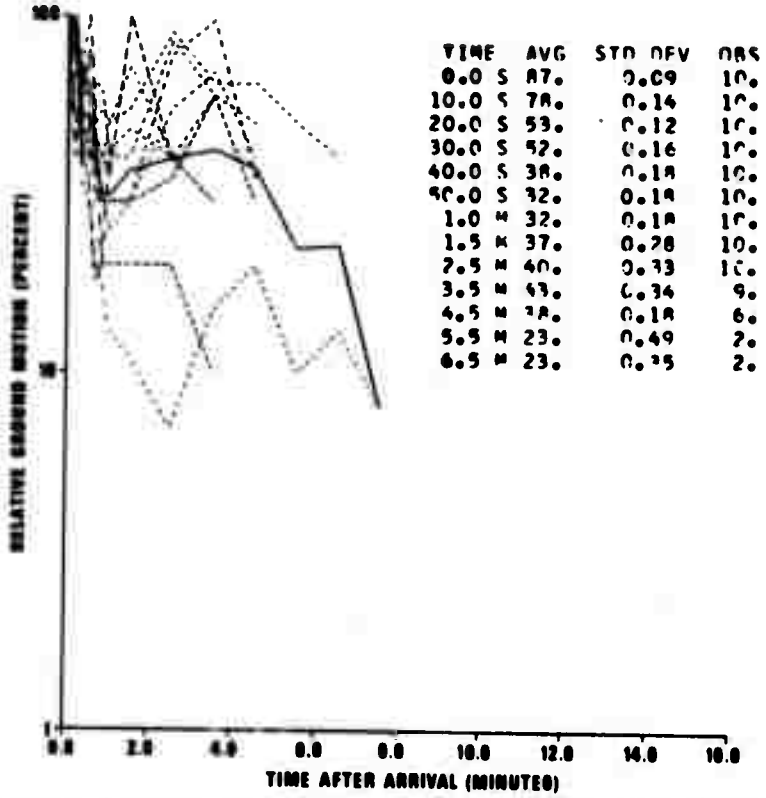


Figure 156. PKP coda characteristics, Solomon Islands-New Hebrides, IST.

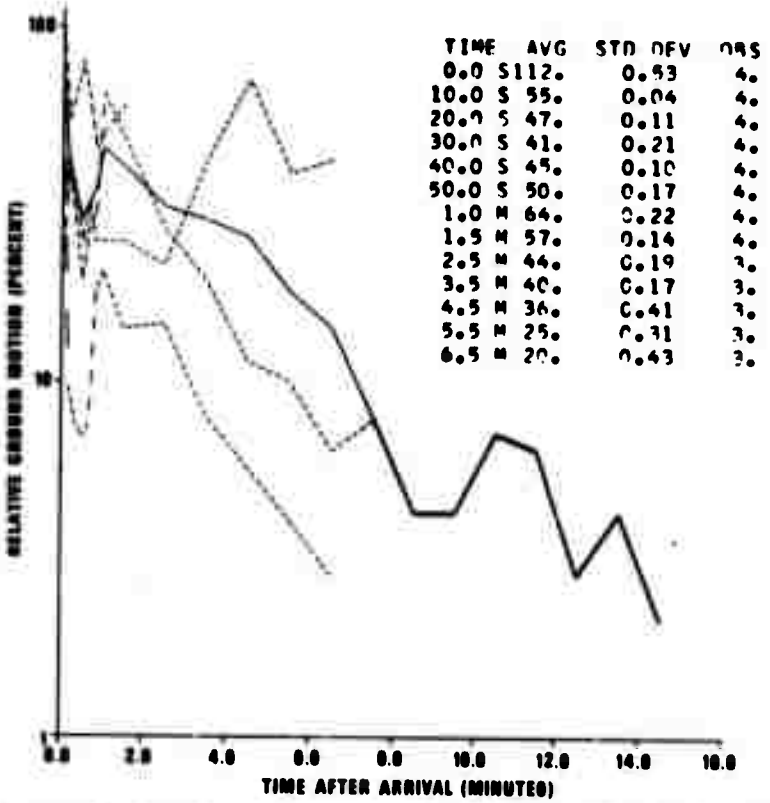
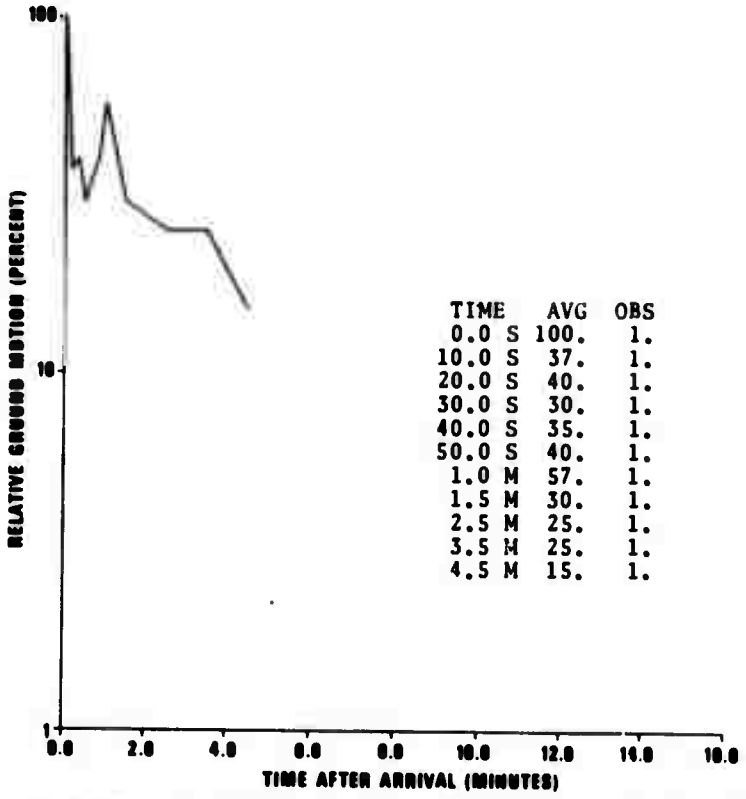
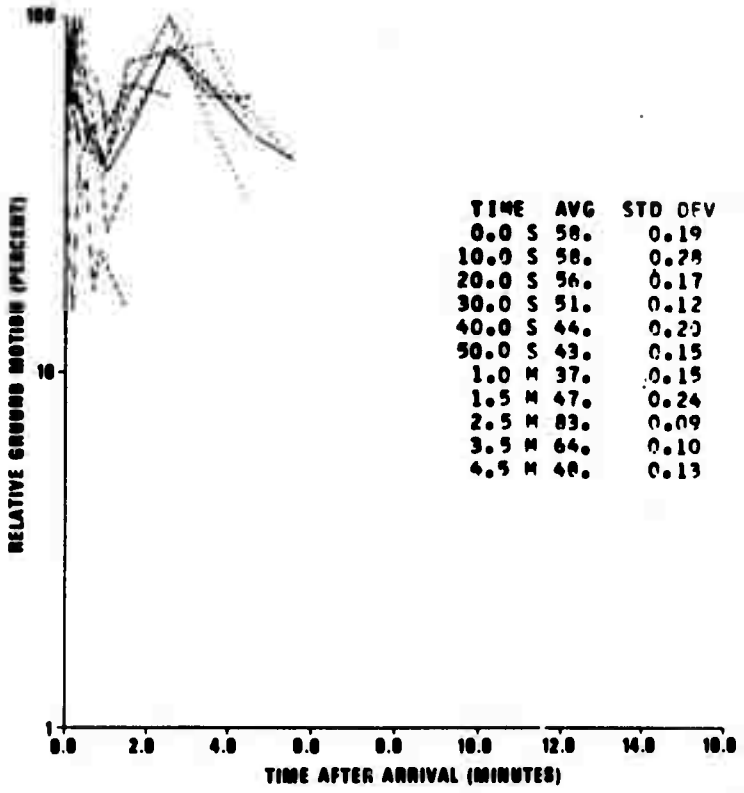


Figure 157. P coda characteristics, Solomon Islands-New Hebrides, KBL.



TIME	AVG	OBS
0.0 S	100.	1.
10.0 S	37.	1.
20.0 S	40.	1.
30.0 S	30.	1.
40.0 S	35.	1.
50.0 S	40.	1.
1.0 M	57.	1.
1.5 M	30.	1.
2.5 M	25.	1.
3.5 M	25.	1.
4.5 M	15.	1.

Figure 158. PKP coda characteristics, Solomon Islands-New Hebrides, KBL.



TIME	AVG	STD DEV	OBS
0.0 S	58.	0.19	7.
10.0 S	58.	0.28	7.
20.0 S	56.	0.17	7.
30.0 S	51.	0.12	7.
40.0 S	44.	0.20	7.
50.0 S	43.	0.15	7.
1.0 M	37.	0.15	7.
1.5 M	47.	0.24	7.
2.5 M	83.	0.09	5.
3.5 M	64.	0.10	4.
4.5 M	48.	0.13	4.

Figure 159. PKP coda characteristics, Solomon Islands-New Hebrides, KON.

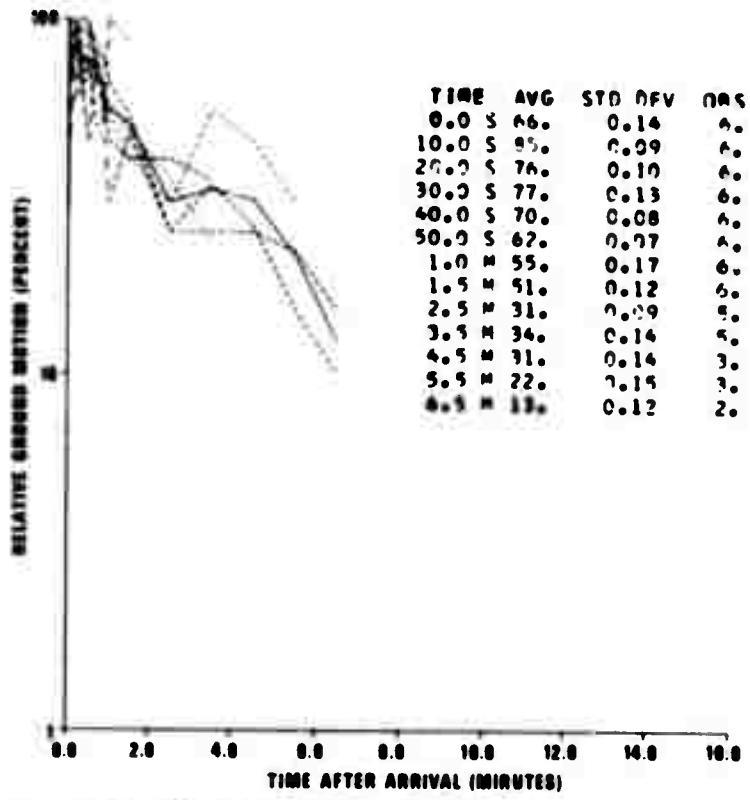


Figure 160. PKP coda characteristics, Solomon Islands-New Hebrides, MAL.

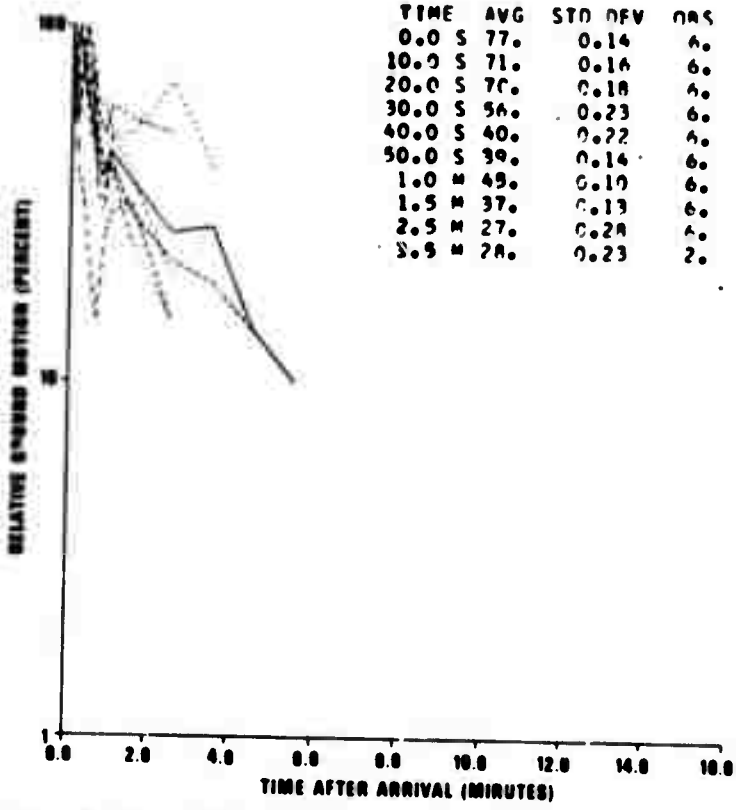


Figure 161. P coda characteristics, Solomon Islands-New Hebrides, MAT.

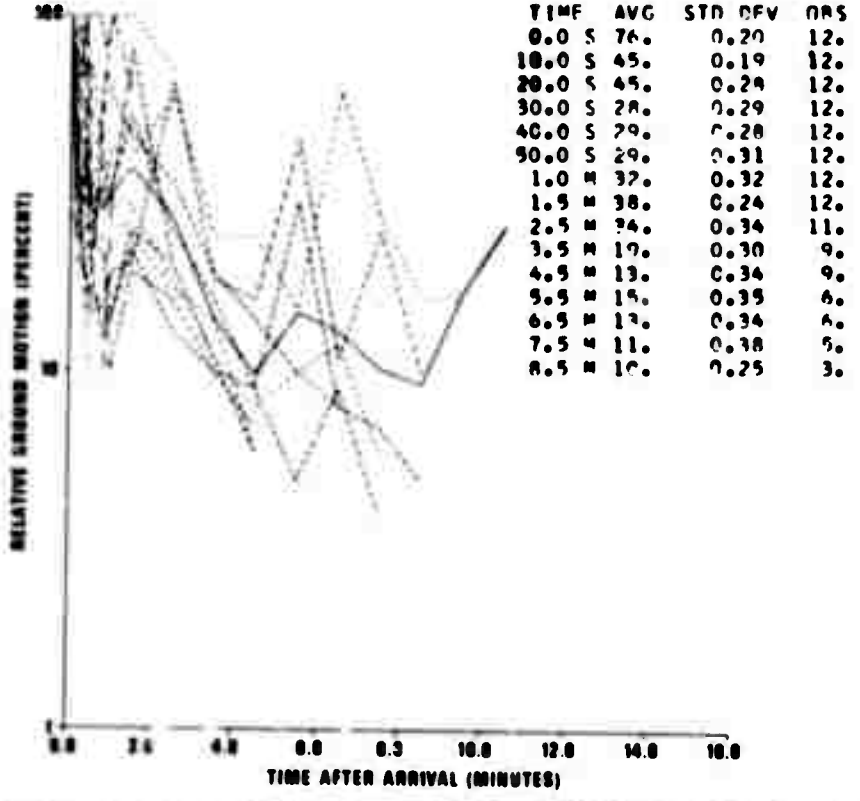


Figure 162. P coda characteristics, Solomon Islands-New Hebrides, MUN.

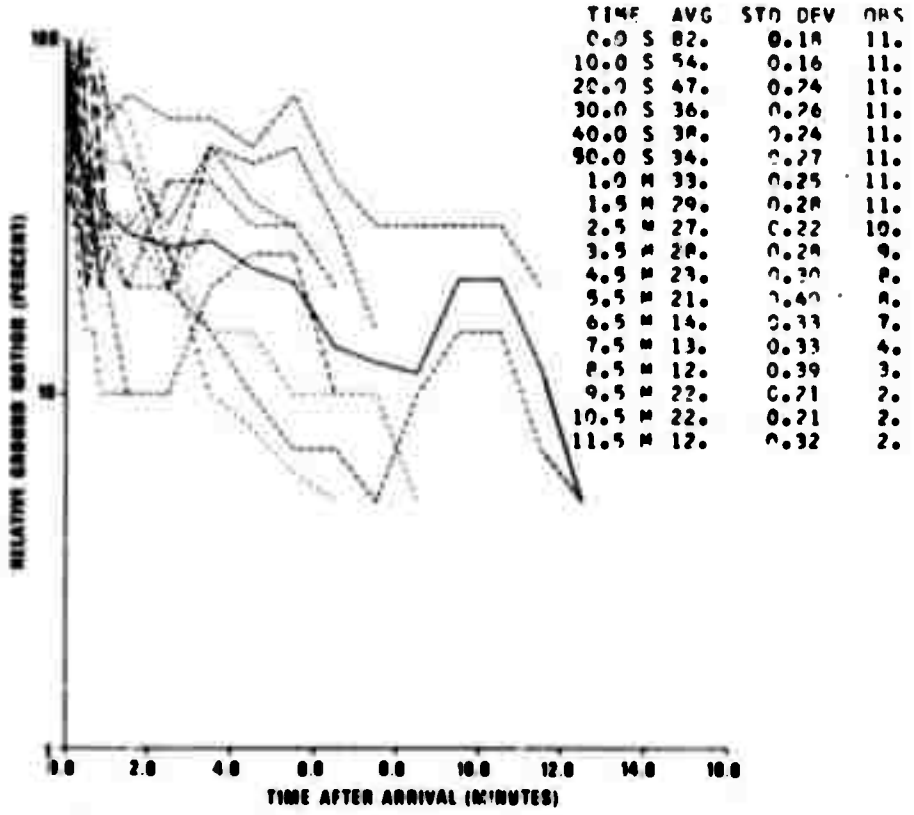


Figure 163. P coda characteristics, Solomon Islands-New Hebrides, NDI.

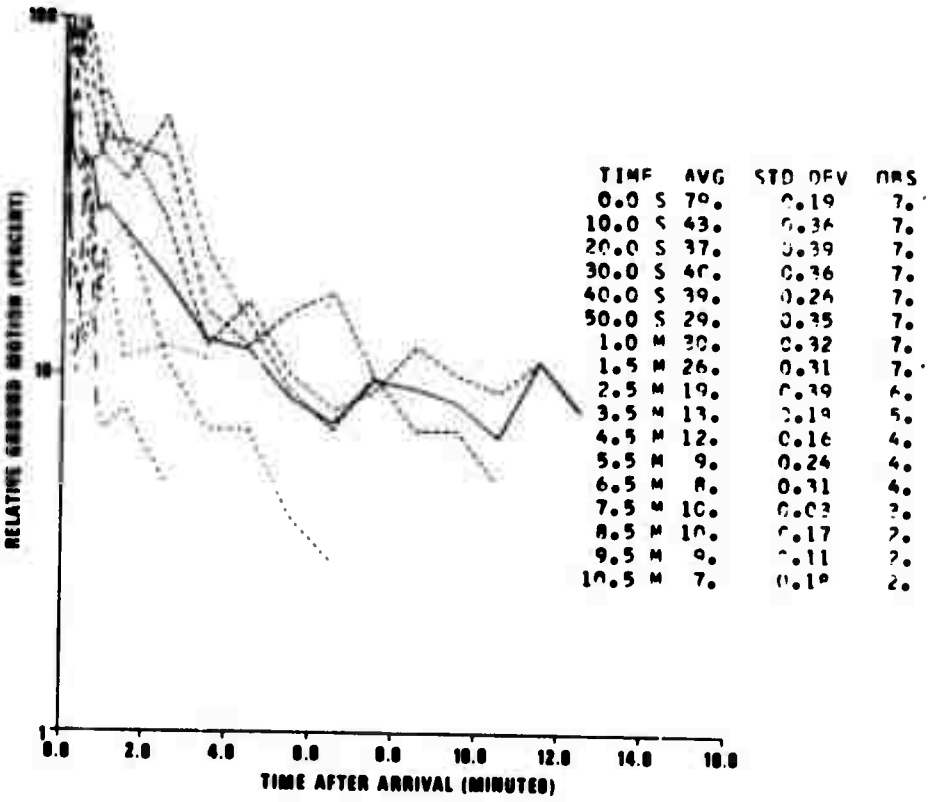


Figure 164. P coda characteristics, Solomon Islands-New Hebrides, SEO.

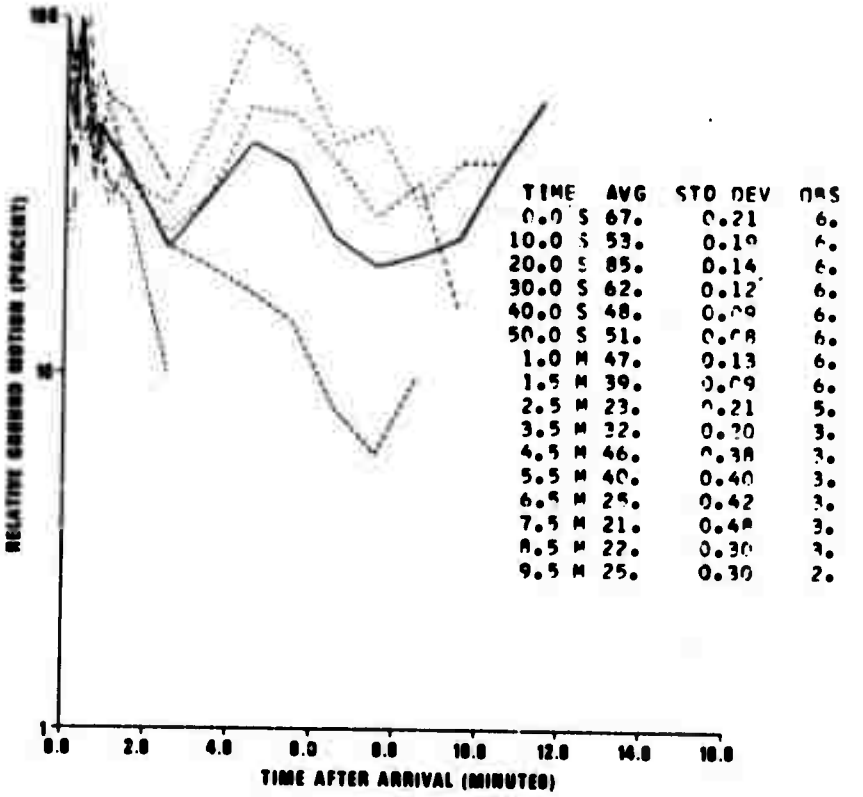


Figure 165. P coda characteristics, Solomon Islands-New Hebrides, SHI.

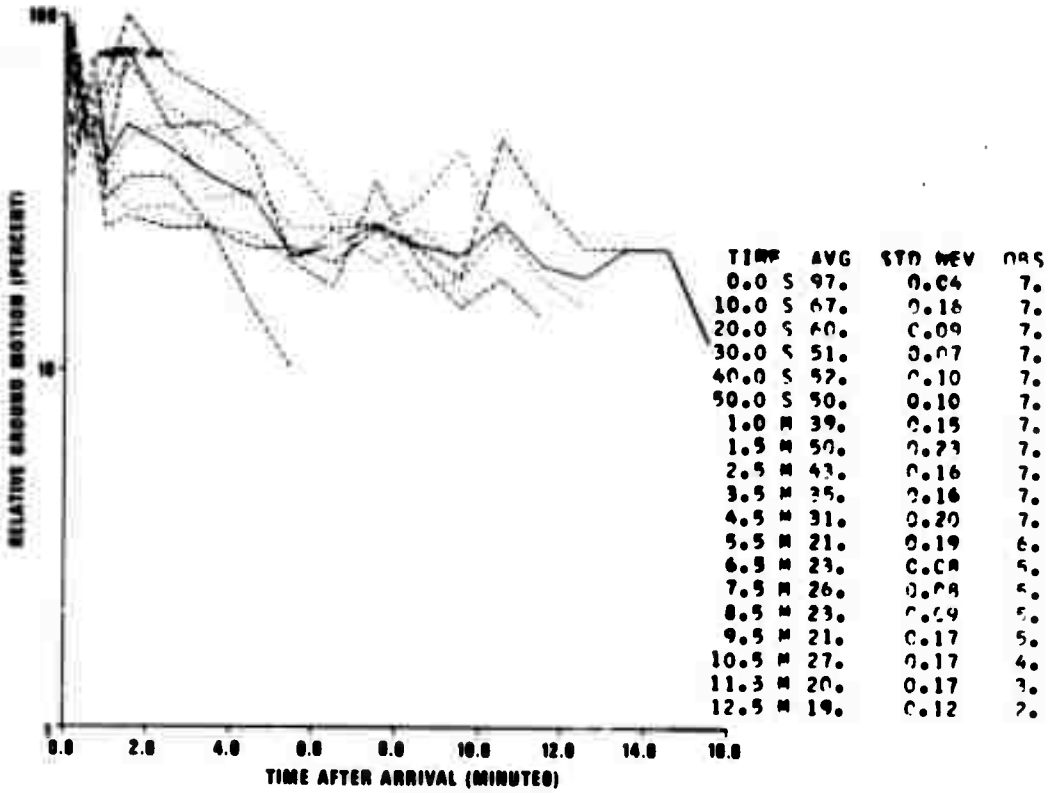


Figure 166. PKP coda characteristics, Solomon Islands-New Hebrides, SHI.

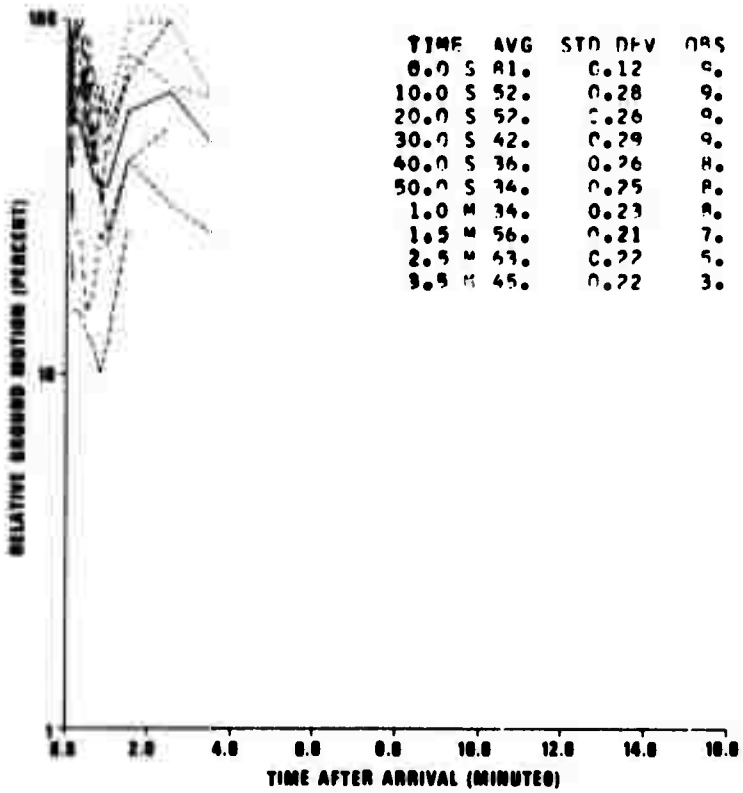


Figure 167. PKP coda characteristics, Solomon Islands-New Hebrides, WES.

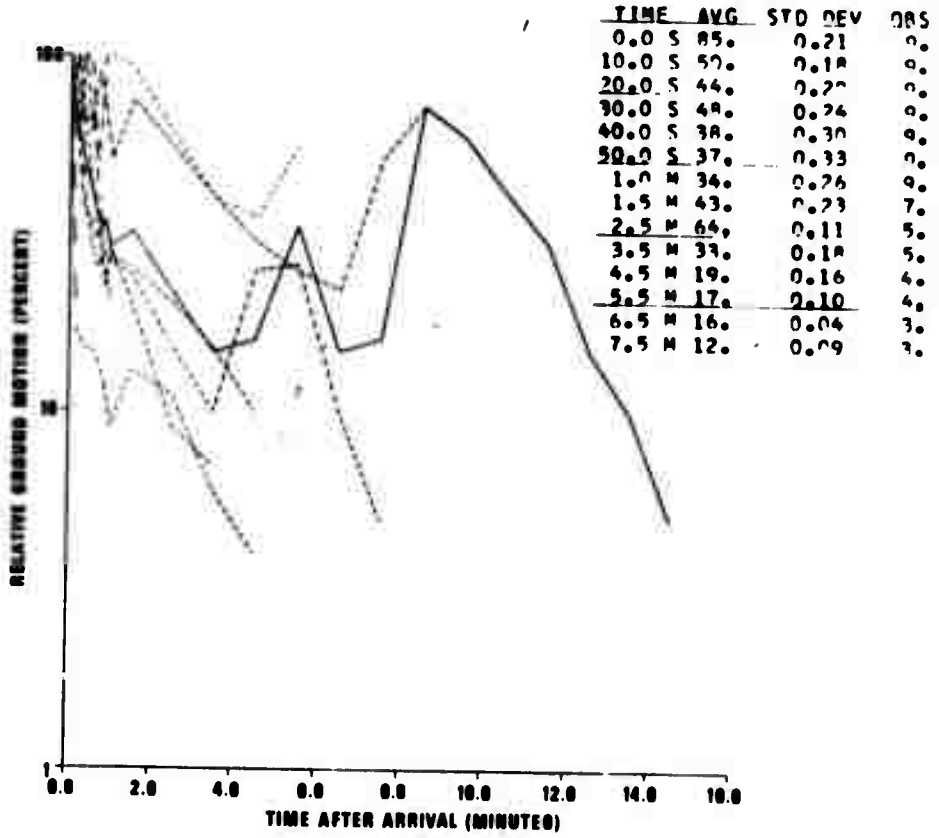


Figure 168. P coda characteristics, Sumatra-Java, ADE.

Figure 169. No observations, Sumatra-Java, AQU.

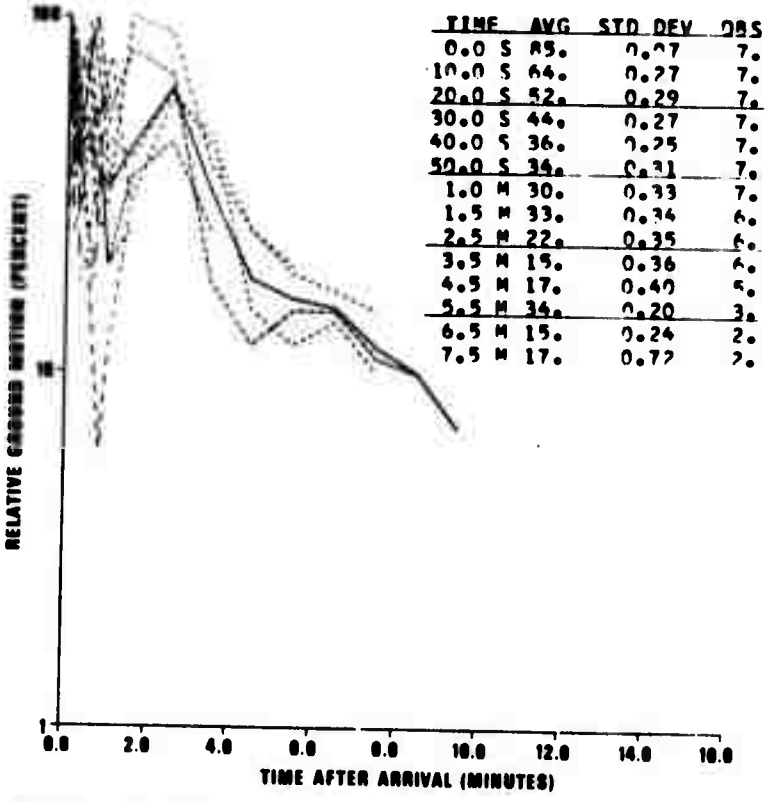
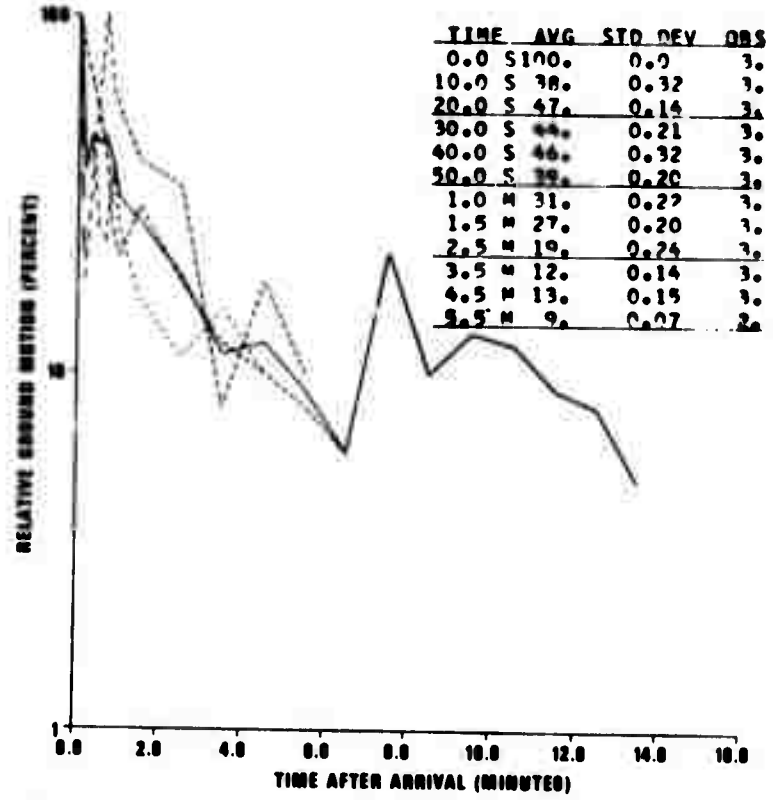
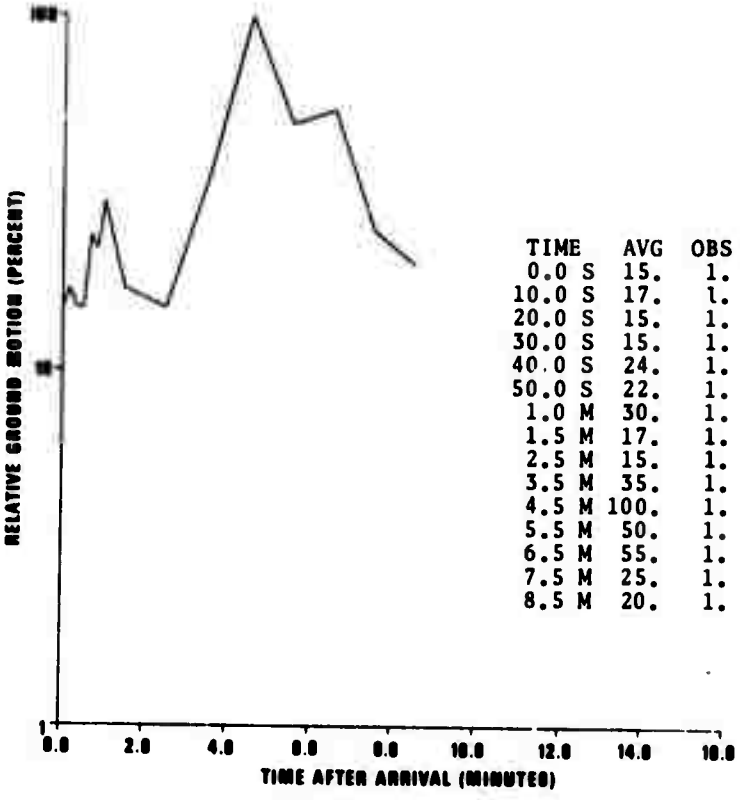


Figure 170. PKP coda characteristics, Sumatra-Java, BOZ.



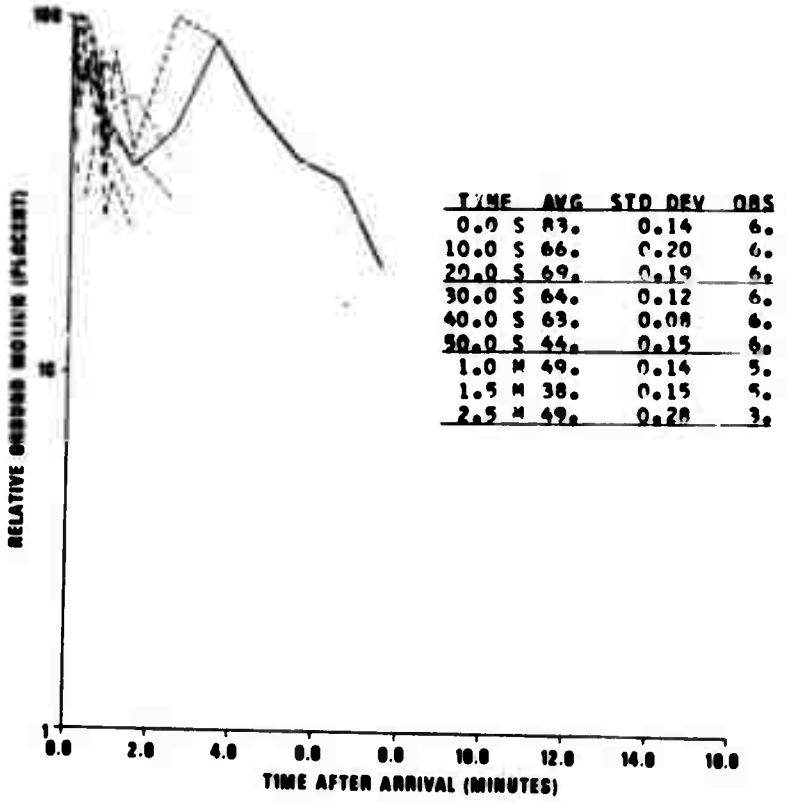
TIME	AVG	STD DEV	OBS
0.0 S	100.	0.0	3.
10.0 S	38.	0.32	3.
20.0 S	47.	0.14	3.
30.0 S	44.	0.21	3.
40.0 S	46.	0.32	3.
50.0 S	39.	0.20	3.
1.0 M	31.	0.22	3.
1.5 M	27.	0.20	3.
2.5 M	19.	0.24	3.
3.5 M	12.	0.14	3.
4.5 M	13.	0.15	3.
5.5 M	9.	0.07	2.

Figure 171. P coda characteristics, Sumatra-Java, CHG.



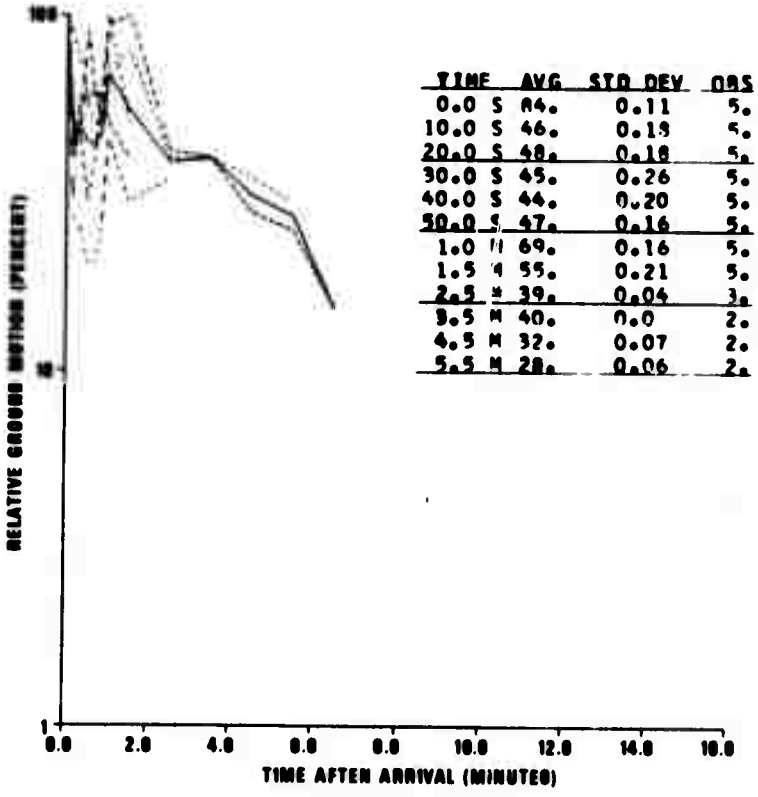
TIME	AVG	OBS
0.0 S	15.	1.
10.0 S	17.	1.
20.0 S	15.	1.
30.0 S	15.	1.
40.0 S	24.	1.
50.0 S	22.	1.
1.0 M	30.	1.
1.5 M	17.	1.
2.5 M	15.	1.
3.5 M	35.	1.
4.5 M	100.	1.
5.5 M	50.	1.
6.5 M	55.	1.
7.5 M	25.	1.
8.5 M	20.	1.

Figure 172. P coda characteristics, Sumatra-Java, CMC.



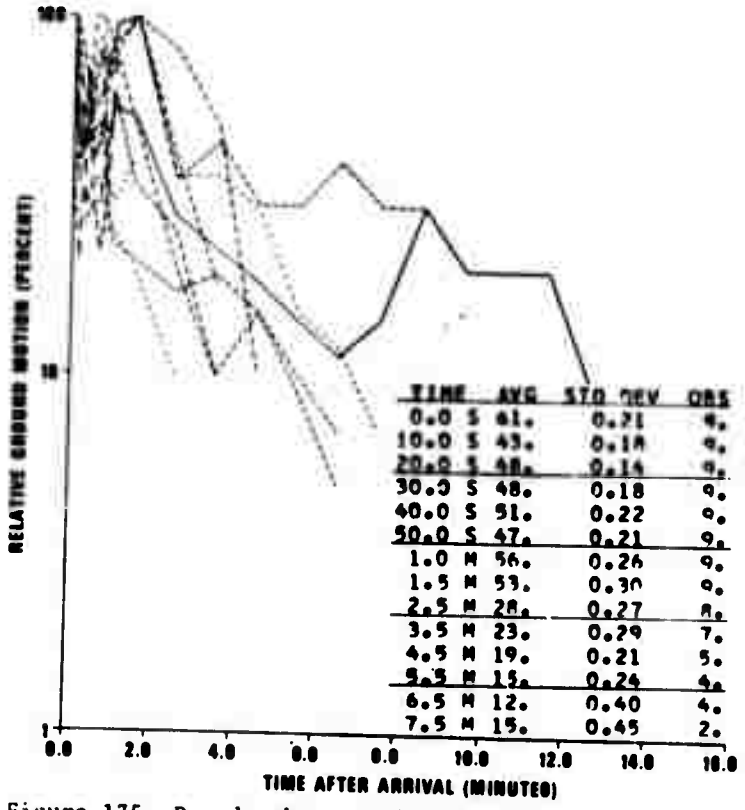
TIME		AVG	STD DEV	OBS
0.0	S	83.	0.14	6.
10.0	S	66.	0.20	6.
20.0	S	69.	0.19	6.
30.0	S	64.	0.12	6.
40.0	S	63.	0.08	6.
50.0	S	44.	0.15	6.
1.0	M	49.	0.14	5.
1.5	M	38.	0.15	5.
2.5	M	49.	0.28	3.

Figure 173. PKP coda characteristics, Sumatra-Java, CMC.



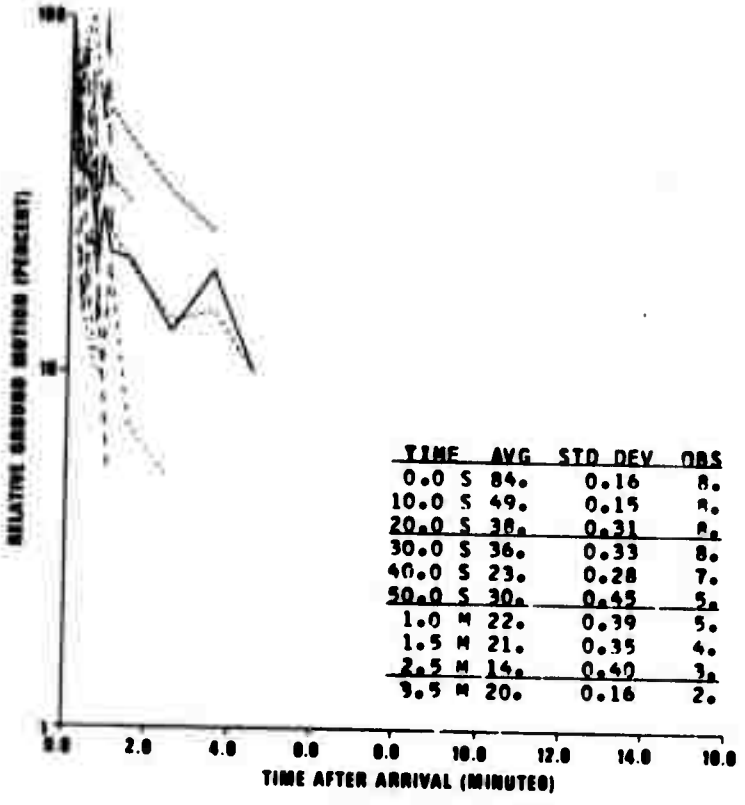
TIME		AVG	STD DEV	OBS
0.0	S	84.	0.11	5.
10.0	S	46.	0.19	5.
20.0	S	48.	0.18	5.
30.0	S	45.	0.26	5.
40.0	S	44.	0.20	5.
50.0	S	47.	0.16	5.
1.0	M	69.	0.16	5.
1.5	M	55.	0.21	5.
2.5	M	39.	0.04	3.
3.5	M	40.	0.0	2.
4.5	M	32.	0.07	2.
5.5	M	28.	0.06	2.

Figure 174. PKP coda characteristics, Sumatra-Java, DAL.



TIME	AVG	STD DEV	OBS
0.0 S	41.	0.21	9.
10.0 S	43.	0.18	9.
20.0 S	48.	0.14	9.
30.0 S	48.	0.18	9.
40.0 S	51.	0.22	9.
50.0 S	47.	0.21	9.
1.0 M	56.	0.26	9.
1.5 M	53.	0.30	9.
2.5 M	28.	0.27	8.
3.5 M	23.	0.29	7.
4.5 M	19.	0.21	5.
5.5 M	15.	0.24	4.
6.5 M	12.	0.40	4.
7.5 M	15.	0.45	2.

Figure 175. P coda characteristics, Sumatra-Java, DAV.



TIME	AVG	STD DEV	OBS
0.0 S	84.	0.16	8.
10.0 S	49.	0.15	8.
20.0 S	38.	0.31	8.
30.0 S	36.	0.33	8.
40.0 S	23.	0.28	7.
50.0 S	30.	0.45	5.
1.0 M	22.	0.39	5.
1.5 M	21.	0.35	4.
2.5 M	14.	0.40	3.
3.5 M	20.	0.16	2.

Figure 176. P coda characteristics, Sumatra-Java, IST.

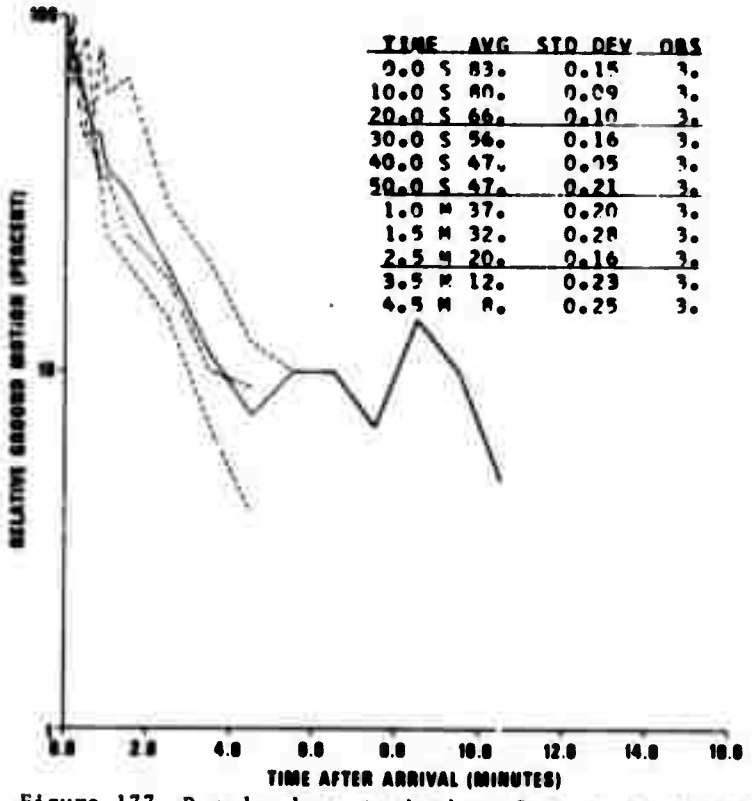


Figure 177. P coda characteristics, Sumatra-Java, KBC.

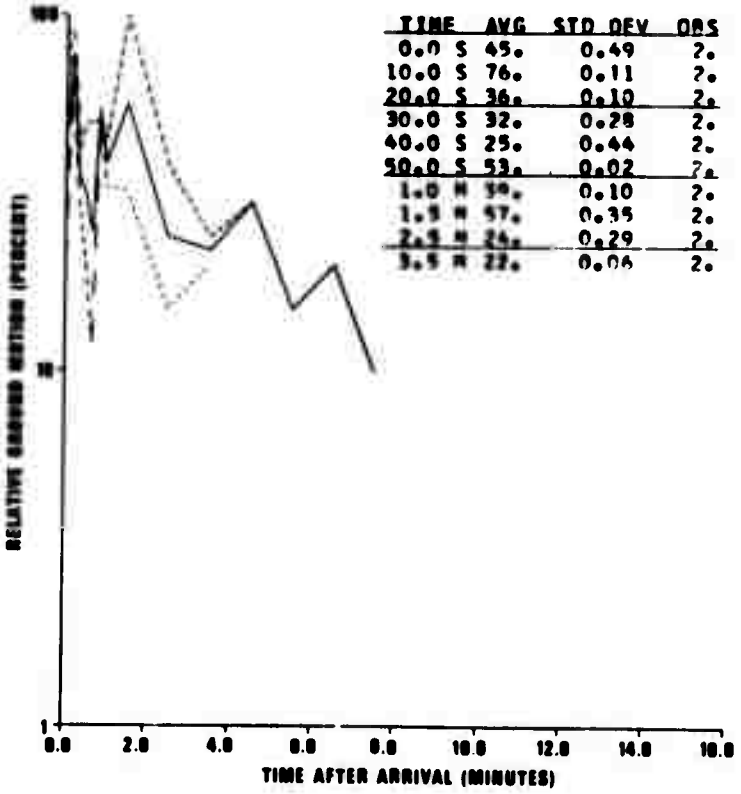
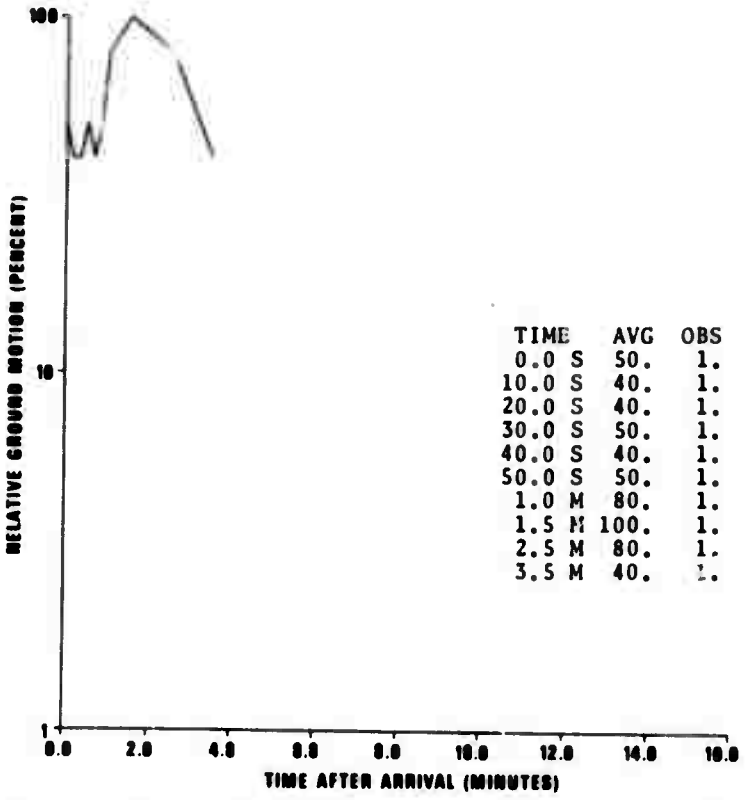
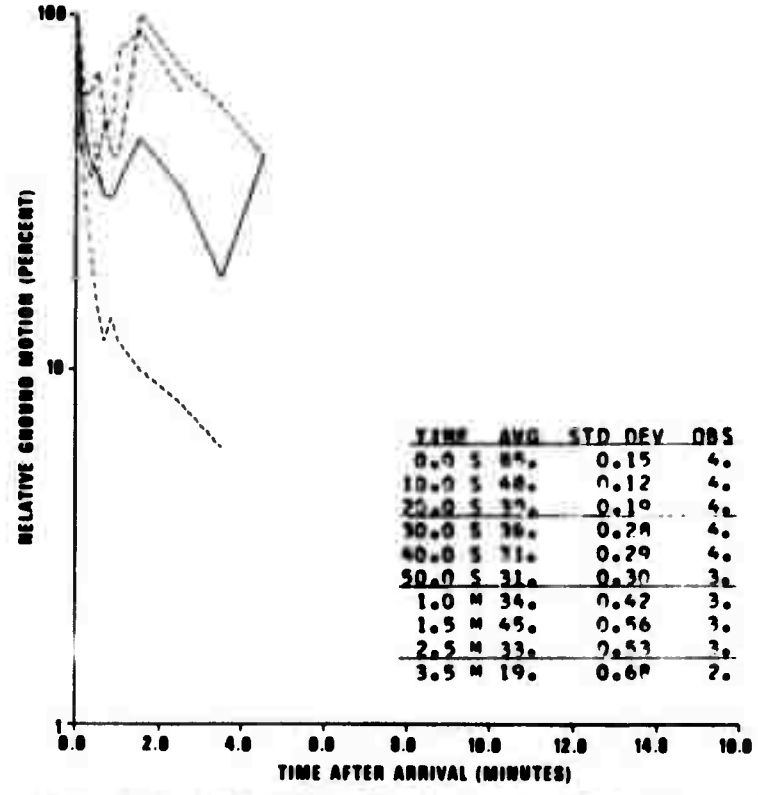


Figure 178. P coda characteristics, Sumatra-Java, KON.



TIME		AVG	OBS
0.0	S	50.	1.
10.0	S	40.	1.
20.0	S	40.	1.
30.0	S	50.	1.
40.0	S	40.	1.
50.0	S	50.	1.
1.0	M	80.	1.
1.5	M	100.	1.
2.5	M	80.	1.
3.5	M	40.	1.

Figure 179. P coda characteristics, Sumatra-Java, MAL.



TIME		AVG	STD DEV	OBS
0.0	S	39.	0.15	4.
10.0	S	48.	0.12	4.
20.0	S	37.	0.10	4.
30.0	S	36.	0.28	4.
40.0	S	31.	0.29	4.
50.0	S	31.	0.30	3.
1.0	M	34.	0.42	3.
1.5	M	45.	0.56	3.
2.5	M	33.	0.53	3.
3.5	M	19.	0.69	2.

Figure 180. PKP coda characteristics, Sumatra-Java, MAL.

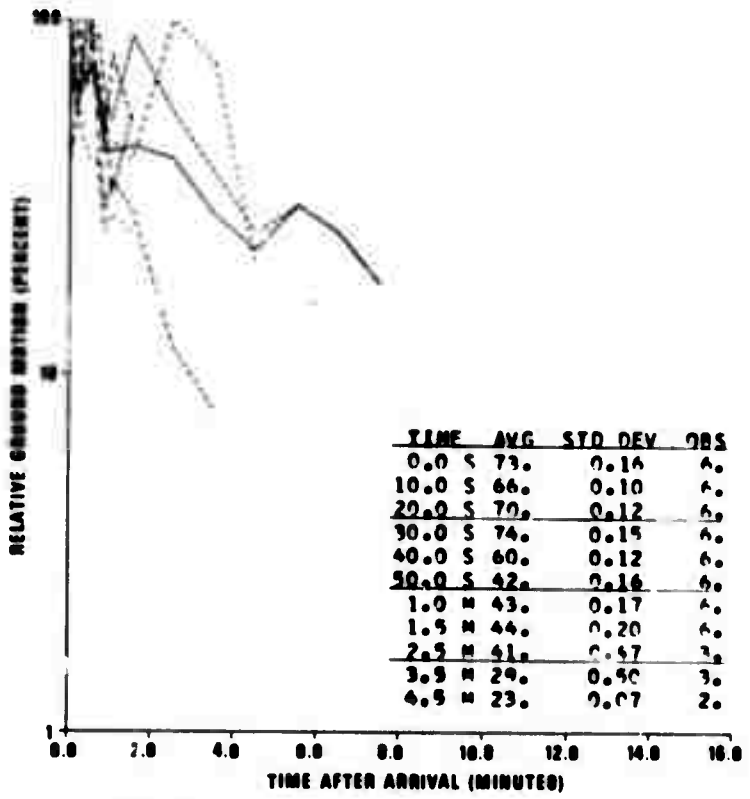


Figure 181. P coda charactersitics, Sumatra-Java, MAT.

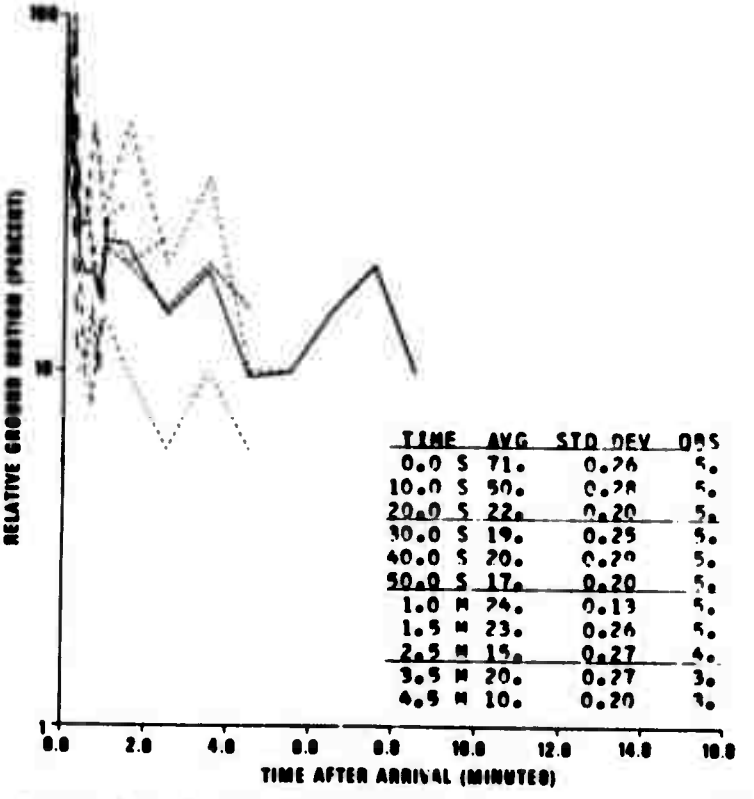
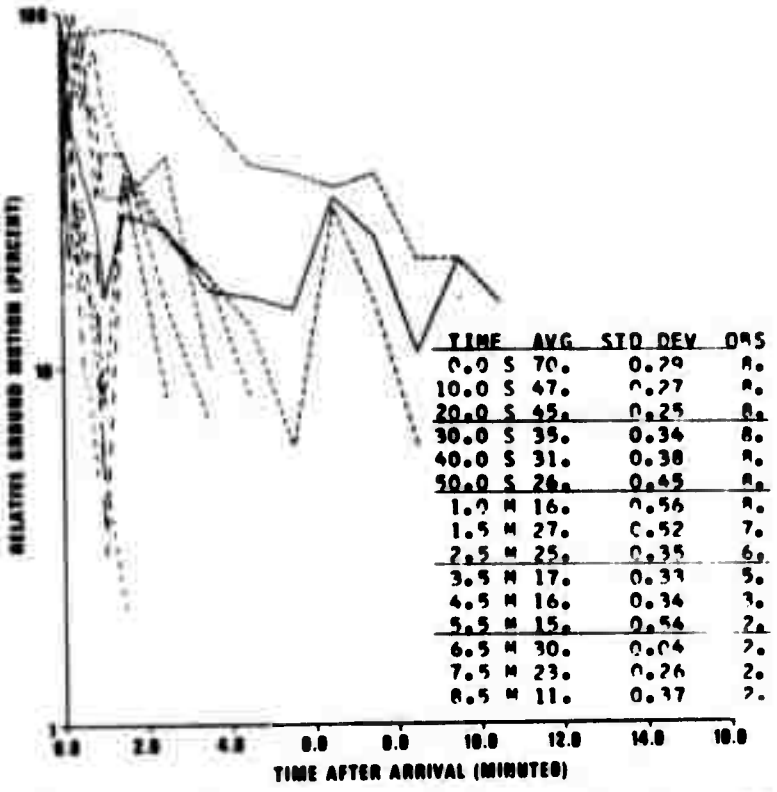
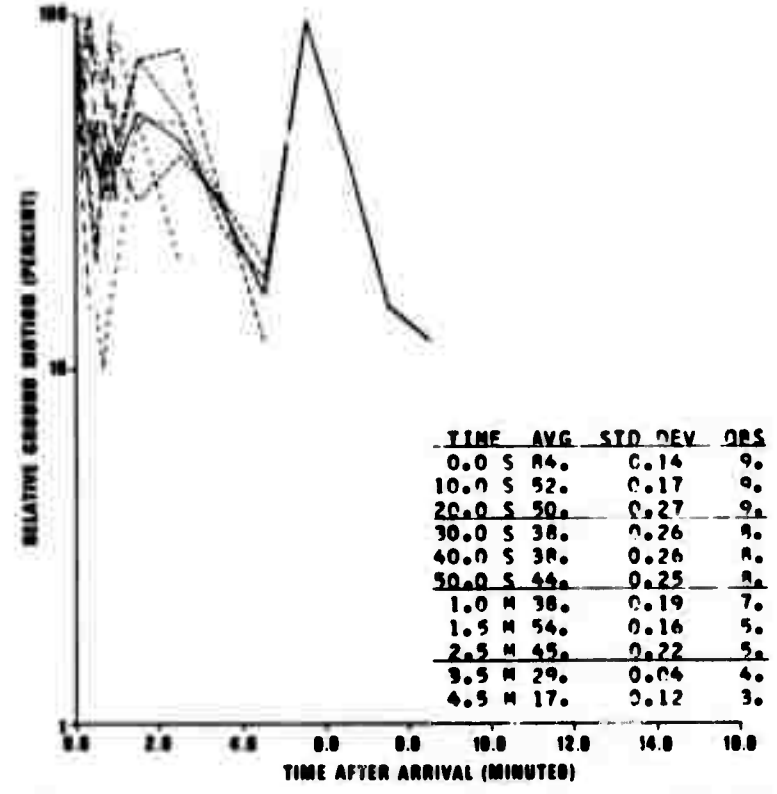


Figure 182. P coda characteristics, Sumatra-Java, MUN.



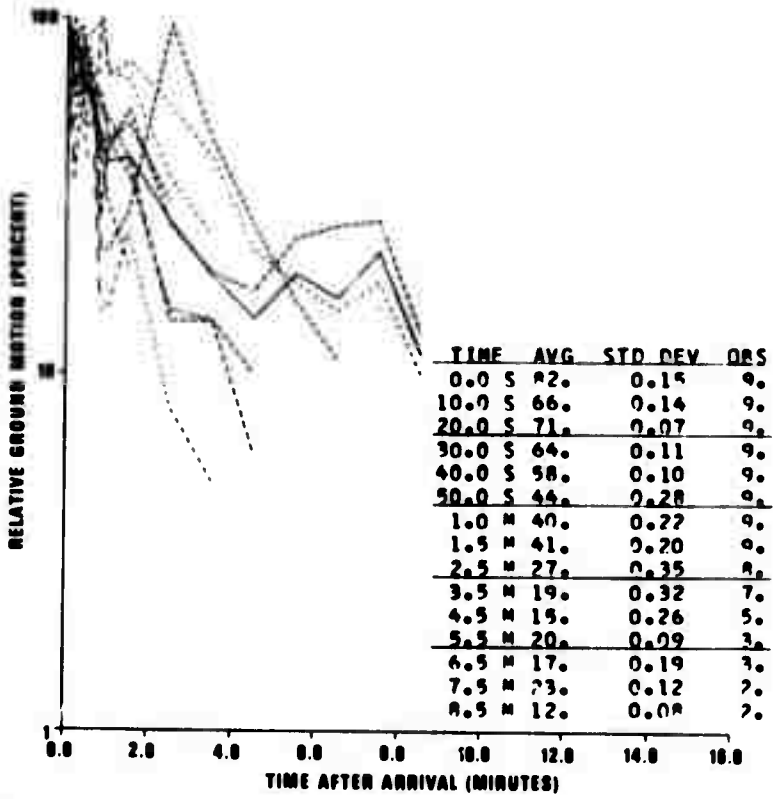
TIME	AVG	STD DEV	OBS
0.0 S	70.	0.29	8.
10.0 S	47.	0.27	8.
20.0 S	45.	0.25	8.
30.0 S	35.	0.34	8.
40.0 S	31.	0.38	8.
50.0 S	26.	0.45	8.
1.0 M	16.	0.56	8.
1.5 M	27.	0.52	7.
2.5 M	25.	0.35	6.
3.5 M	17.	0.33	5.
4.5 M	16.	0.34	3.
5.5 M	15.	0.54	2.
6.5 M	30.	0.04	2.
7.5 M	23.	0.26	2.
8.5 M	11.	0.37	2.

Figure 183. P coda characteristics, Sumatra-Java, NDI.



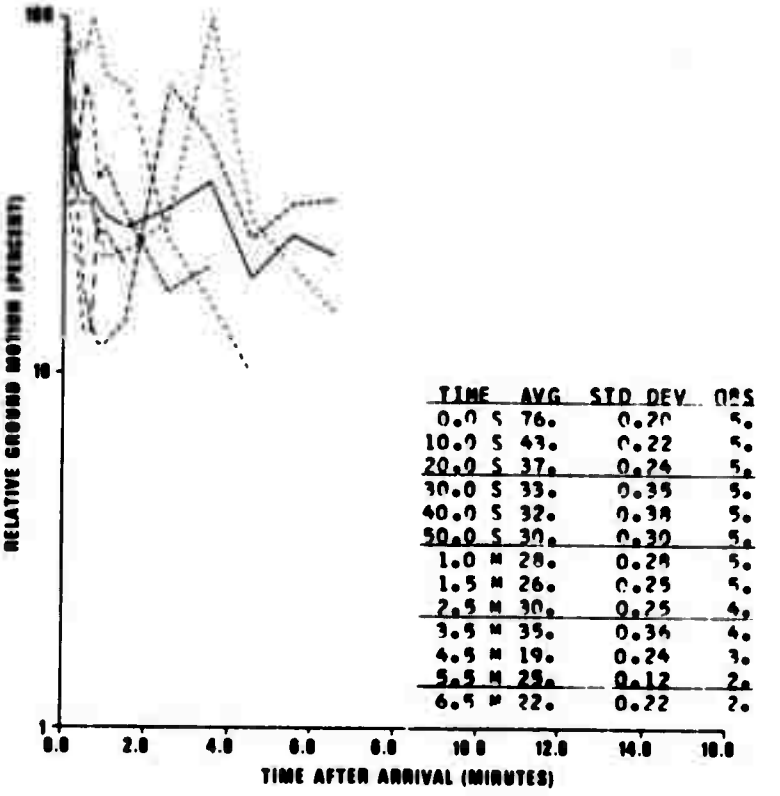
TIME	AVG	STD DEV	OBS
0.0 S	84.	0.14	9.
10.0 S	52.	0.17	9.
20.0 S	50.	0.27	9.
30.0 S	38.	0.26	8.
40.0 S	38.	0.26	8.
50.0 S	44.	0.25	8.
1.0 M	38.	0.19	7.
1.5 M	54.	0.16	5.
2.5 M	45.	0.22	5.
3.5 M	29.	0.04	4.
4.5 M	17.	0.12	3.

Figure 184. P coda characteristics, Sumatra-Java, SEO.



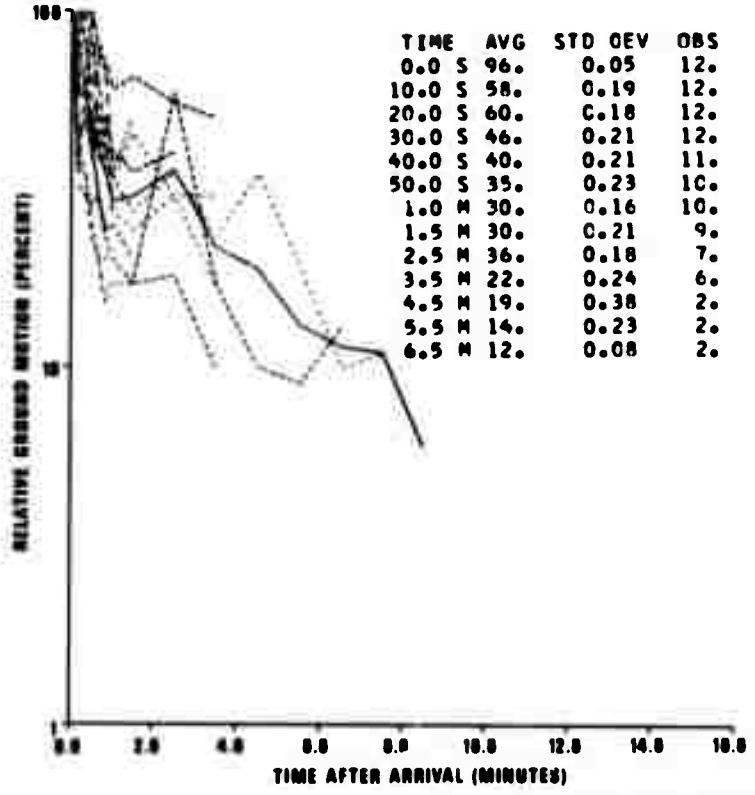
TIME		AVG	STD DEV	OBS
0.0	S	82.	0.15	9.
10.0	S	66.	0.14	9.
20.0	S	71.	0.07	9.
30.0	S	64.	0.11	9.
40.0	S	58.	0.10	9.
50.0	S	44.	0.28	9.
1.0	M	40.	0.22	9.
1.5	M	41.	0.20	9.
2.5	M	27.	0.35	8.
3.5	M	19.	0.32	7.
4.5	M	15.	0.26	5.
5.5	M	20.	0.09	3.
6.5	M	17.	0.19	3.
7.5	M	23.	0.12	2.
8.5	M	12.	0.08	2.

Figure 185. P coda characteristics, Sumatra-Java, SHI.



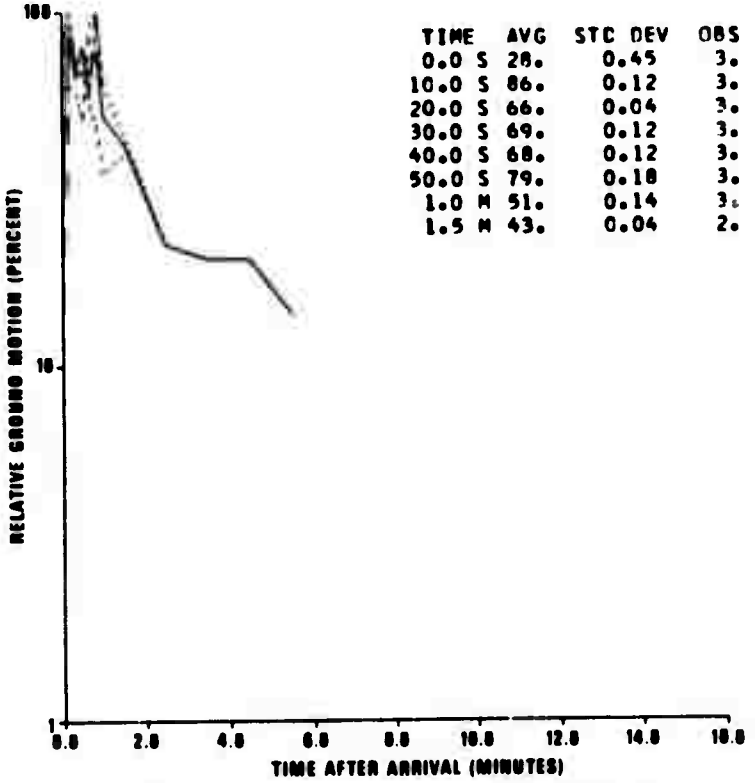
TIME		AVG	STD DEV	OBS
0.0	S	76.	0.20	5.
10.0	S	43.	0.22	5.
20.0	S	37.	0.24	5.
30.0	S	33.	0.35	5.
40.0	S	32.	0.38	5.
50.0	S	30.	0.30	5.
1.0	M	28.	0.28	5.
1.5	M	26.	0.25	5.
2.5	M	30.	0.25	4.
3.5	M	35.	0.34	4.
4.5	M	19.	0.24	3.
5.5	M	29.	0.12	2.
6.5	M	22.	0.22	2.

Figure 186. PKP coda characteristics, Sumatra-Java, WES.



TIME	AVG	STD DEV	OBS
0.0 S	96.	0.05	12.
10.0 S	58.	0.19	12.
20.0 S	60.	0.18	12.
30.0 S	46.	0.21	12.
40.0 S	40.	0.21	11.
50.0 S	35.	0.23	10.
1.0 M	30.	0.16	10.
1.5 M	30.	0.21	9.
2.5 M	36.	0.18	7.
3.5 M	22.	0.24	6.
4.5 M	19.	0.38	2.
5.5 M	14.	0.23	2.
6.5 M	12.	0.08	2.

Figure 187. P coda characteristics, Tonga Islands-Fiji Islands, ADE.



TIME	AVG	STD DEV	OBS
0.0 S	28.	0.45	3.
10.0 S	86.	0.12	3.
20.0 S	66.	0.04	3.
30.0 S	69.	0.12	3.
40.0 S	68.	0.12	3.
50.0 S	79.	0.18	3.
1.0 M	51.	0.14	3.
1.5 M	43.	0.04	2.

Figure 188. PKP coda characteristics, Tonga Islands-Fiji Islands, AQU.

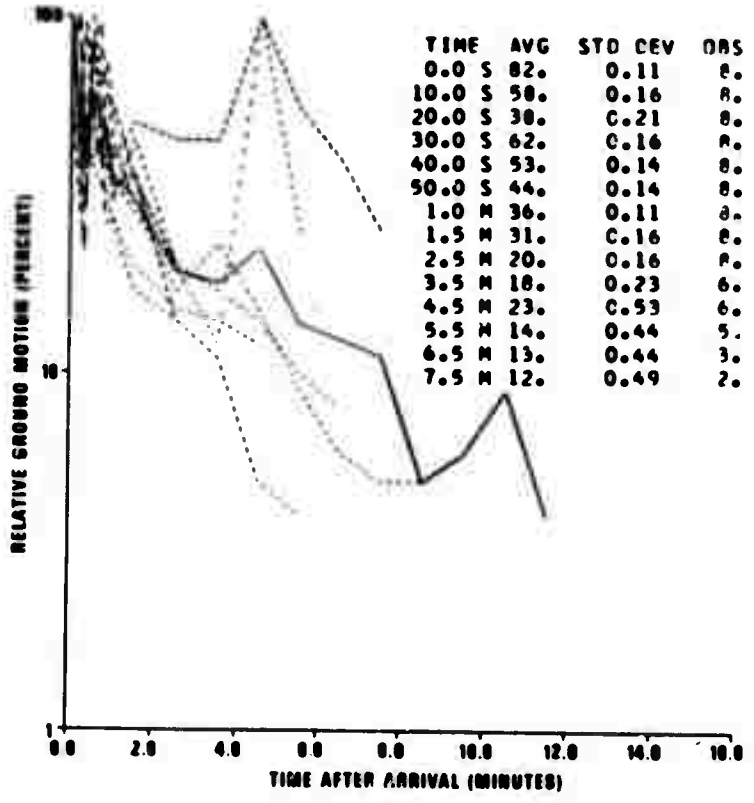


Figure 189. P coda characteristics, Tonga Islands-Fiji Islands, BOZ.

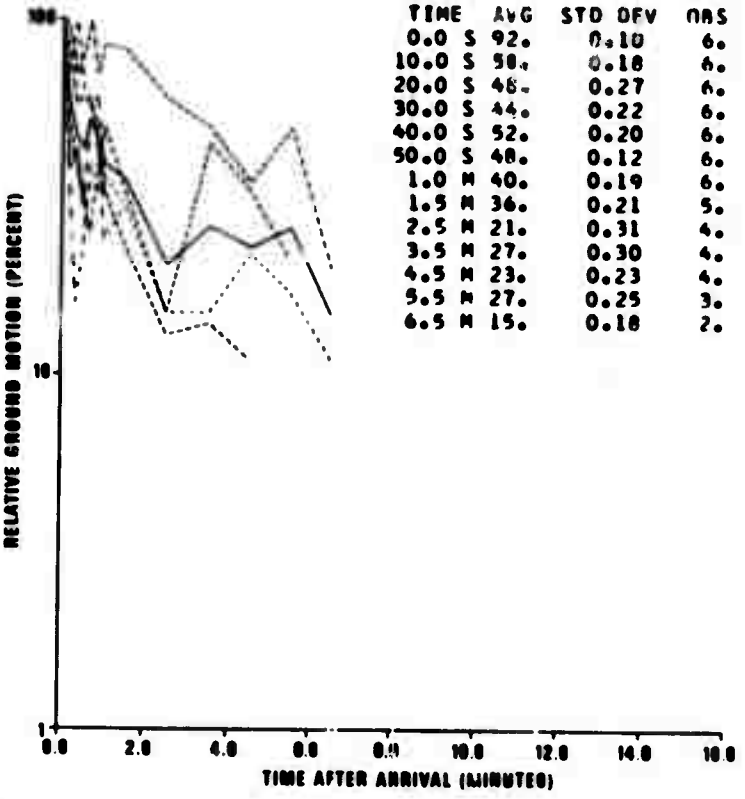


Figure 190. P coda characteristics, Tonga Islands-Fiji Islands, CHG.

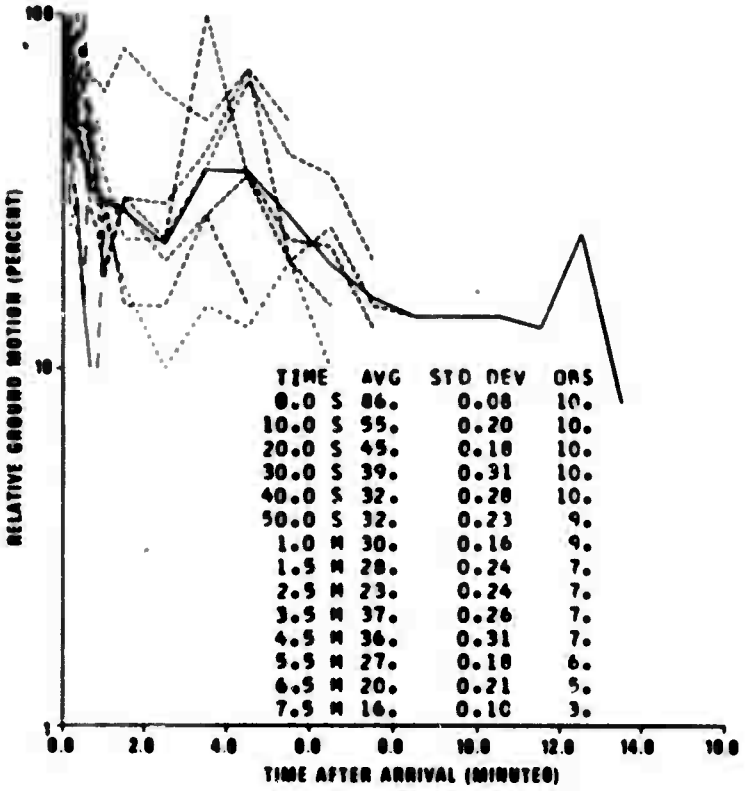


Figure 191. P coda characteristics, Tonga Islands-Fiji Islands, CMC.

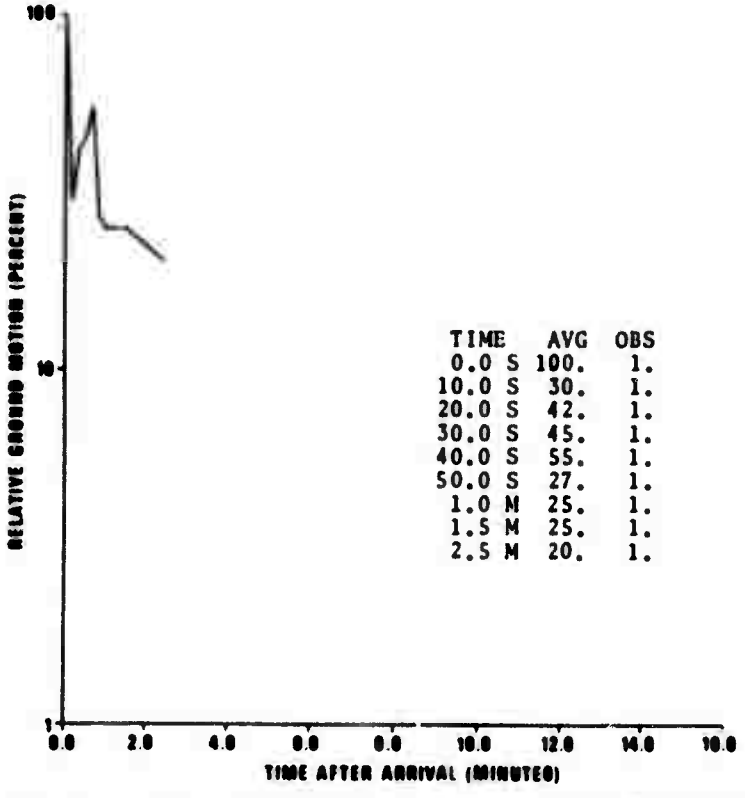


Figure 192. P coda characteristics, Tonga Islands-Fiji Islands, DAL.

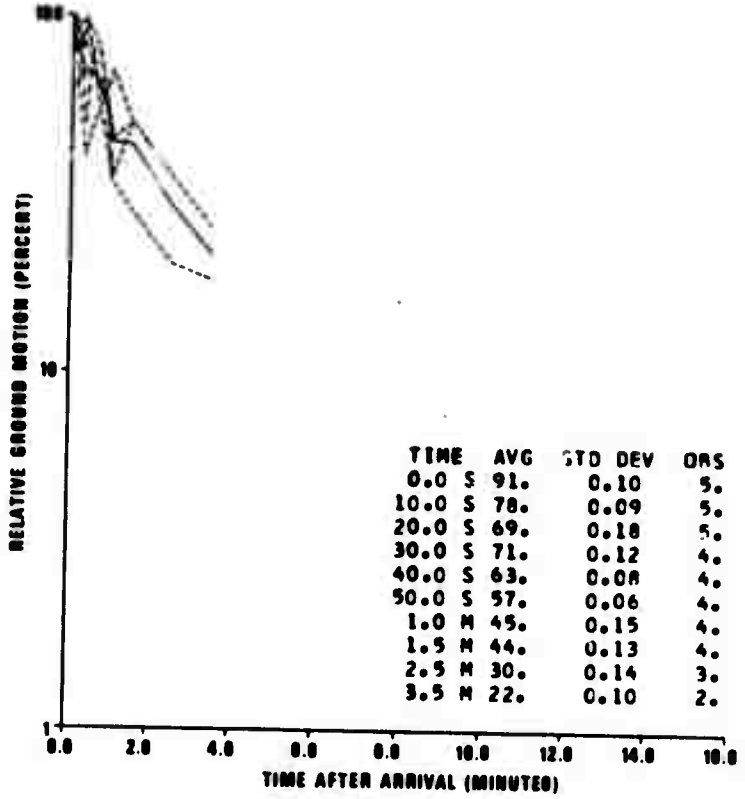


Figure 193. P coda characteristics, Tonga Islands-Fiji Islands, DAV.

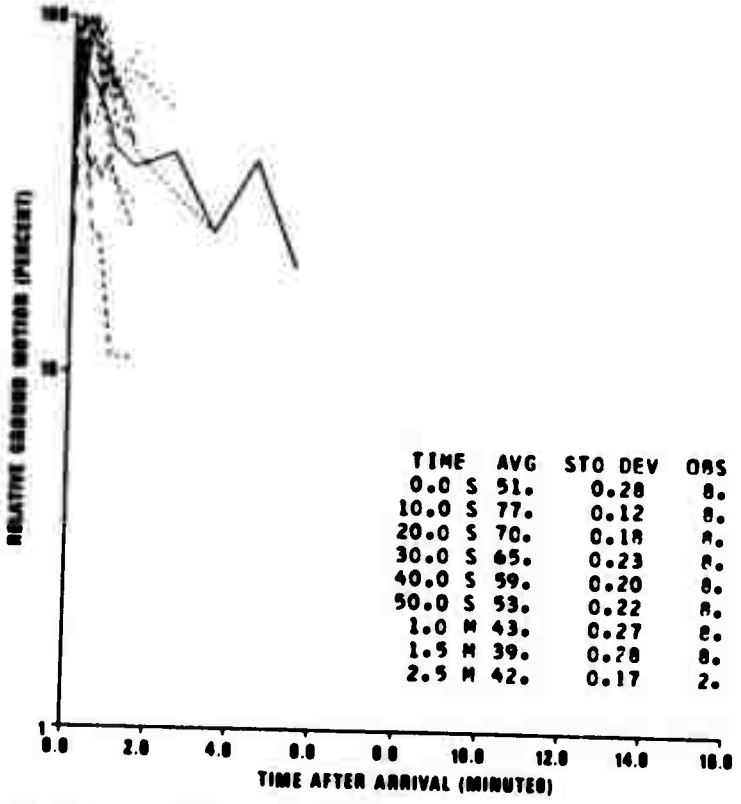


Figure 194. PKP coda characteristics, Tonga Islands-Fiji Islands, IST.

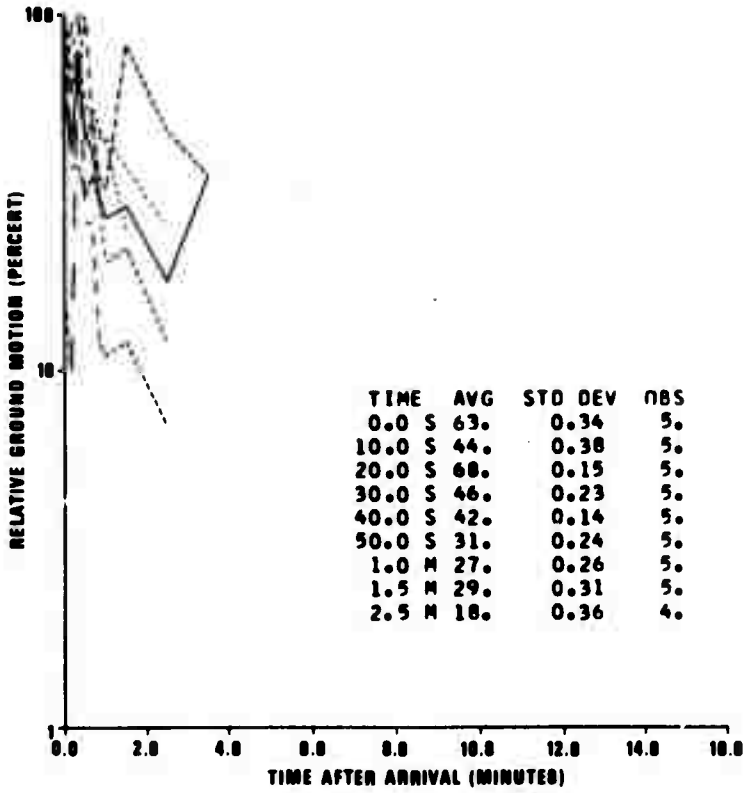


Figure 195. PKP coda characteristics, Tonga Islands-Fiji Islands, KBL.

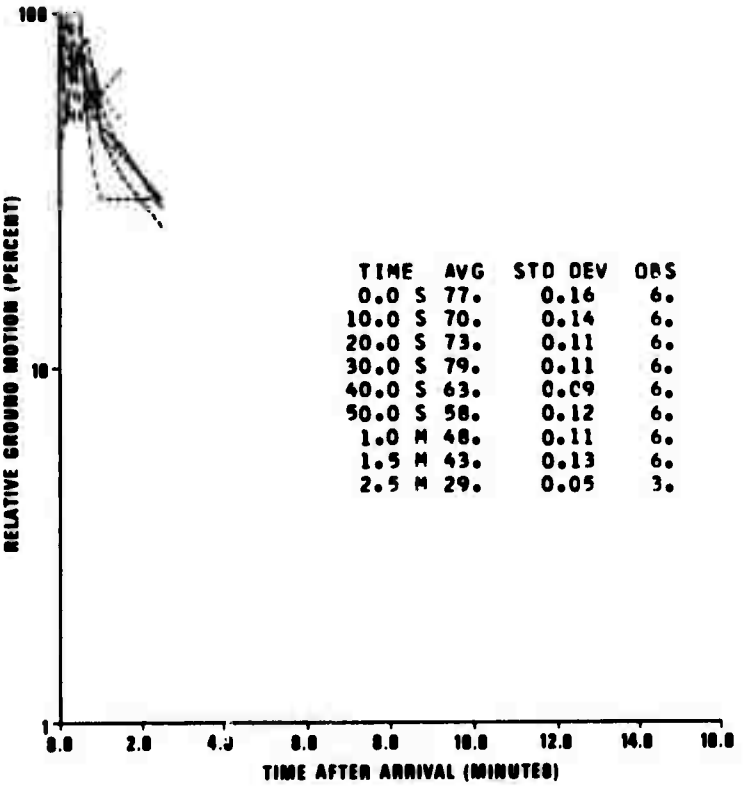
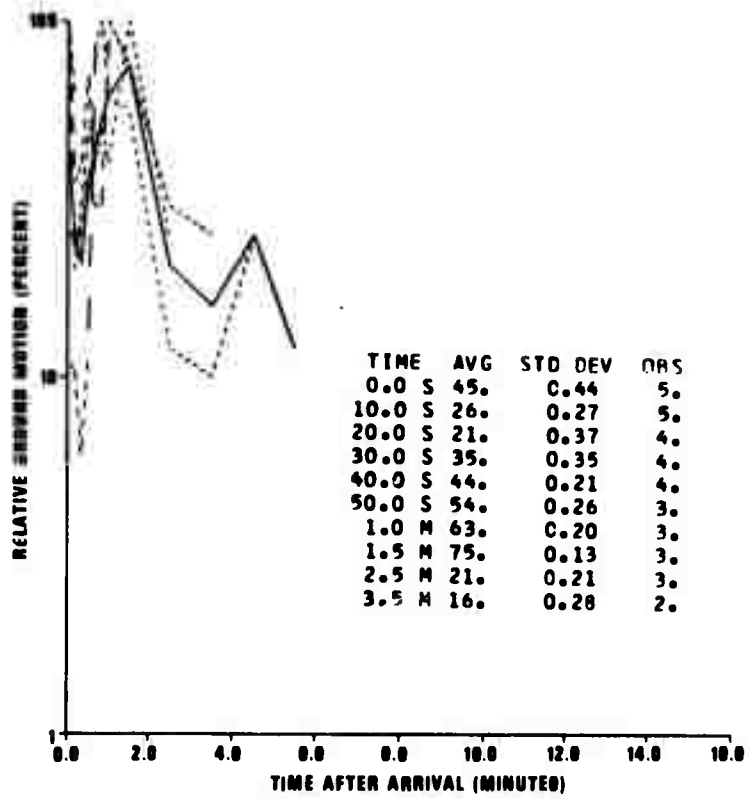
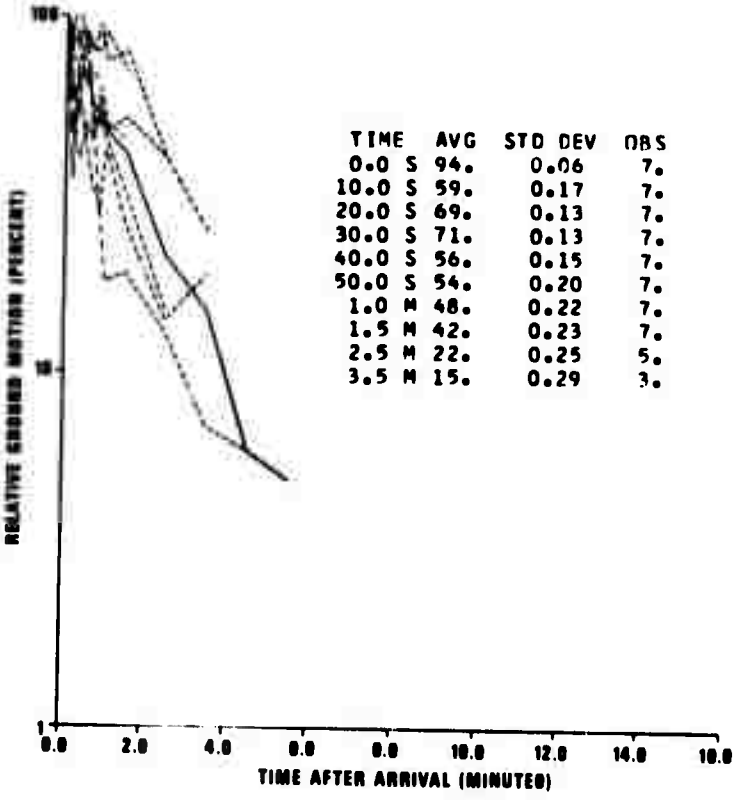


Figure 196. PKP coda characteristics, Tonga Islands-Fiji Islands, KON.



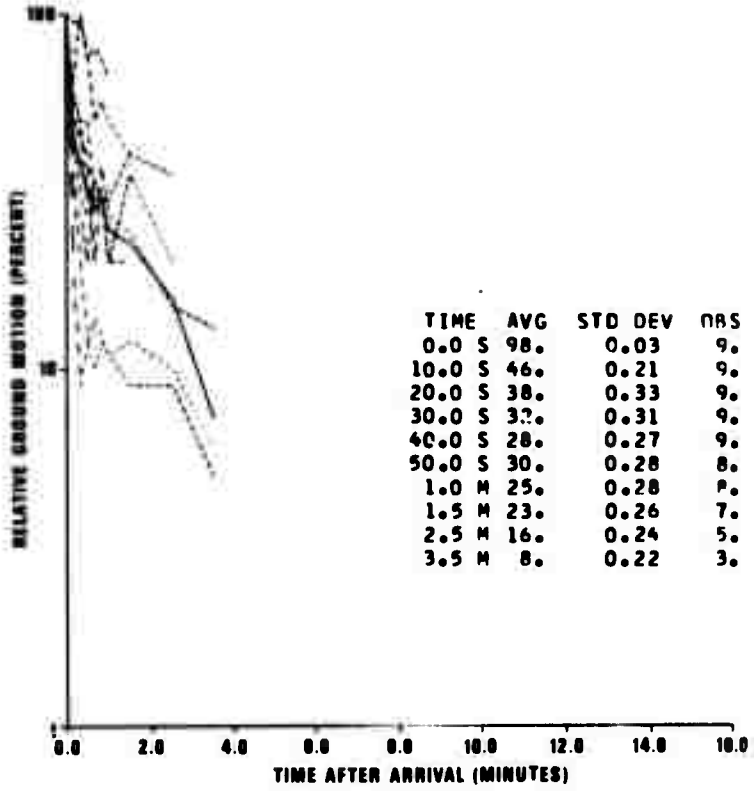
TIME	AVG	STD DEV	OBS
0.0 S	45.	0.44	5.
10.0 S	26.	0.27	5.
20.0 S	21.	0.37	4.
30.0 S	35.	0.35	4.
40.0 S	44.	0.21	4.
50.0 S	54.	0.26	3.
1.0 M	63.	0.20	3.
1.5 M	75.	0.13	3.
2.5 M	21.	0.21	3.
3.5 M	16.	0.28	2.

Figure 197. PKP coda characteristics, Tonga Islands-Fiji Islands, MAL.



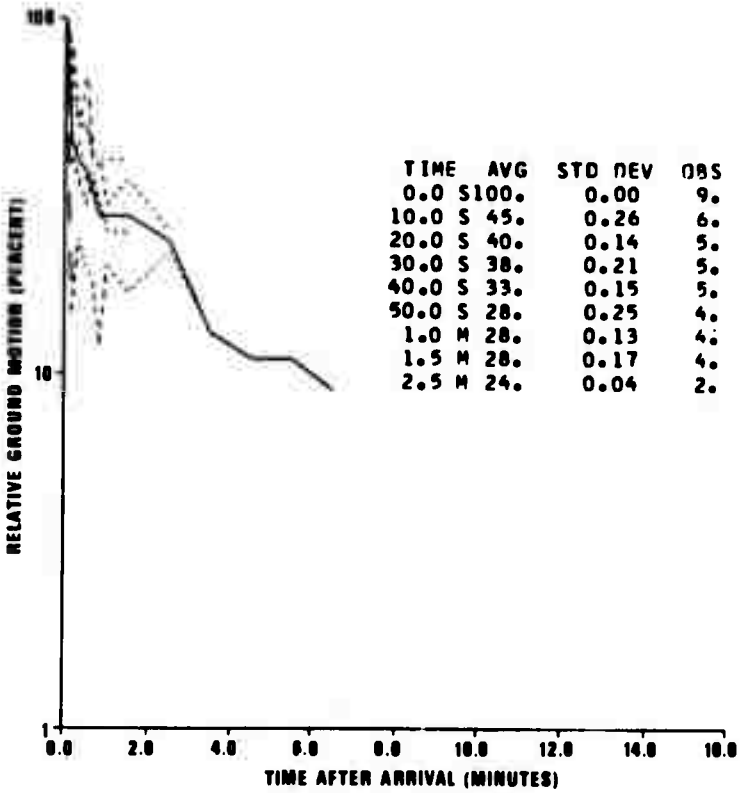
TIME	AVG	STD DEV	OBS
0.0 S	94.	0.06	7.
10.0 S	59.	0.17	7.
20.0 S	69.	0.13	7.
30.0 S	71.	0.13	7.
40.0 S	56.	0.15	7.
50.0 S	54.	0.20	7.
1.0 M	48.	0.22	7.
1.5 M	42.	0.23	7.
2.5 M	22.	0.25	5.
3.5 M	15.	0.29	3.

Figure 198. P coda characteristics, Tonga Islands-Fiji Islands, MAT.



TIME	AVG	STD DEV	OBS
0.0 S	98.	0.03	9.
10.0 S	46.	0.21	9.
20.0 S	38.	0.33	9.
30.0 S	32.	0.31	9.
40.0 S	28.	0.27	9.
50.0 S	30.	0.28	8.
1.0 M	25.	0.28	8.
1.5 M	23.	0.26	7.
2.5 M	16.	0.24	5.
3.5 M	8.	0.22	3.

Figure 199. P coda characteristics, Tonga Islands-Fiji Islands, MUN.



TIME	AVG	STD DEV	OBS
0.0 S	100.	0.00	9.
10.0 S	45.	0.26	6.
20.0 S	40.	0.14	5.
30.0 S	38.	0.21	5.
40.0 S	33.	0.15	5.
50.0 S	28.	0.25	4.
1.0 M	28.	0.13	4.
1.5 M	28.	0.17	4.
2.5 M	24.	0.04	2.

Figure 200. PKP coda characteristics, Tonga Islands-Fiji Islands, NDI.

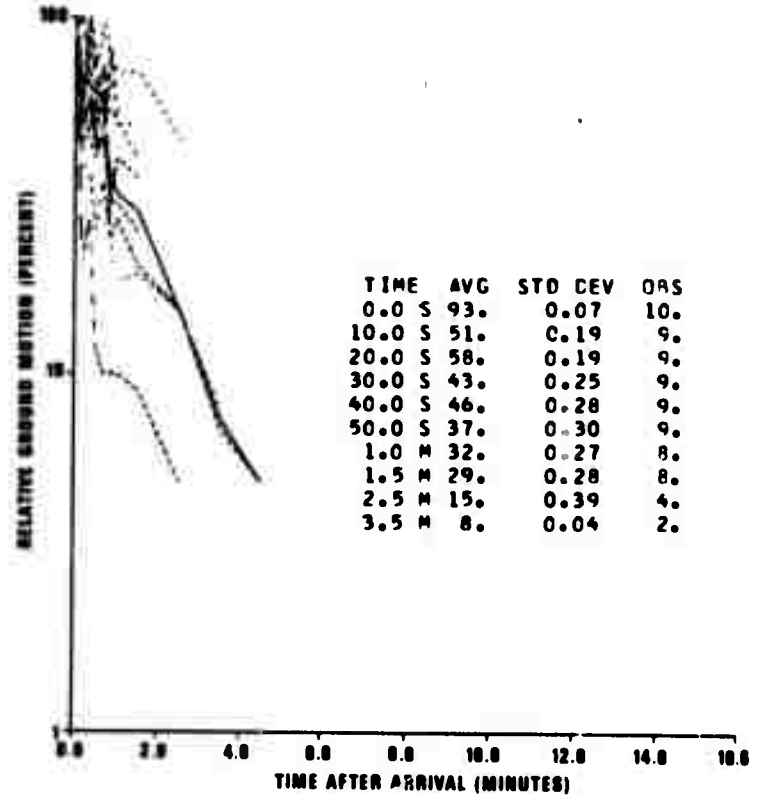


Figure 201. P coda characteristics, Tonga Islands-Fiji Islands, SEO.

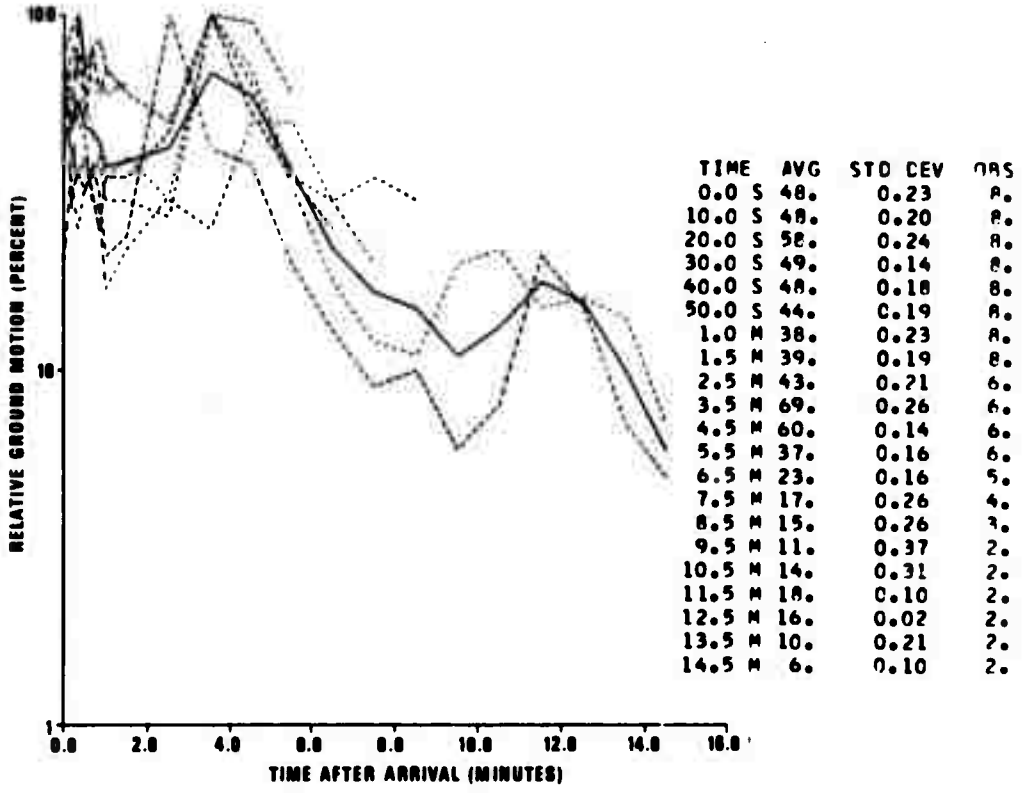


Figure 202. PKP coda characteristics, Tonga Islands-Fiji Islands, SHI.

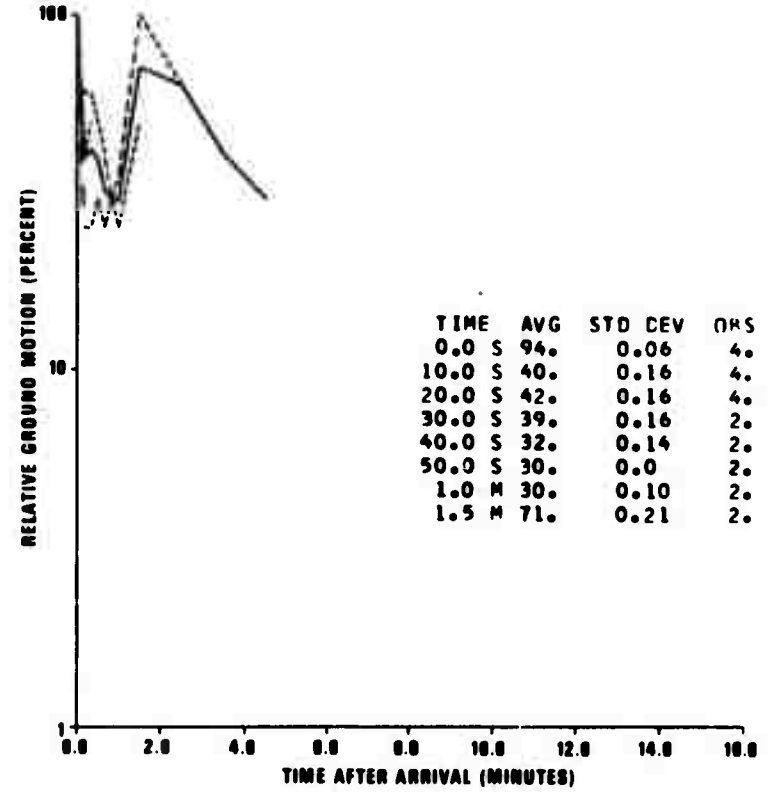


Figure 203. PKP coda characteristics, Tonga Islands-Fiji Islands, WES.

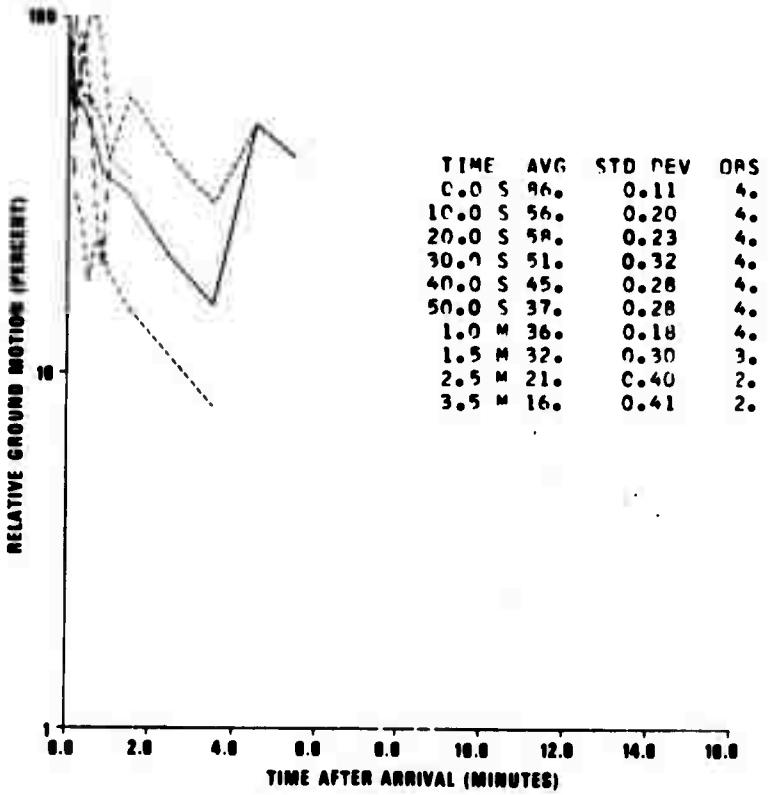


Figure 204. PKP coda characteristics, Turkey-Greece, ADE.

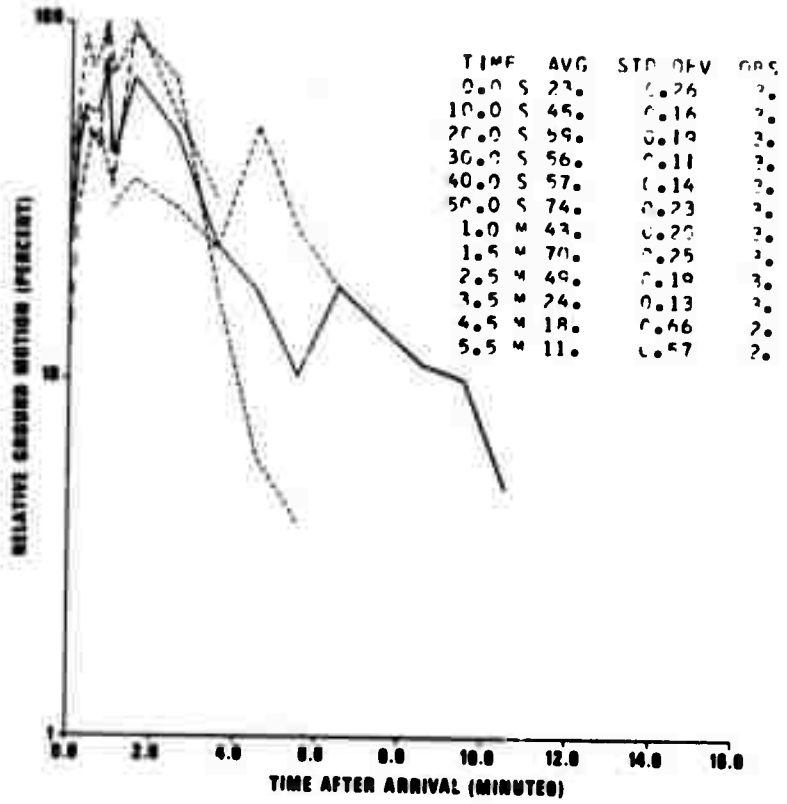


Figure 205. P coda characteristics, Turkey-Greece, AQU.

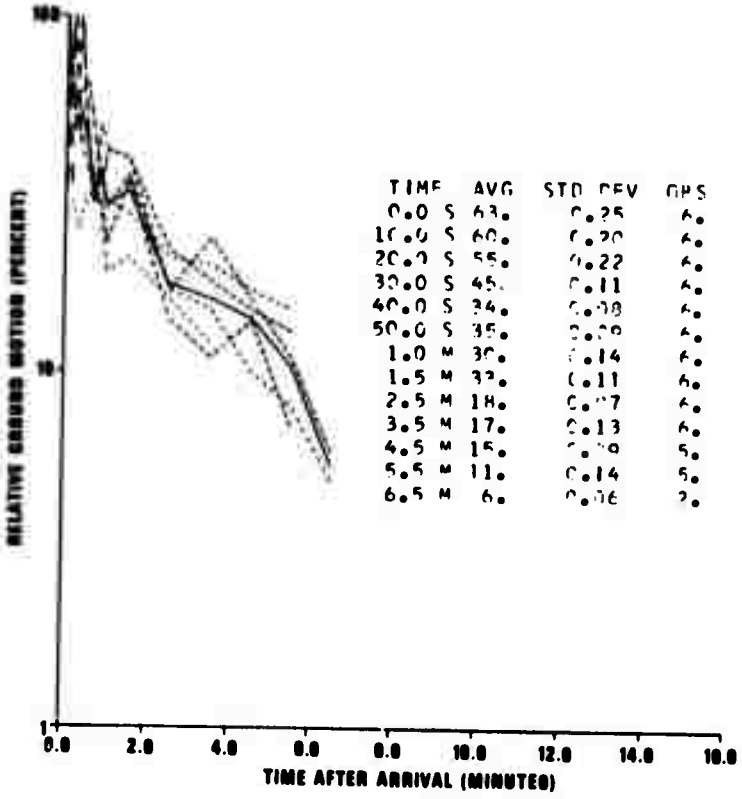


Figure 206. P coda characteristics, Turkey-Greece, BOZ.

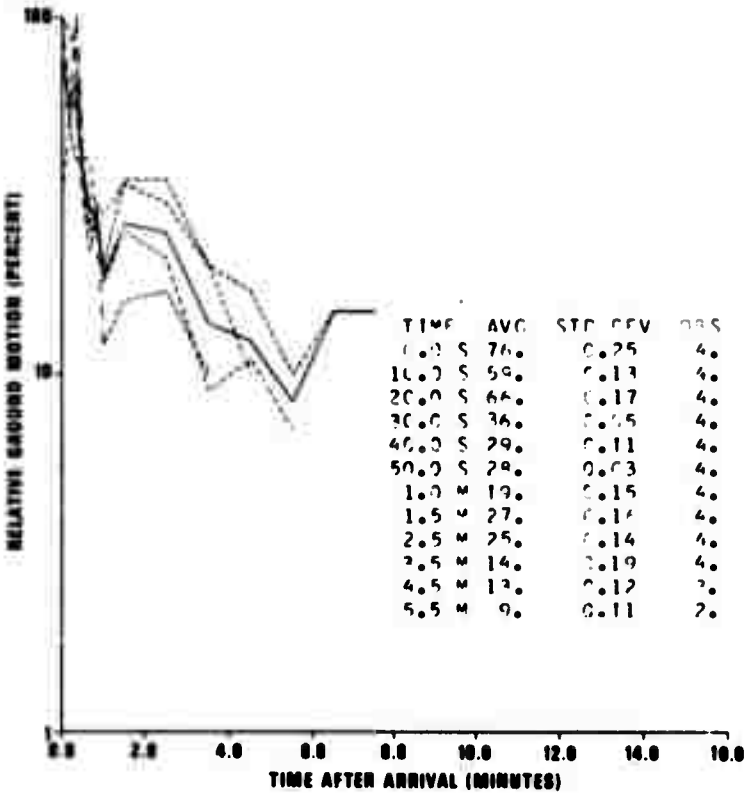


Figure 207. P coda characteristics, Turkey-Greece, CHG.

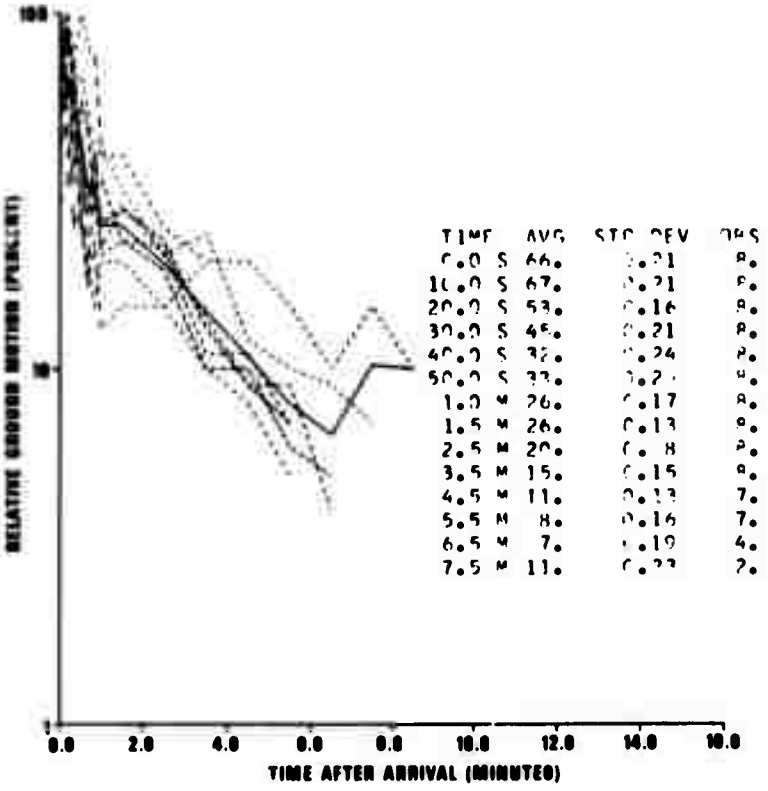


Figure 208. P coda characteristics, Turkey-Greece, CMC.

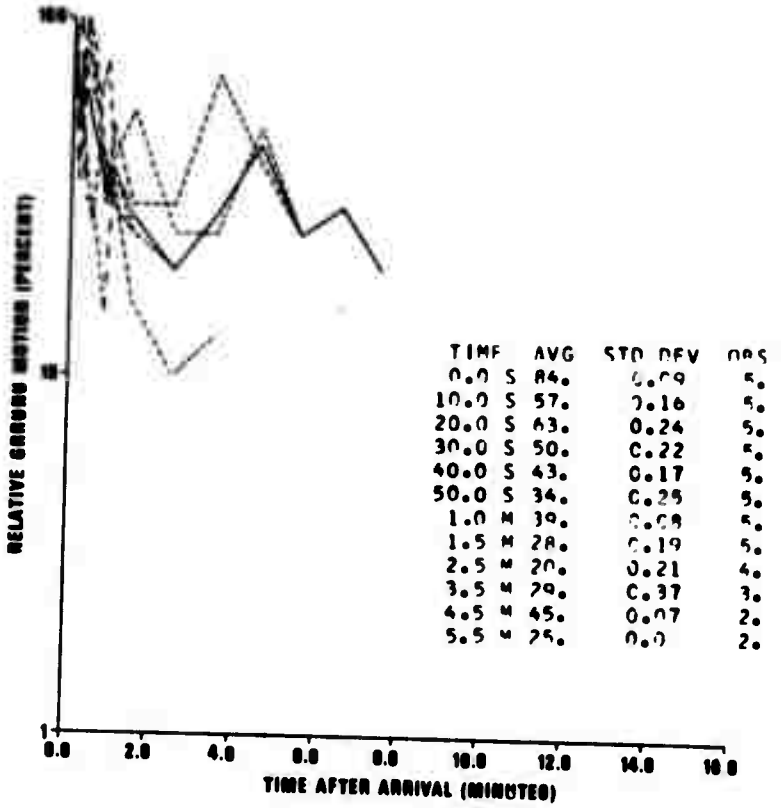


Figure 209. P coda characteristics, Turkey-Greece, DAL.

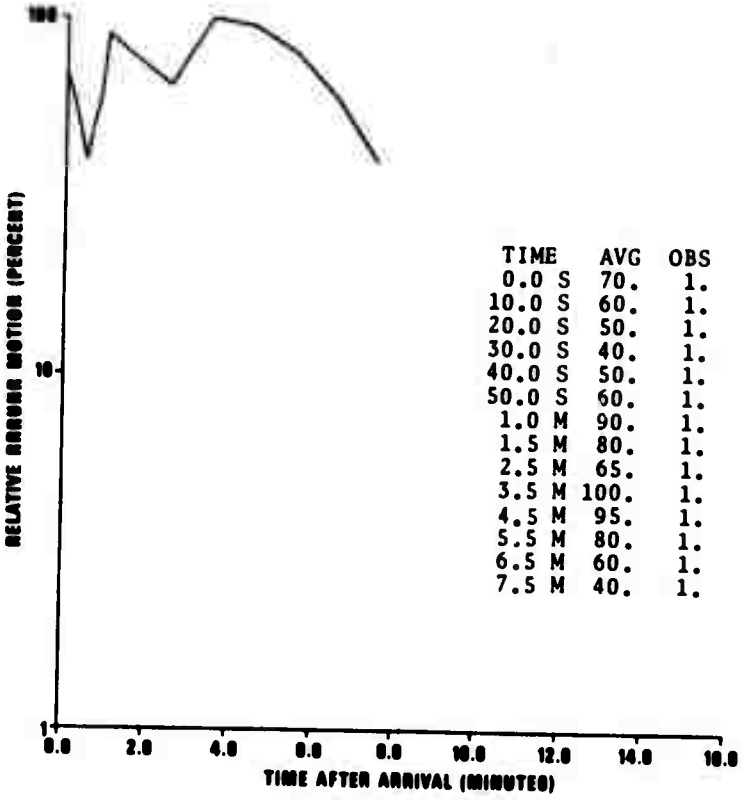


Figure 210. P coda characteristics, Turkey-Greece, DAV.

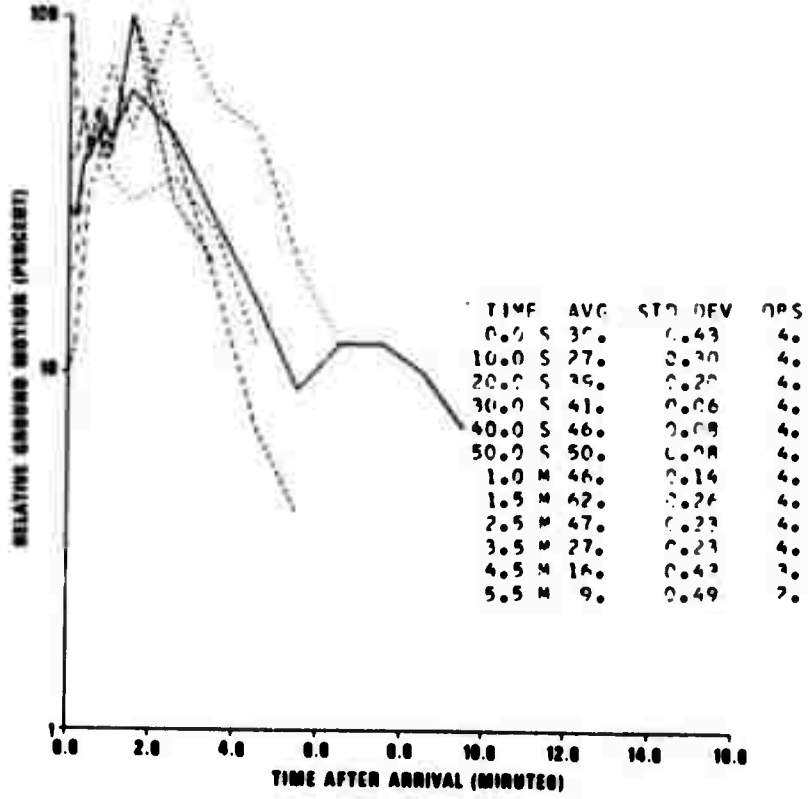


Figure 211. P coda characteristics, Turkey-Greece, IST.

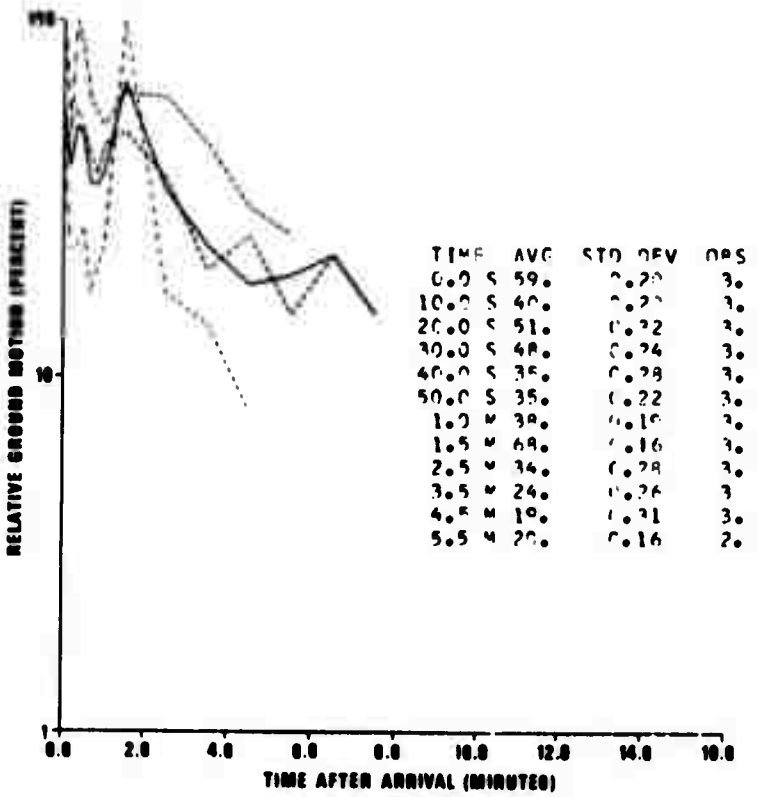


Figure 212. P coda characteristics, Turkey-Greece, KBL.

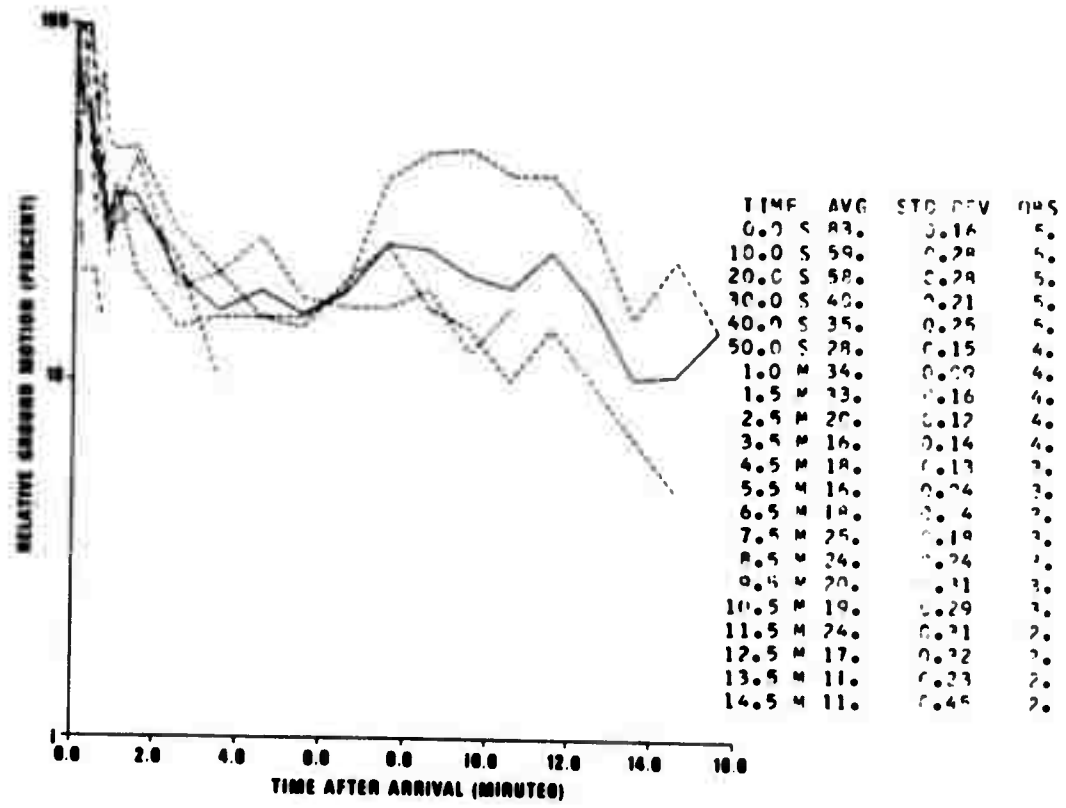


Figure 213. P coda characteristics, Turkey-Greece, KON.

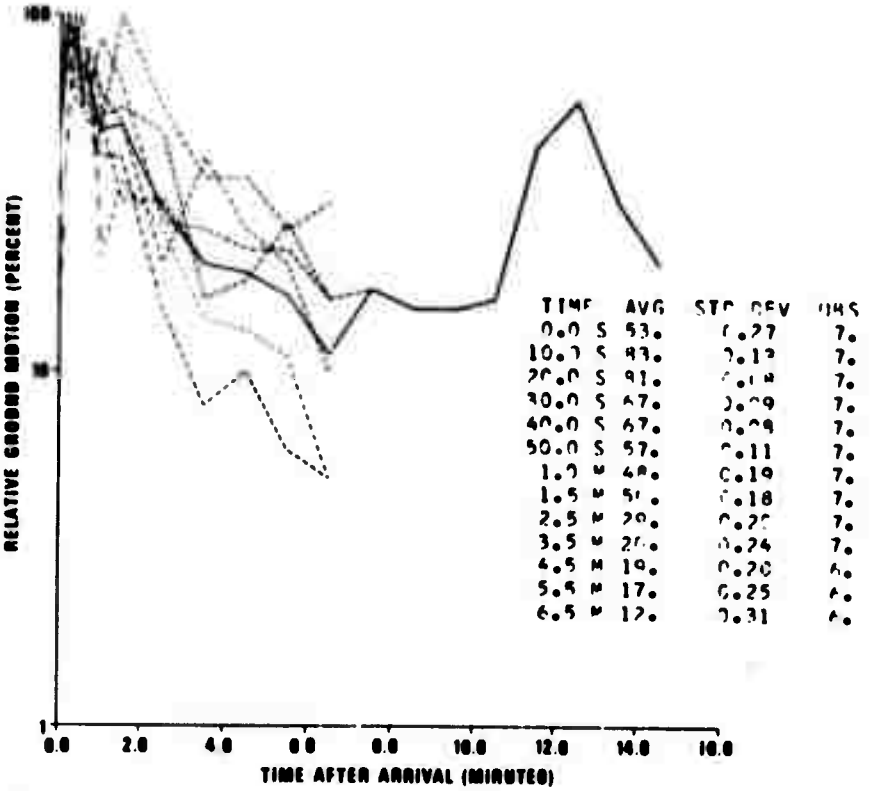


Figure 214. P coda characteristics, Turkey-Greece, MAL.

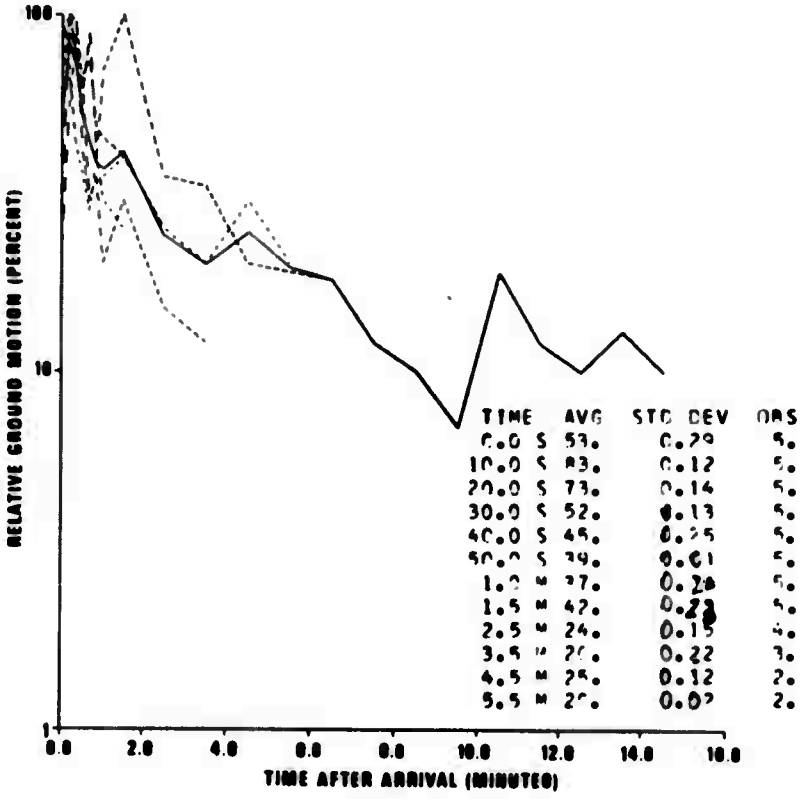


Figure 215. P coda characteristics, Turkey-Greece, MAT.

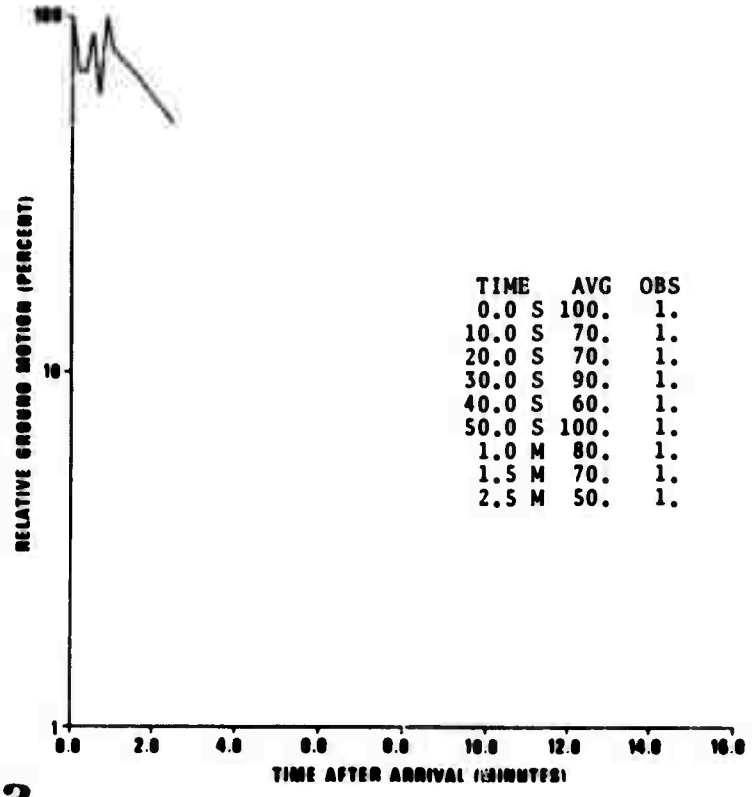


Figure 216. PKP coda characteristics, Turkey-Greece, MUN.

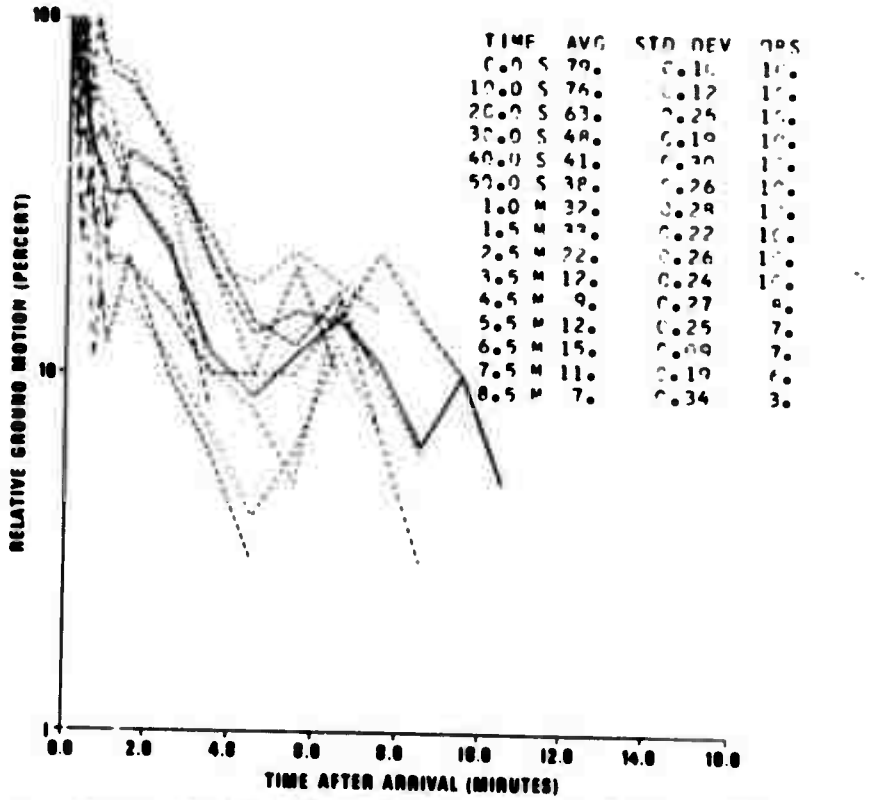


Figure 217. P coda characteristics, Turkey-Greece, NDI.

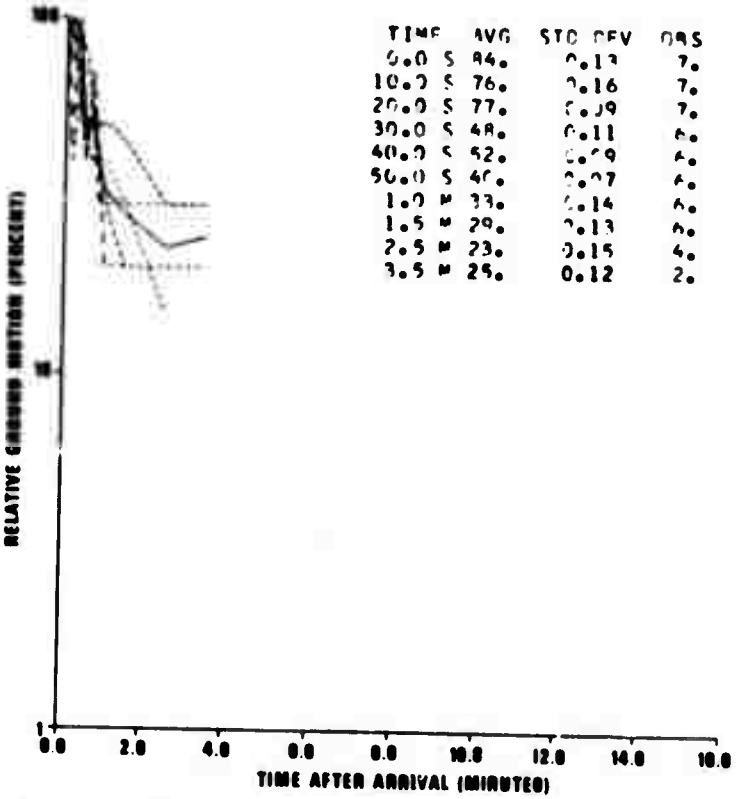


Figure 218. P coda characteristics, Turkey-Greece, SEO.

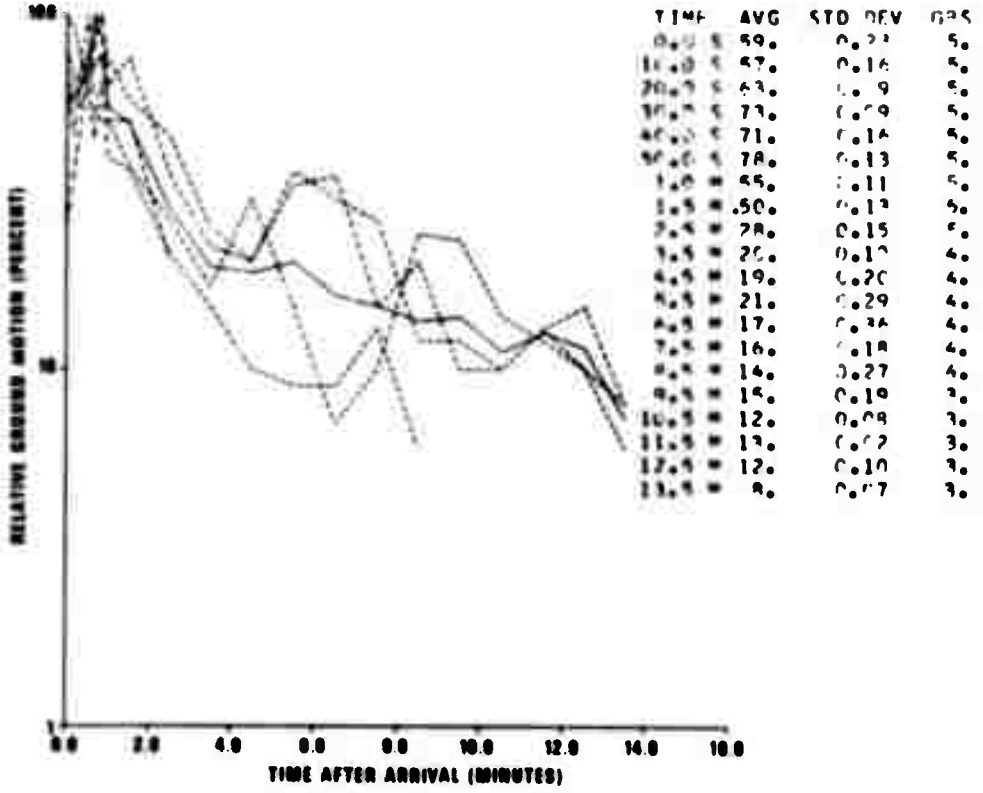


Figure 219. P coda characteristics, Turkey-Greece, SHI.

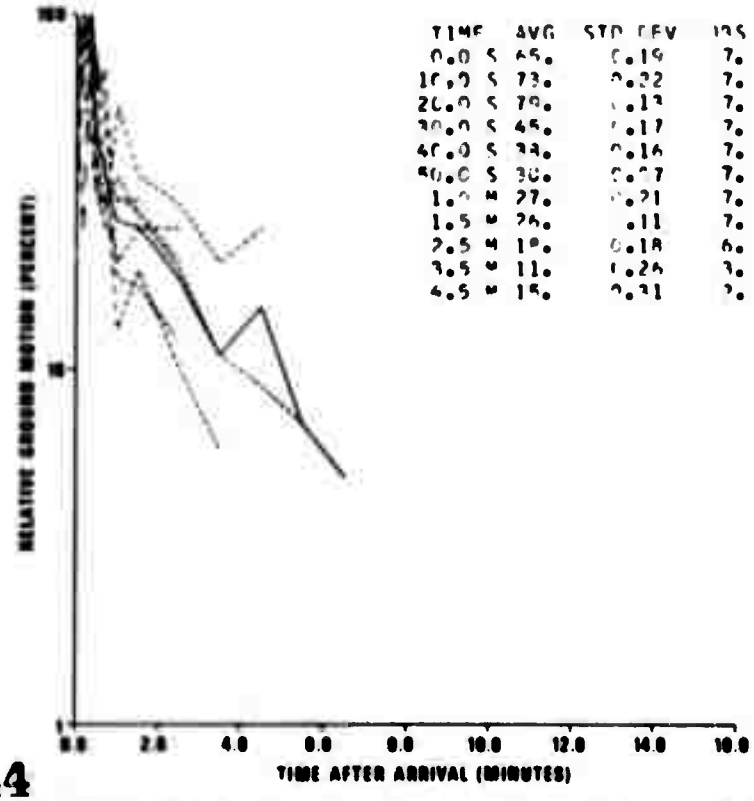
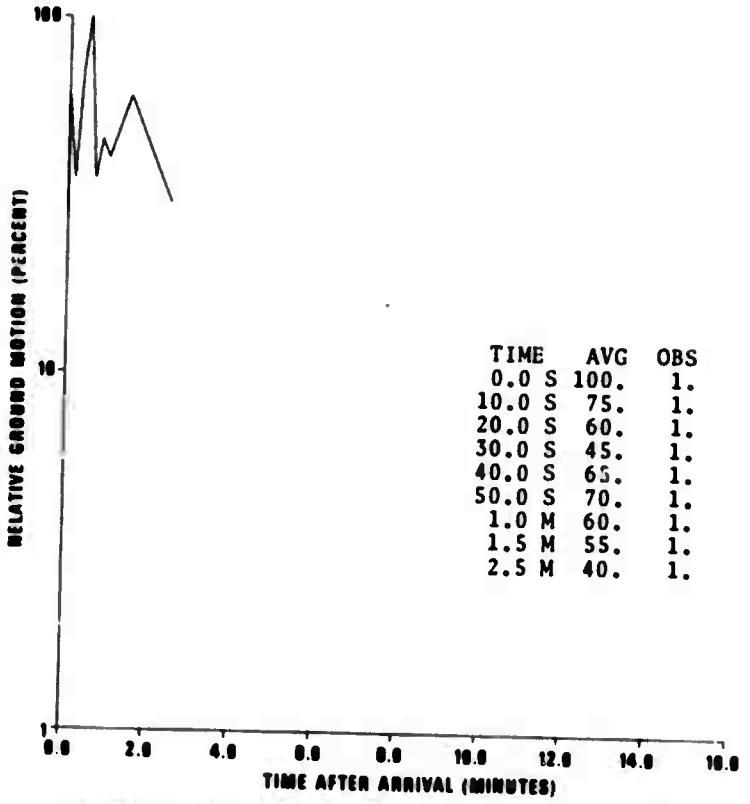
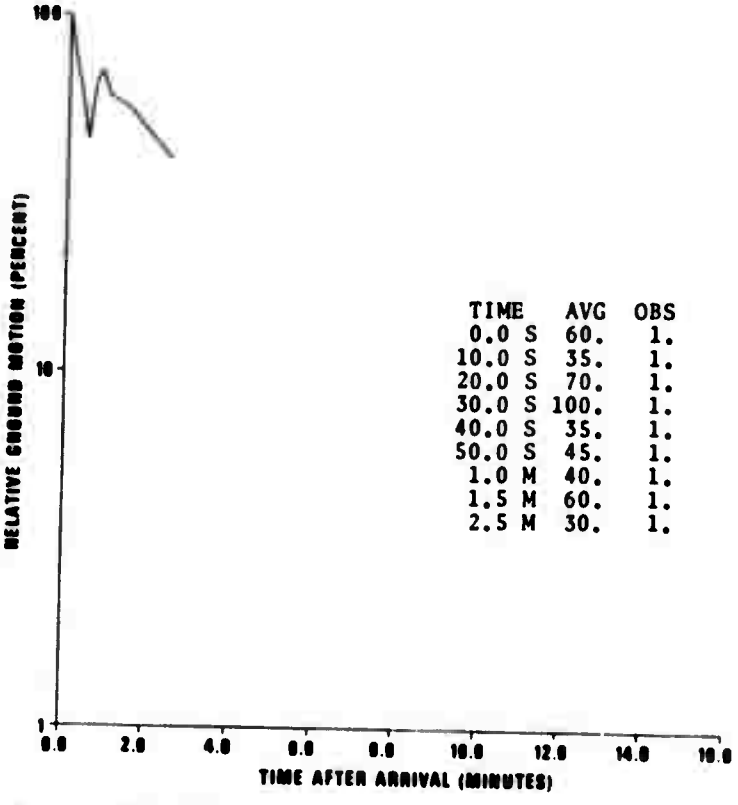


Figure 220. P coda characteristics, Turkey-Greece, WES.



TIME	AVG	OBS
0.0 S	100.	1.
10.0 S	75.	1.
20.0 S	60.	1.
30.0 S	45.	1.
40.0 S	65.	1.
50.0 S	70.	1.
1.0 M	60.	1.
1.5 M	55.	1.
2.5 M	40.	1.

Figure 221. P coda characteristics, Iran-Turkey, ADE.



TIME	AVG	OBS
0.0 S	60.	1.
10.0 S	35.	1.
20.0 S	70.	1.
30.0 S	100.	1.
40.0 S	35.	1.
50.0 S	45.	1.
1.0 M	40.	1.
1.5 M	60.	1.
2.5 M	30.	1.

Figure 222. PKP coda characteristics, Iran-Turkey, ADE.

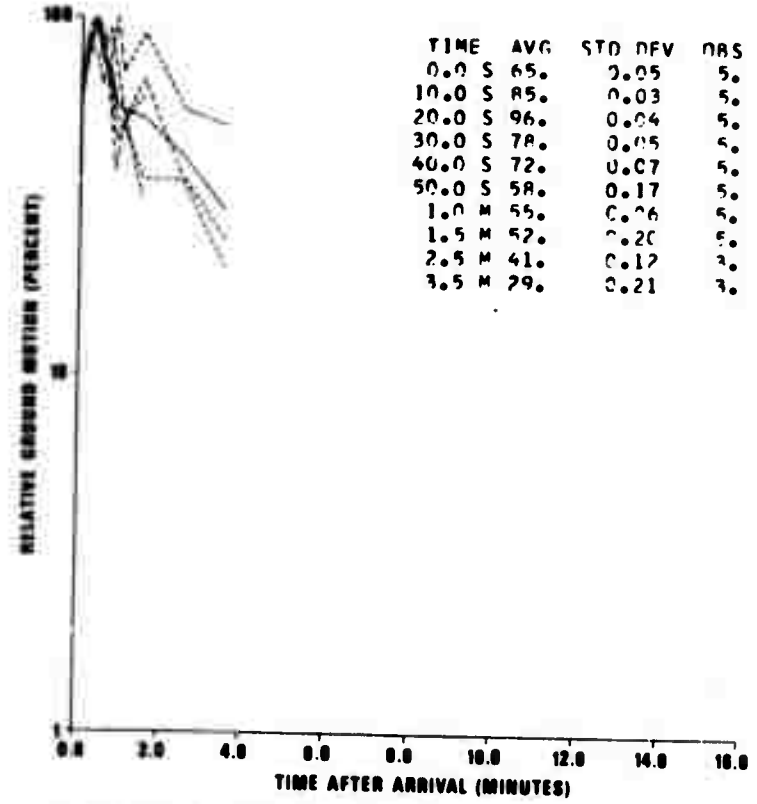


Figure 223. P coda characteristics, Iran-Turkey, AQU.

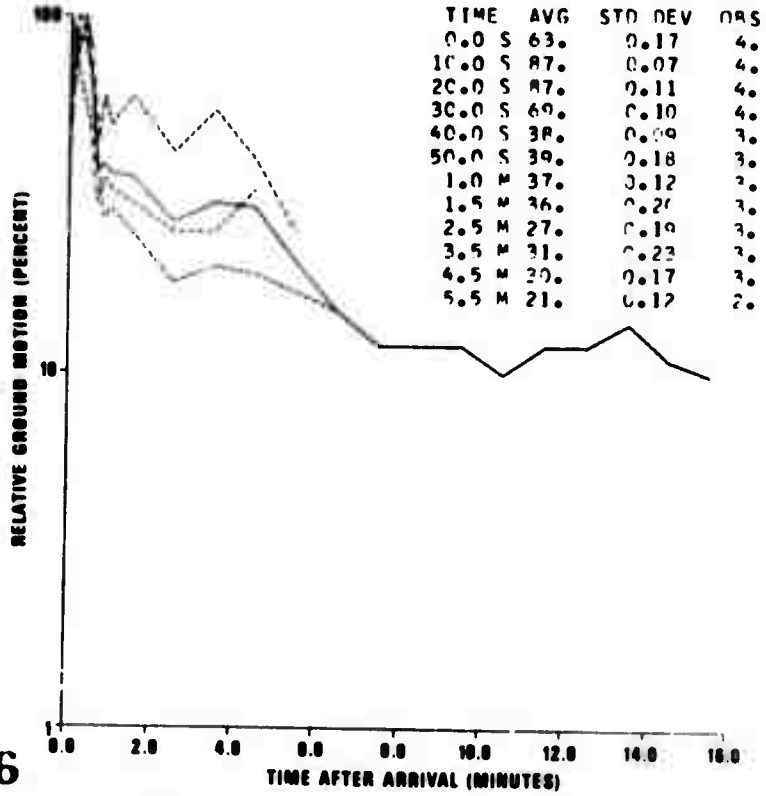


Figure 224. P coda characteristics, Iran-Turkey, BOZ.

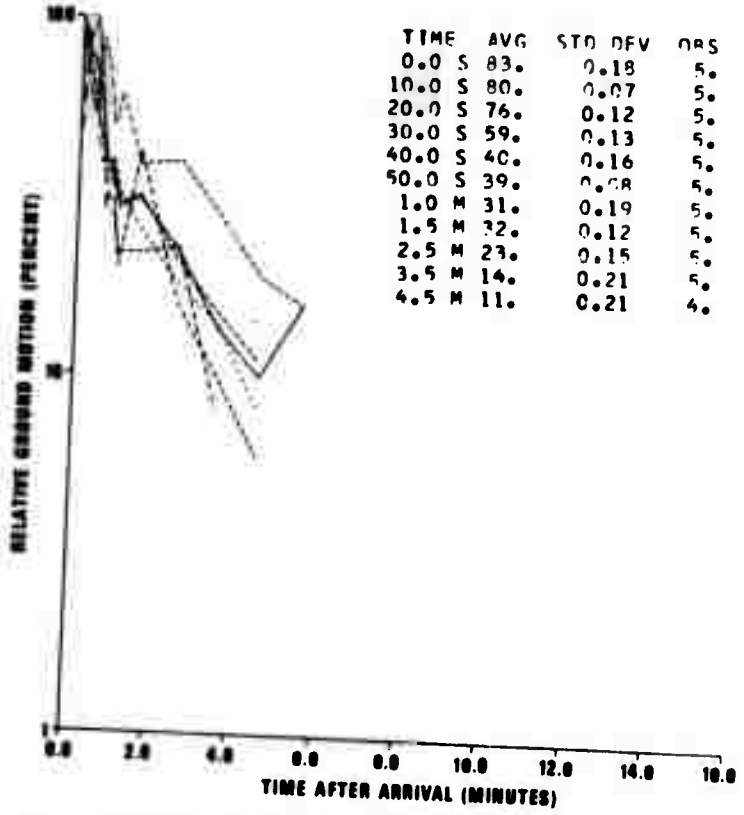


Figure 225. P coda characteristics, Iran-Turkey, CHG.

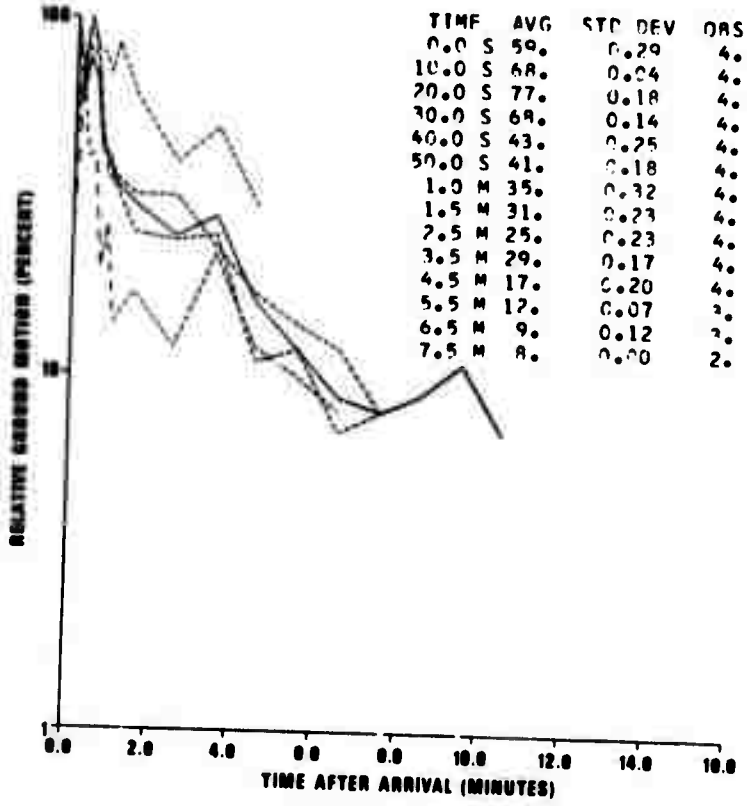


Figure 226. P coda characteristics, Iran-Turkey, CMC.

Figure 227. No observations, Iran-Turkey, DAL.

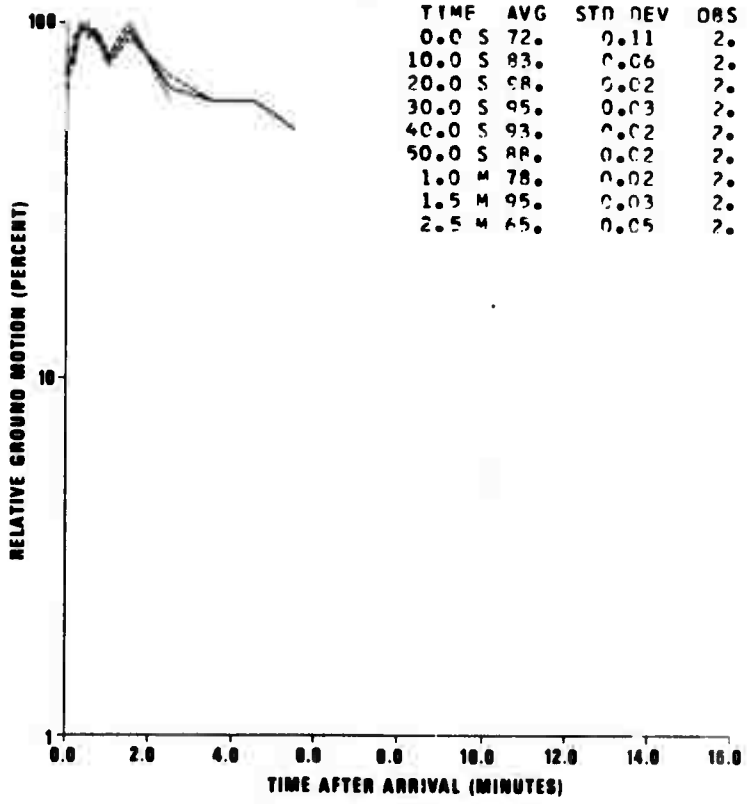


Figure 228. P coda characteristics, Iran-Turkey, DAV.

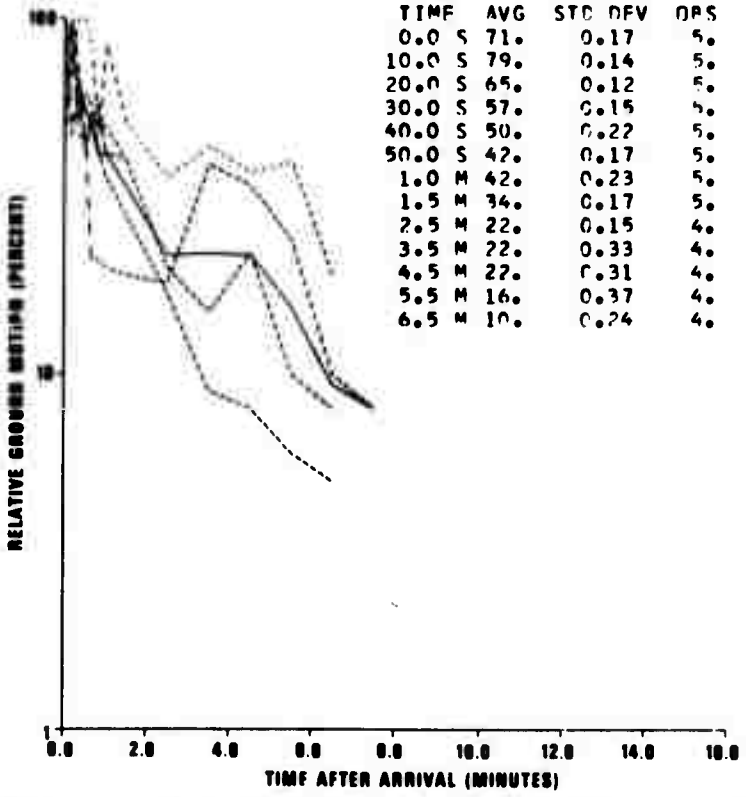


Figure 229. P coda characteristics, Iran-Turkey, IST.

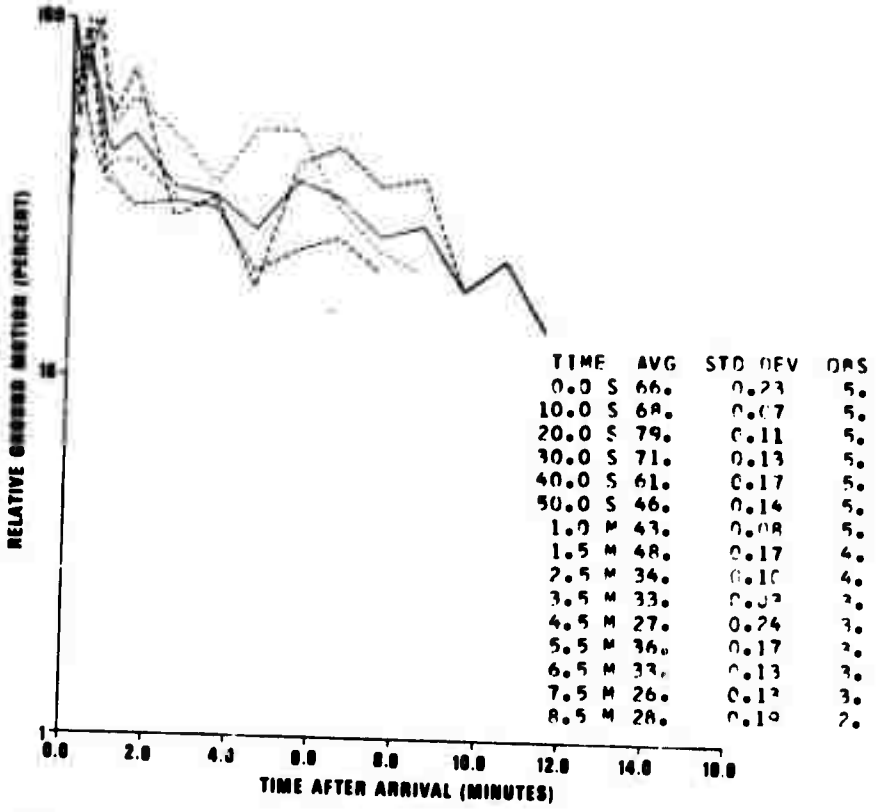


Figure 230. P coda characteristics, Iran-Turkey, KBL.

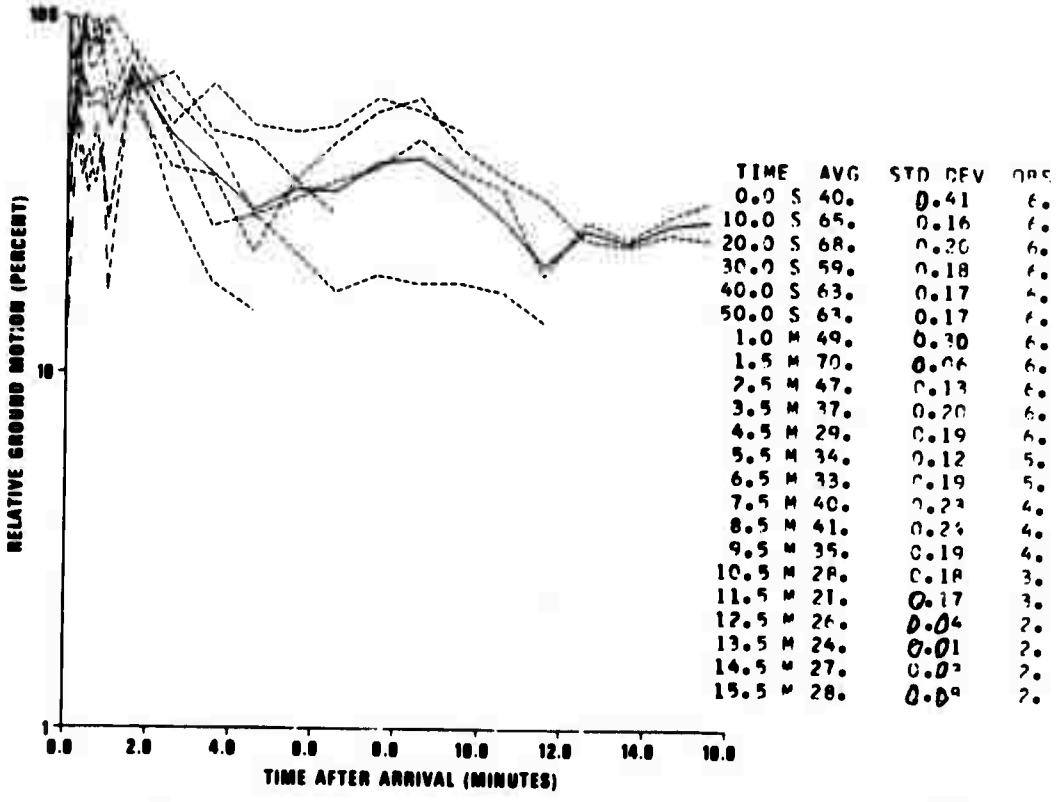


Figure 231. P coda characteristics, Iran-Turkey, KON.

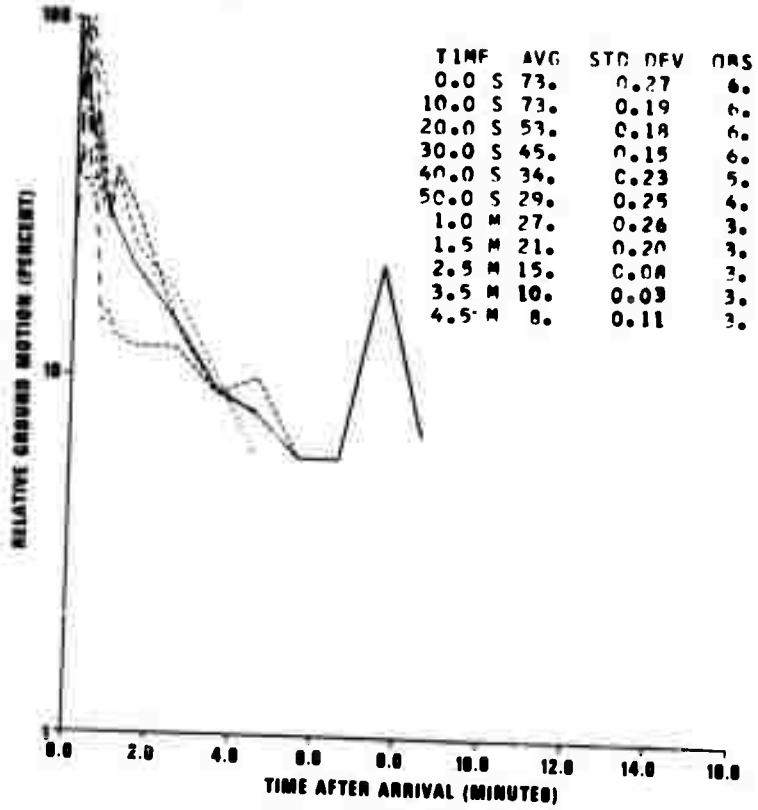


Figure 232. P coda characteristics, Iran-Turkey, MAL.

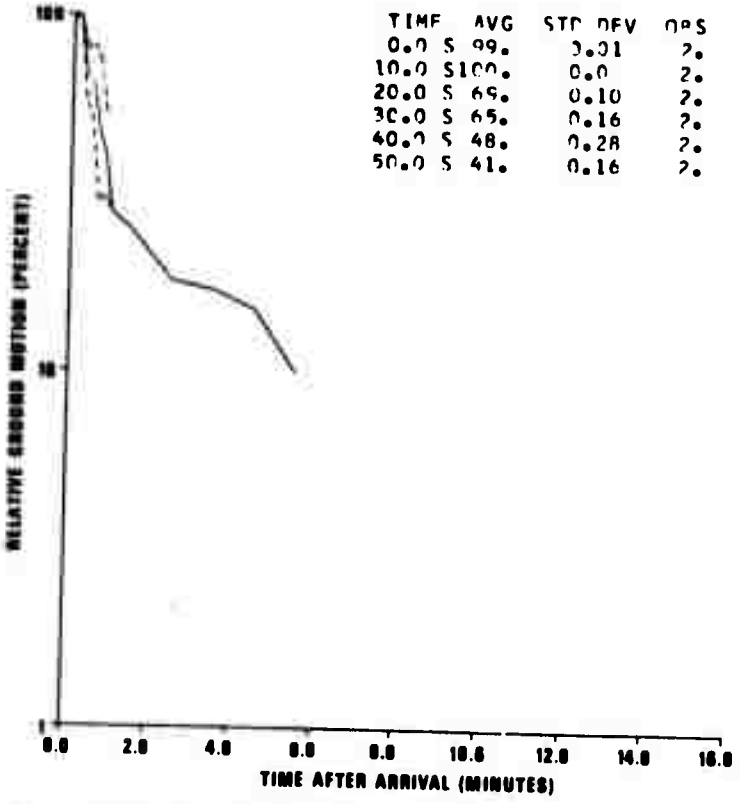


Figure 233. P coda characteristics, Iran-Turkey, MAT.

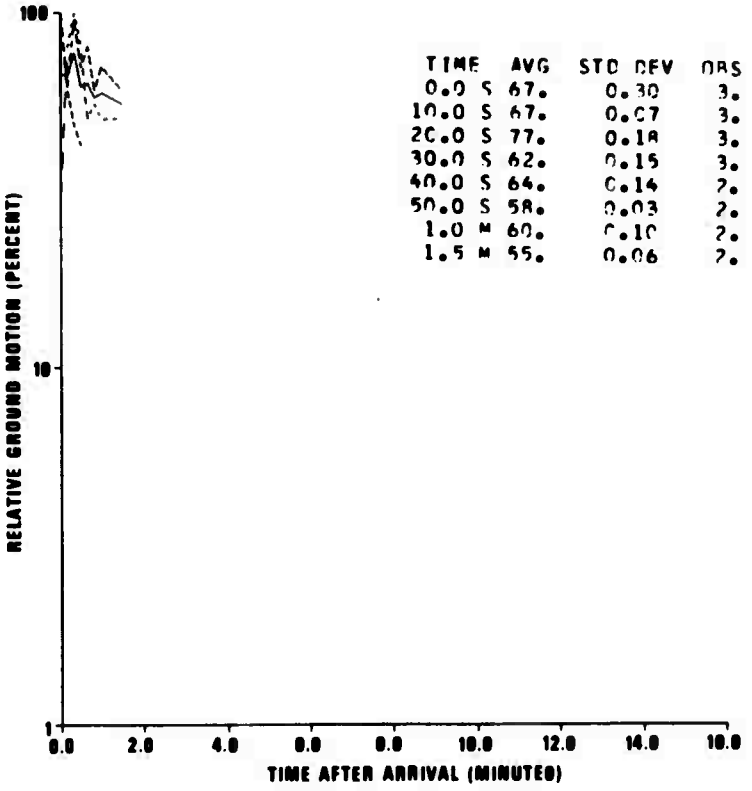


Figure 234. P coda characteristics, Iran-Turkey, MUN.

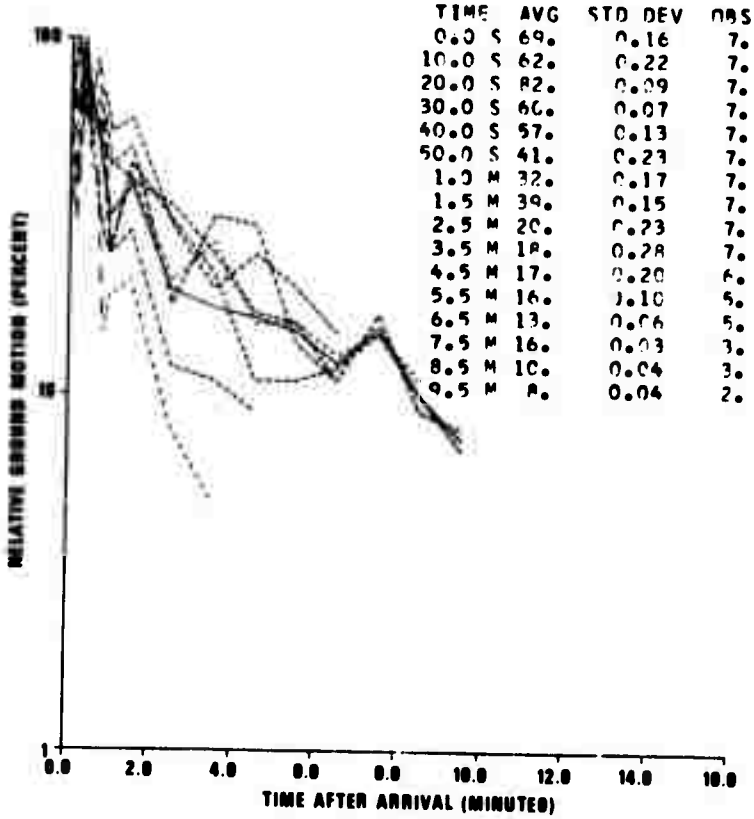
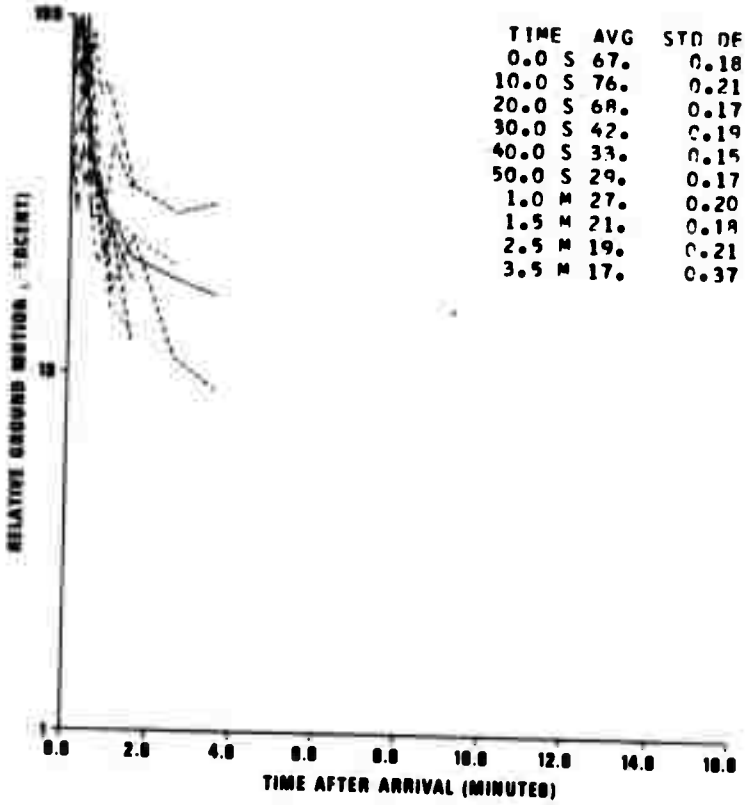
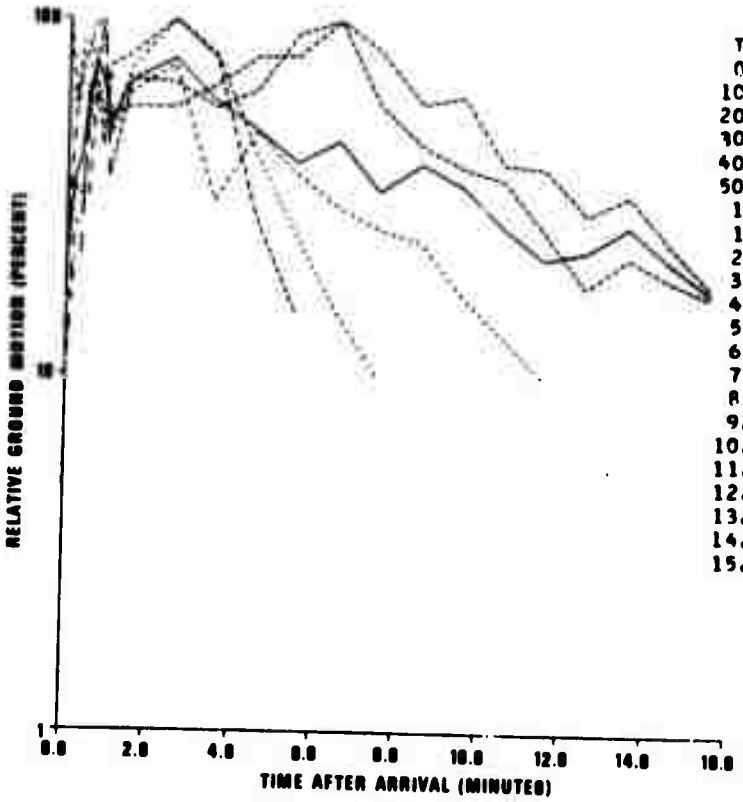


Figure 235. P coda characteristics, Iran-Turkey, NDI.



TIME	AVG	STD DEV	OBS
0.0 S	67.	0.18	7.
10.0 S	76.	0.21	7.
20.0 S	68.	0.17	7.
30.0 S	42.	0.19	7.
40.0 S	33.	0.15	7.
50.0 S	29.	0.17	7.
1.0 M	27.	0.20	7.
1.5 M	21.	0.18	7.
2.5 M	19.	0.21	3.
3.5 M	17.	0.37	2.

Figure 236. P coda characteristics, Iran-Turkey, SEO.



TIME	AVG	STD DEV	OBS
0.0 S	23.	0.40	5.
10.0 S	36.	0.19	5.
20.0 S	41.	0.27	5.
30.0 S	63.	0.18	5.
40.0 S	76.	0.07	5.
50.0 S	68.	0.15	5.
1.0 M	51.	0.11	5.
1.5 M	68.	0.06	5.
2.5 M	78.	0.11	5.
3.5 M	60.	0.17	5.
4.5 M	50.	0.17	5.
5.5 M	40.	0.30	5.
6.5 M	47.	0.41	4.
7.5 M	34.	0.41	4.
8.5 M	40.	0.20	3.
9.5 M	35.	0.28	3.
10.5 M	27.	0.27	3.
11.5 M	22.	0.30	3.
12.5 M	23.	0.15	2.
13.5 M	27.	0.12	2.
14.5 M	22.	0.07	2.
15.5 M	18.	0.02	2.

Figure 237. P coda characteristics, Iran-Turkey, SHI.

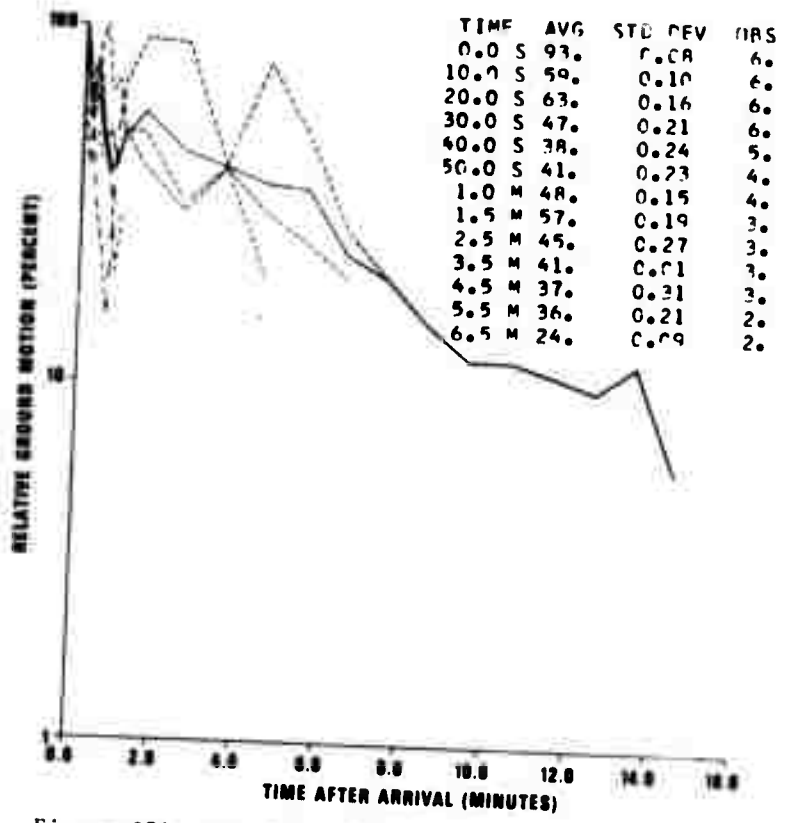


Figure 238. P coda characteristics, Iran-Turkey, WES.

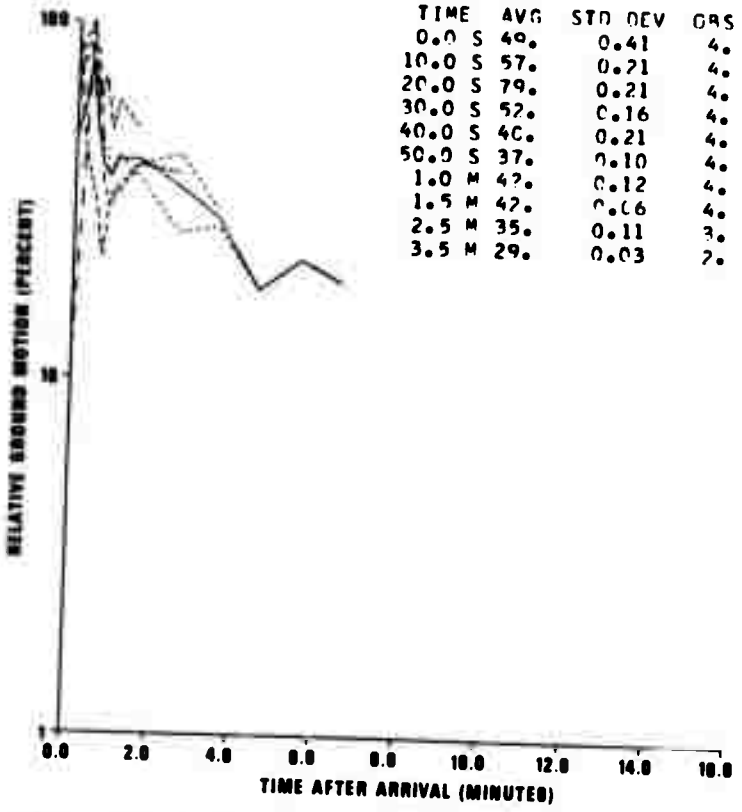


Figure 239. P coda characteristics, Tadzhik-Hindu Kush, ADE.

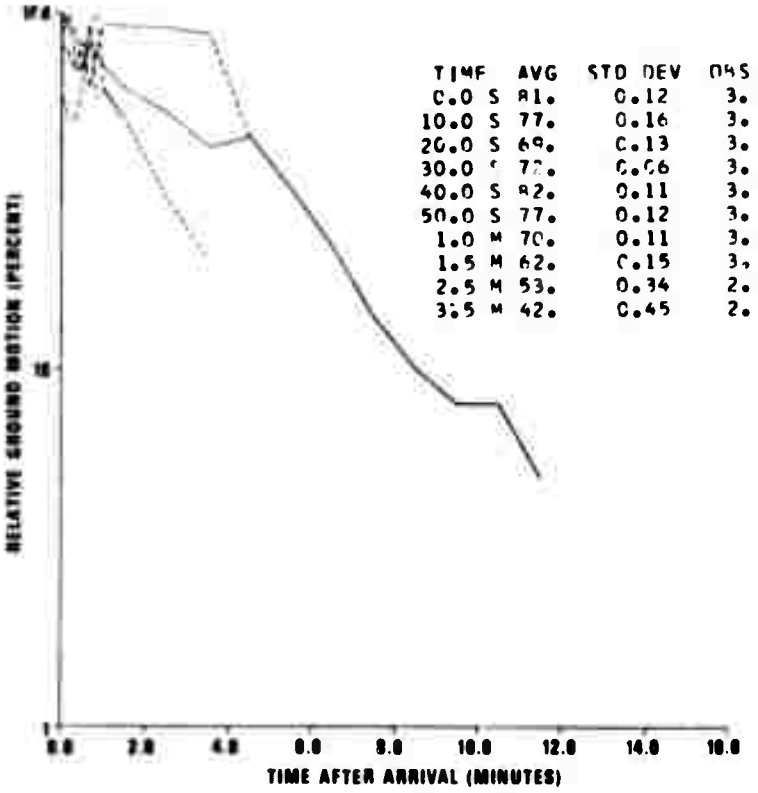


Figure 240. P coda characteristics, Tadzhik-Hindu Kush, AQU.

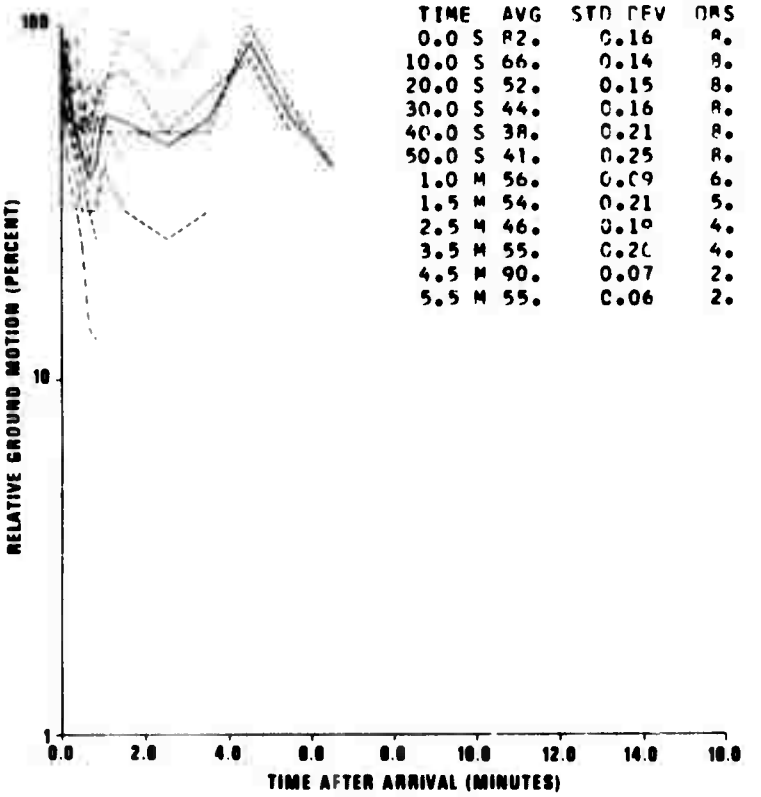


Figure 241. P coda characteristics, Tadzhik-Hindu Kush, BOZ.

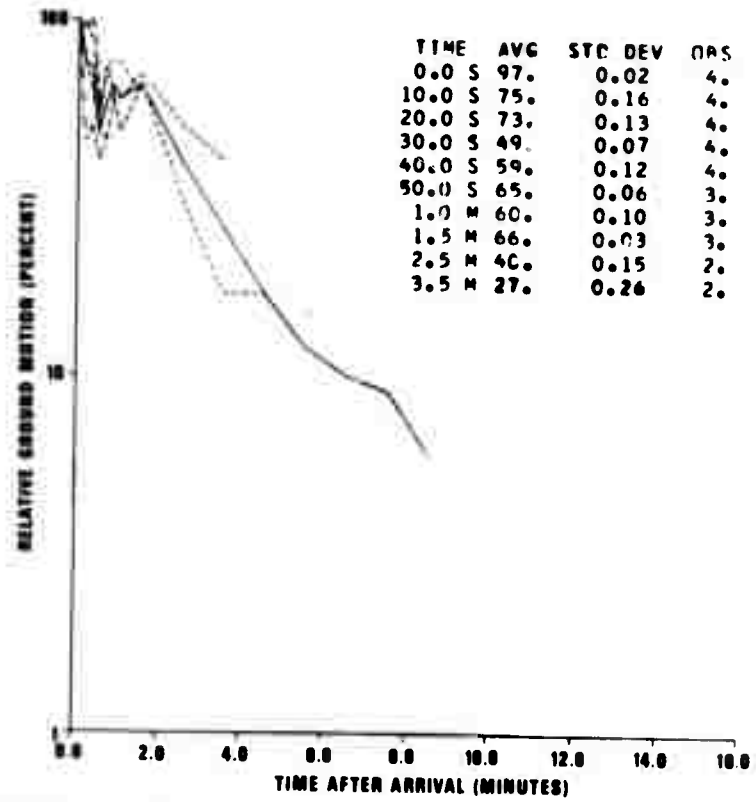


Figure 242. P coda characteristics, Tadzhik-Hindu Kush, CHG.

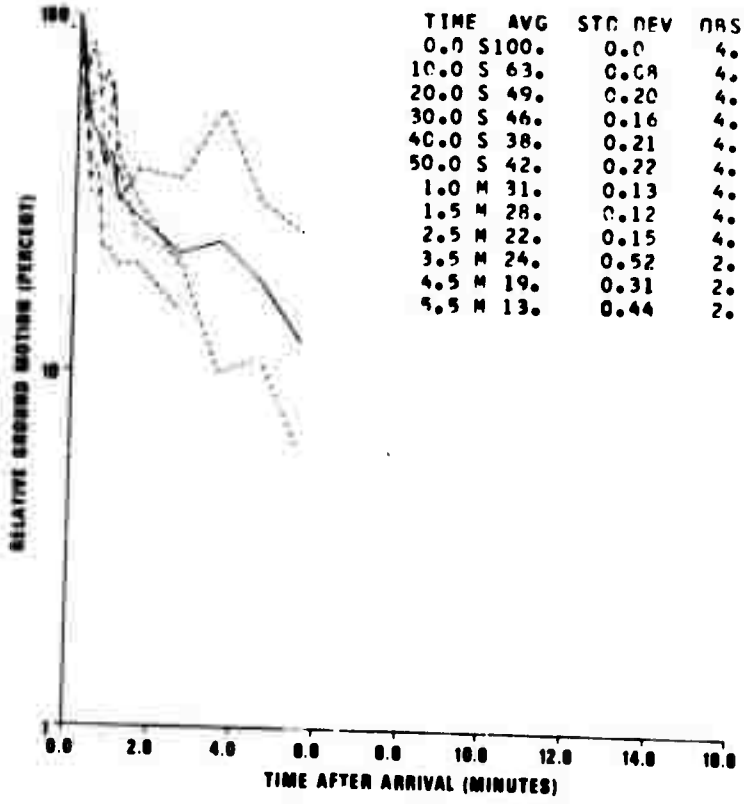
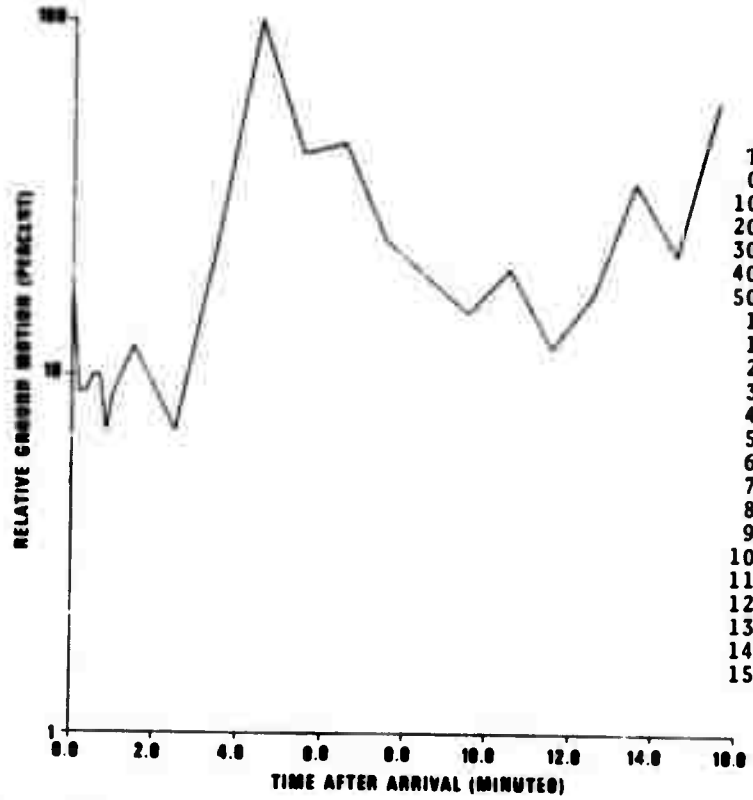
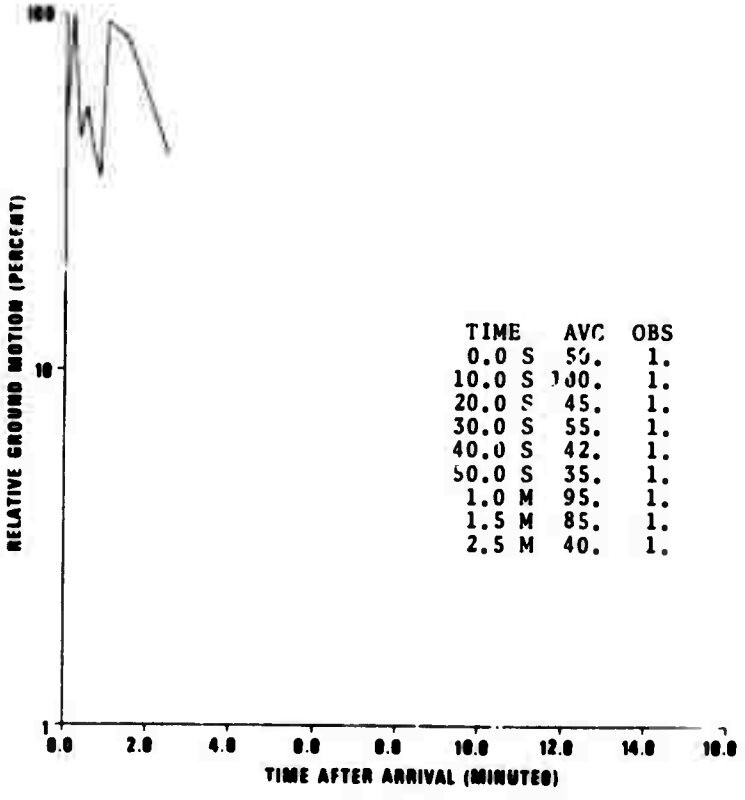


Figure 243. P coda characteristics, Tadzhik-Hindu Kush, CMC.



TIME	AVG	OBS
0.0 S	17.	1.
10.0 S	9.	1.
20.0 S	9.	1.
30.0 S	10.	1.
40.0 S	10.	1.
50.0 S	7.	1.
1.0 M	9.	1.
1.5 M	12.	1.
2.5 M	7.	1.
3.5 M	24.	1.
4.5 M	100.	1.
5.5 M	42.	1.
6.5 M	45.	1.
7.5 M	24.	1.
8.5 M	19.	1.
9.5 M	15.	1.
10.5 M	20.	1.
11.5 M	12.	1.
12.5 M	17.	1.
13.5 M	35.	1.
14.5 M	22.	1.
15.5 M	60.	1.

Figure 244. P coda characteristics, Tadzhik-Hindu Kush, DAL.



TIME	AVG	OBS
0.0 S	50.	1.
10.0 S	100.	1.
20.0 S	45.	1.
30.0 S	55.	1.
40.0 S	42.	1.
50.0 S	35.	1.
1.0 M	95.	1.
1.5 M	85.	1.
2.5 M	40.	1.

Figure 245. PKP coda characteristics, Tadzhik-Hindu Kush, DAL.

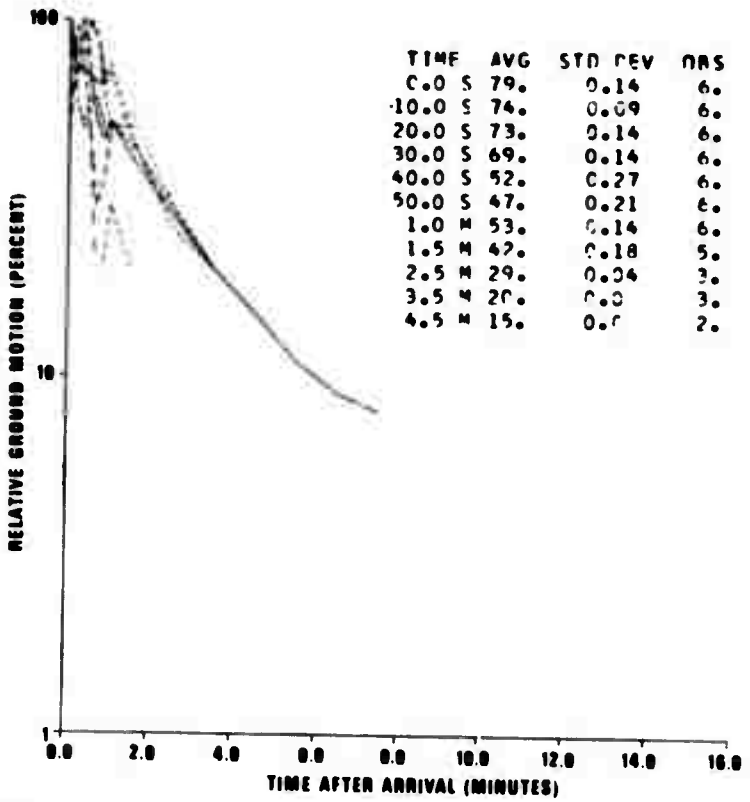


Figure 246. P coda characteristics, Tadzhik-Hindu Kush, DAV.

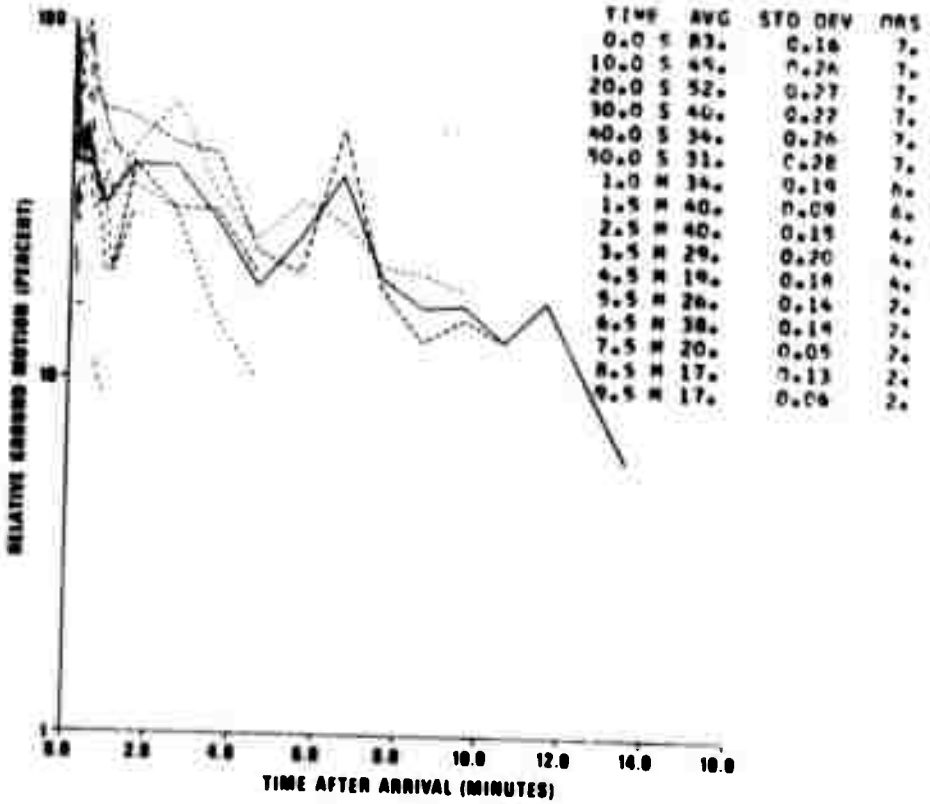


Figure 247. P coda characteristics, Tadzhik-Hindu Kush, IST.

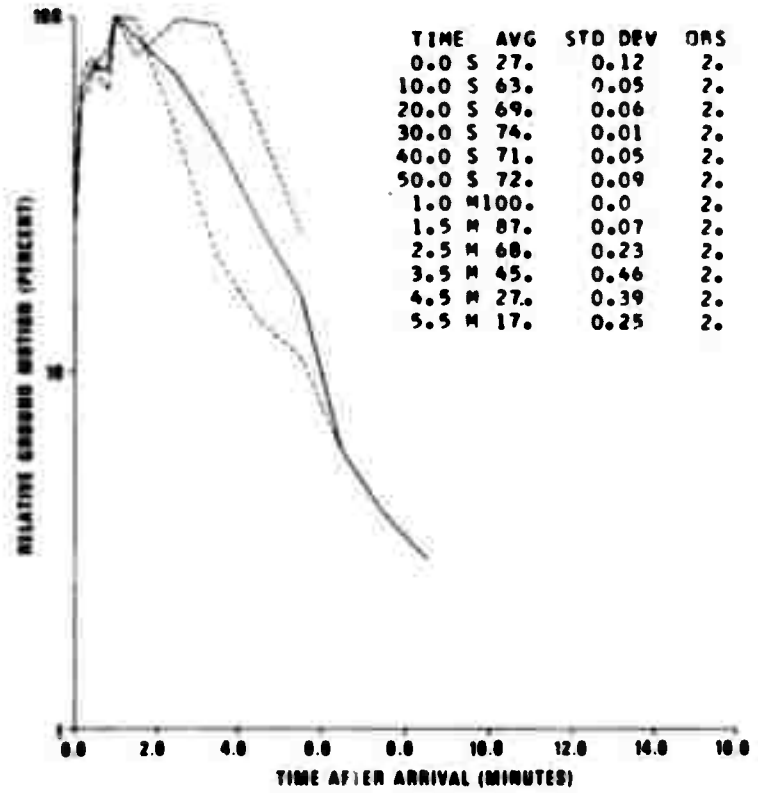


Figure 248. P coda characteristics, Tadzhik-Hindu Kush, KBL.

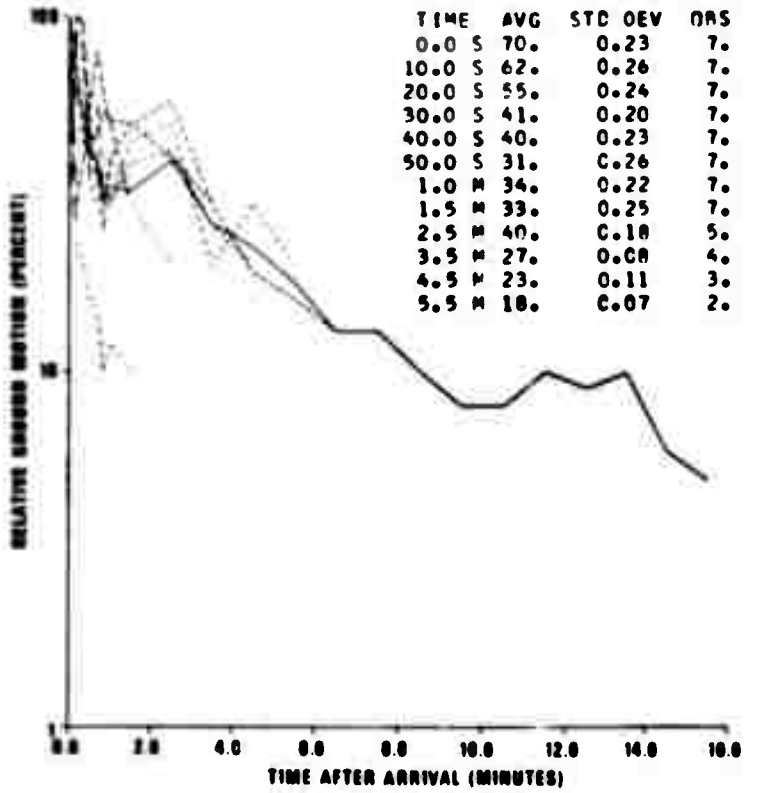


Figure 249. P coda characteristics, Tadzhik-Hindu Kush, KON.

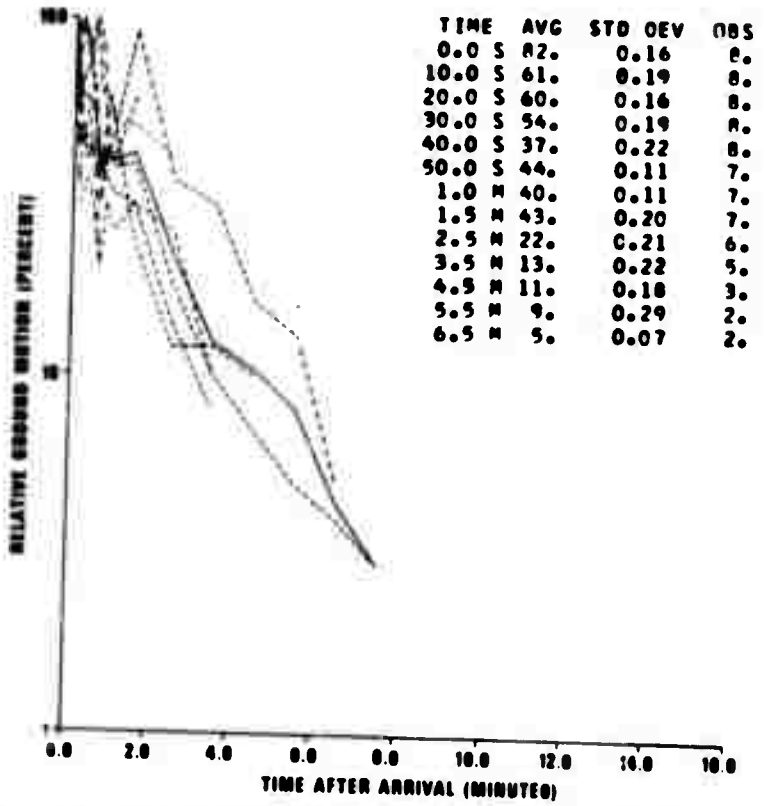


Figure 250. P coda characteristics, Tadzhik-Hindu Kush, MAL.

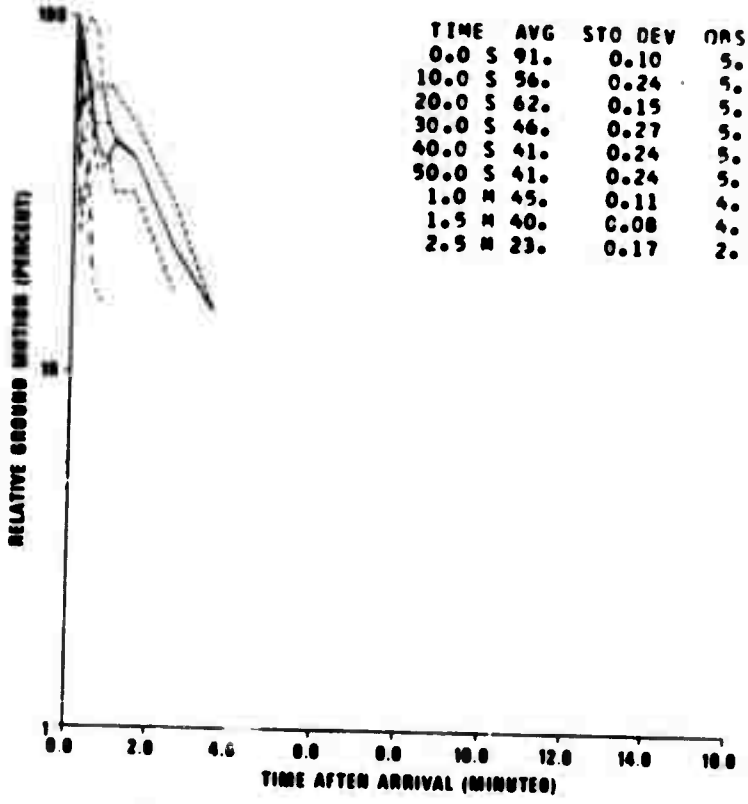


Figure 251. P coda characteristics, Tadzhik-Hindu Kush, MAT.

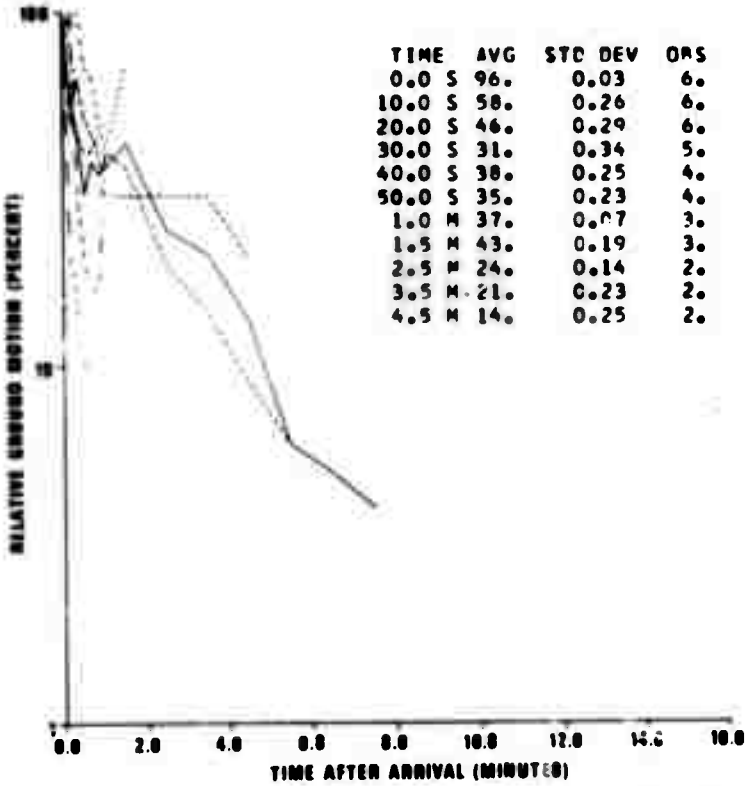


Figure 252. P coda characteristics, Tadzhik-Hindu Kush, MUN.

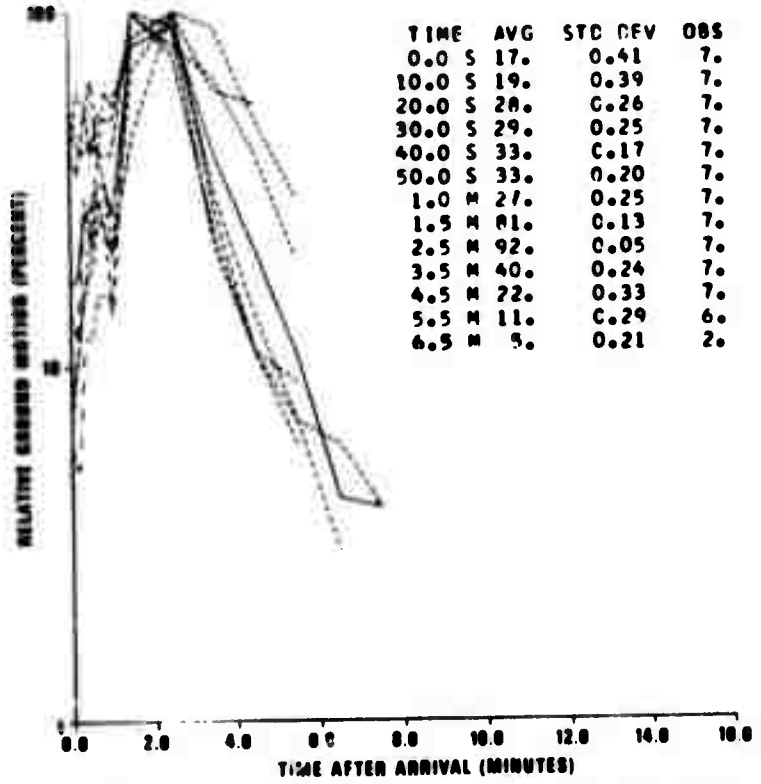


Figure 253. P coda characteristics, Tadzhik-Hindu Kush, NDI.

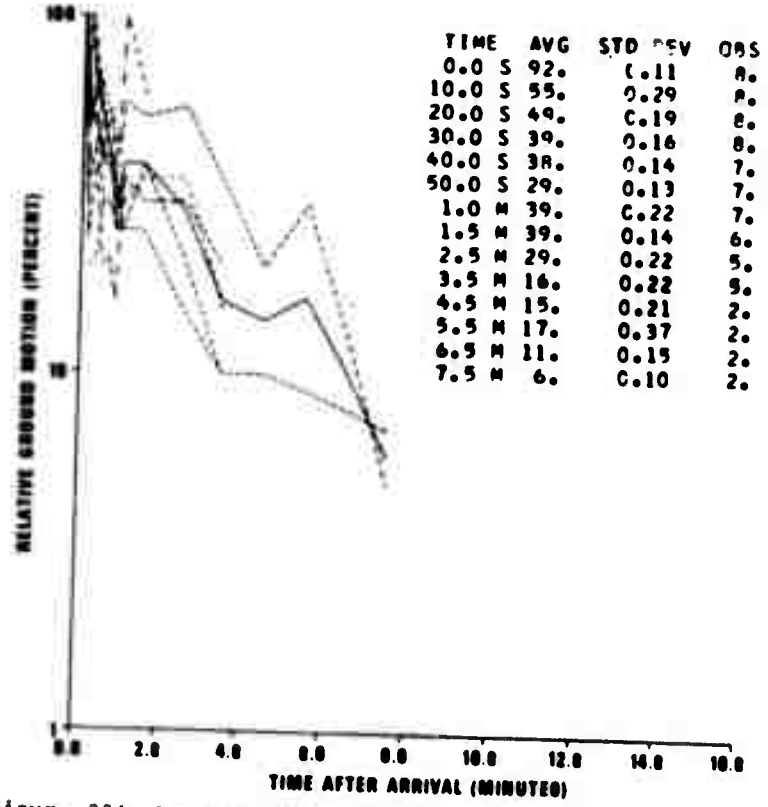


Figure 254. P coda characteristics, Tadzhik-Hindu Kush, SEO.

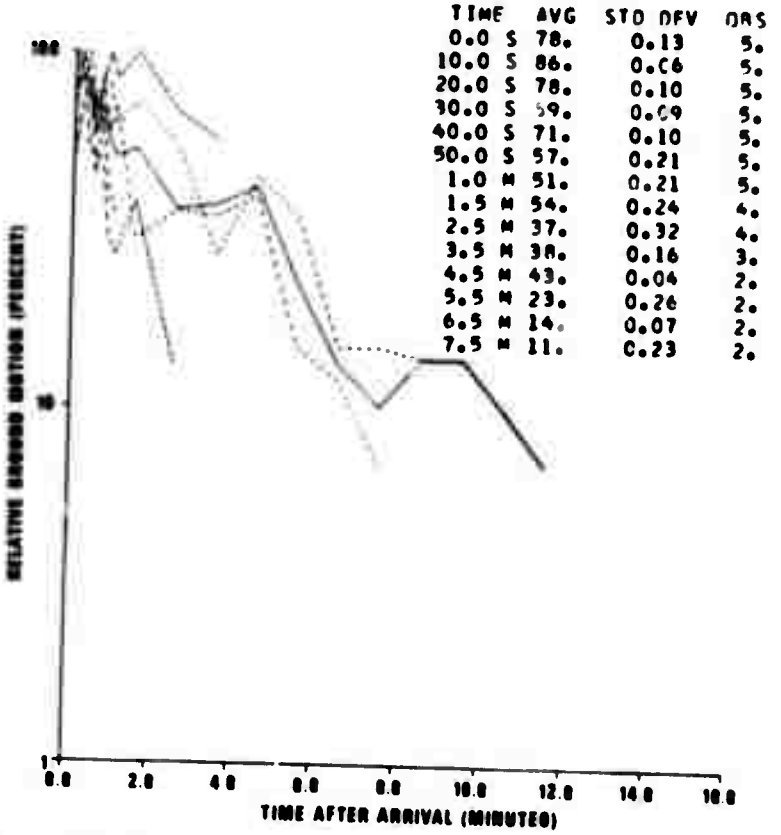


Figure 255. P coda characteristics, Tadzhik-Hindu Kush, SHI.

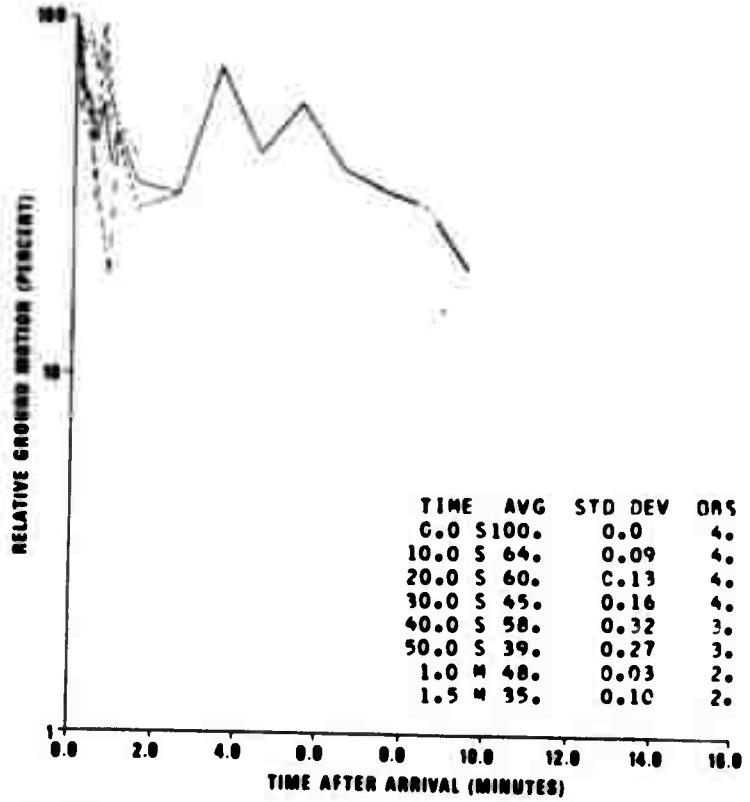


Figure 256. P coda characteristics, Tadzhik-Hindu Kush, WES.

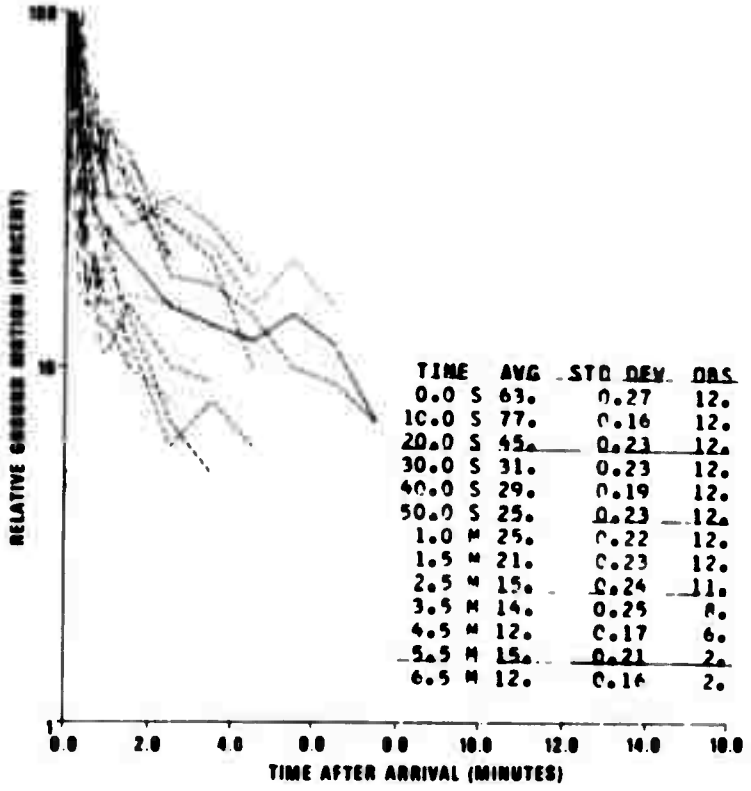
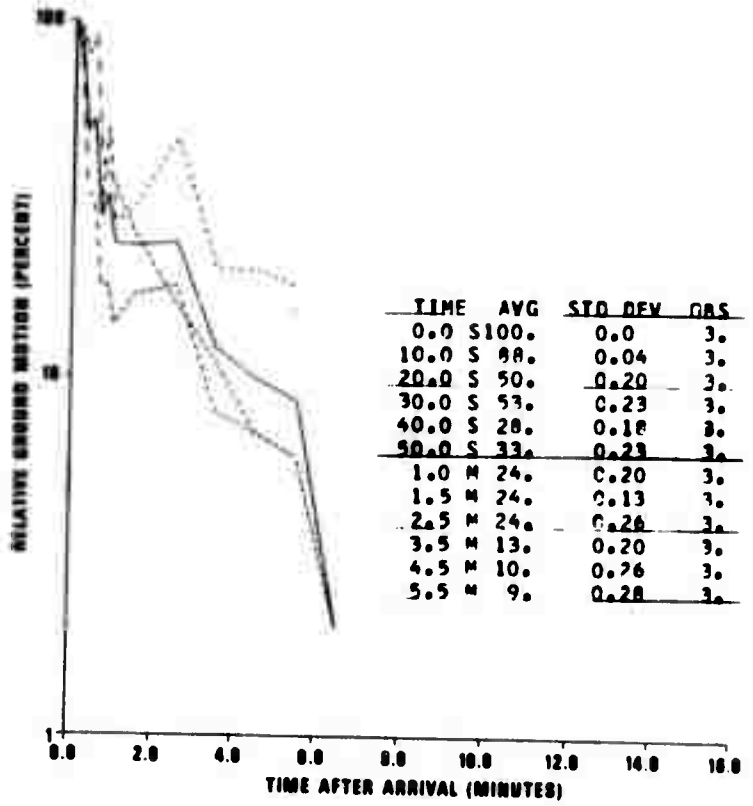
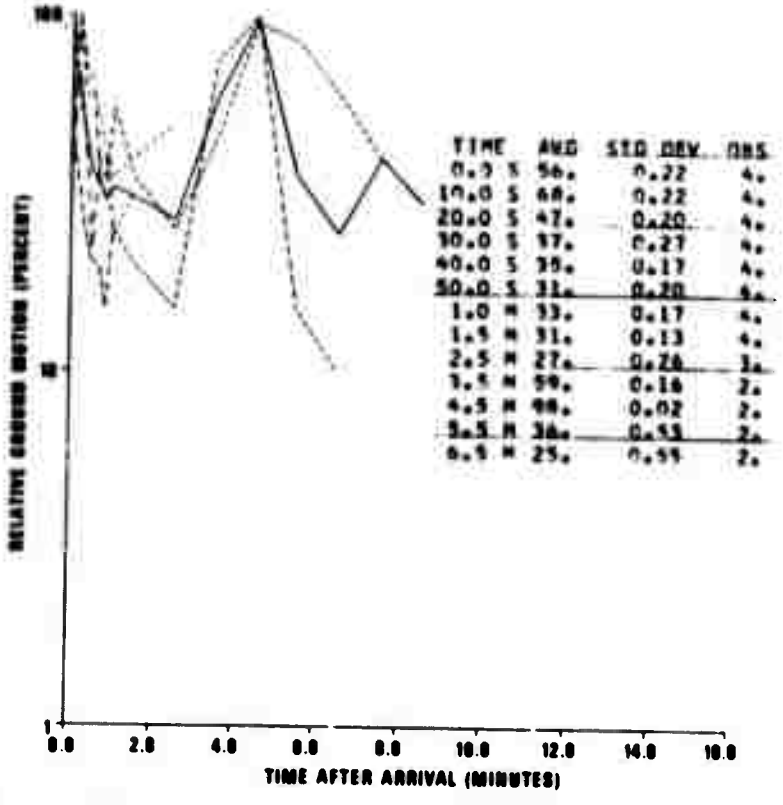


Figure 257. P coda characteristics, China-Nepal-Burma, ADE.



TIME		AVG	STD DEV	OBS
0.0	S	100.	0.0	3.
10.0	S	88.	0.04	3.
20.0	S	50.	0.20	3.
30.0	S	53.	0.23	3.
40.0	S	28.	0.18	3.
50.0	S	33.	0.23	3.
1.0	M	24.	0.20	3.
1.5	M	24.	0.13	3.
2.5	M	24.	0.26	3.
3.5	M	13.	0.20	3.
4.5	M	10.	0.26	3.
5.5	M	9.	0.28	3.

Figure 258. P coda characteristics, China-Nepal-Burma, AQU.



TIME		AVG	STD DEV	OBS
0.0	S	56.	0.22	4.
10.0	S	68.	0.22	4.
20.0	S	47.	0.20	4.
30.0	S	37.	0.27	4.
40.0	S	35.	0.17	4.
50.0	S	31.	0.28	4.
1.0	M	33.	0.17	4.
1.5	M	31.	0.13	4.
2.5	M	27.	0.26	3.
3.5	M	59.	0.16	2.
4.5	M	98.	0.02	2.
5.5	M	36.	0.53	2.
6.5	M	25.	0.59	2.

Figure 259. P coda characteristics, China-Nepal-Burma, ROZ.

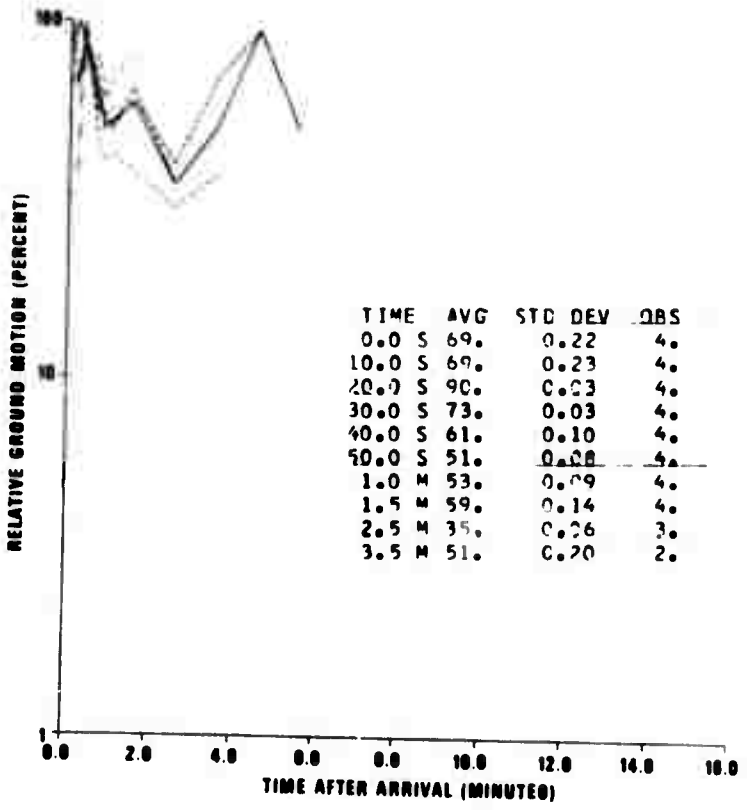


Figure 260. P coda characteristics, China-Nepal-Burma, CMG.

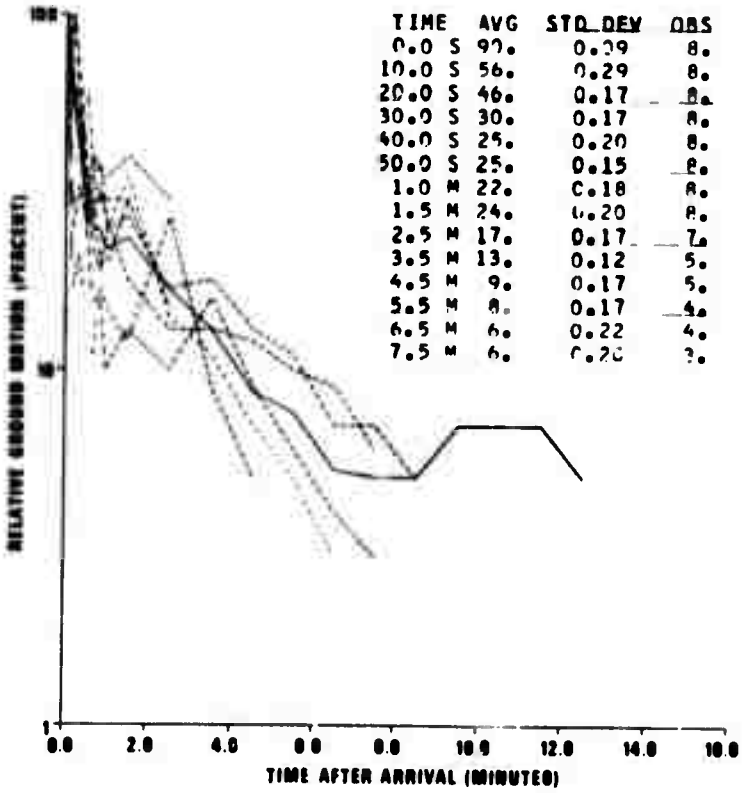


Figure 261. P coda characteristics, China-Nepal-Burma, CMC.

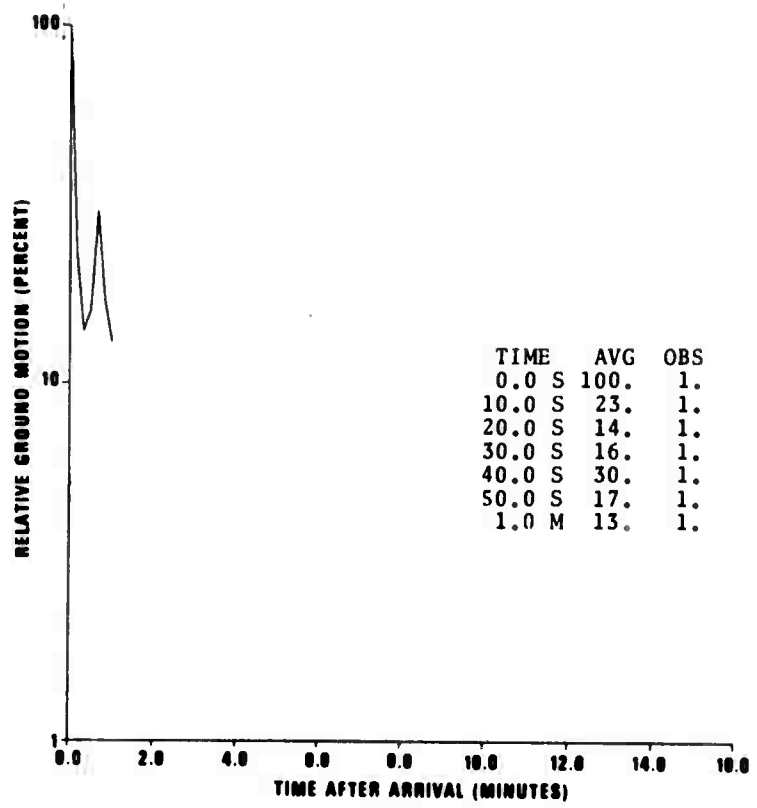


Figure 262. PKP coda characteristics, China-Nepal-Burma, DAL.

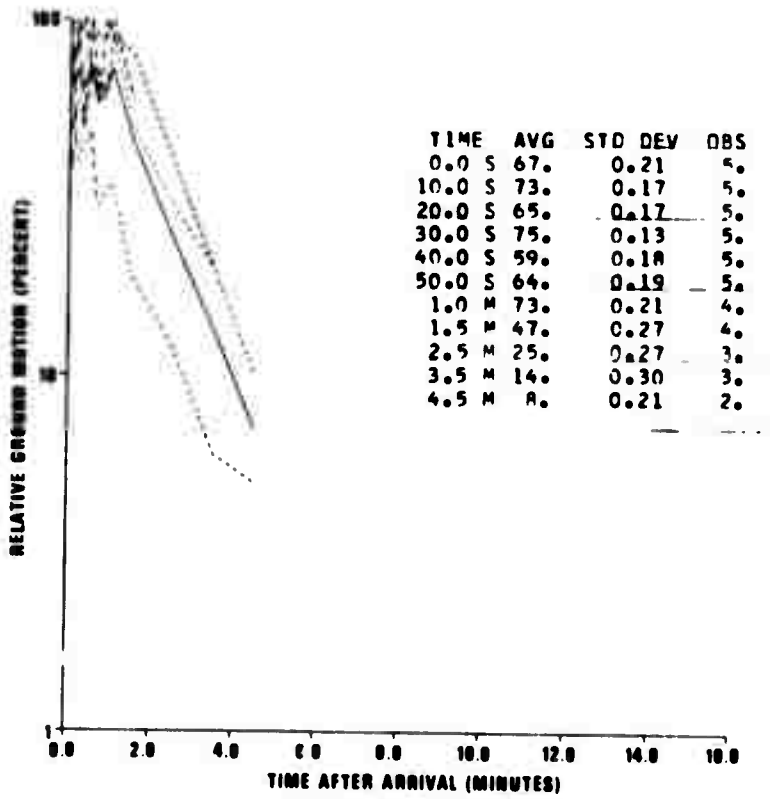
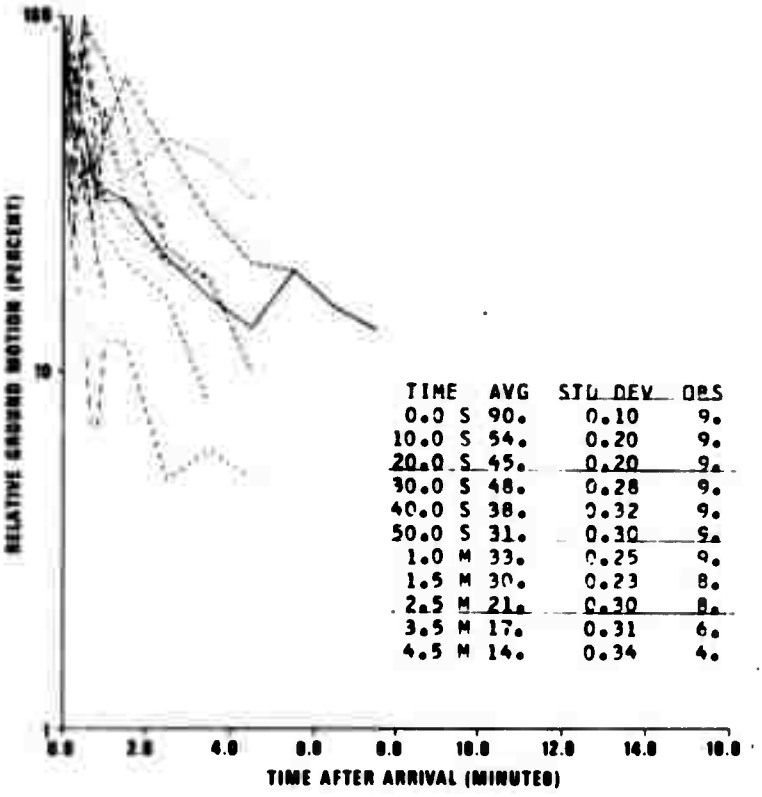
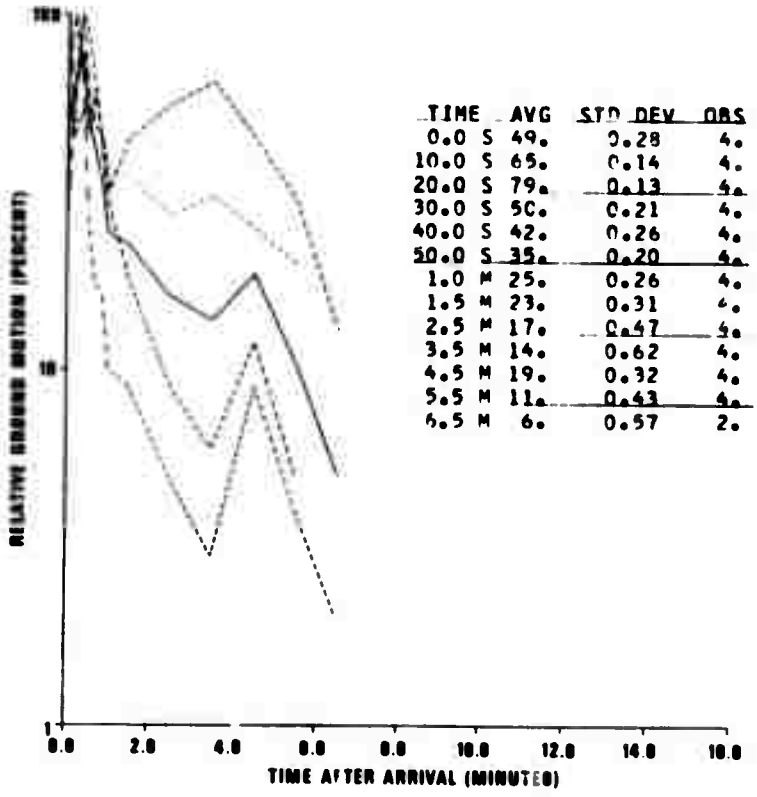


Figure 263. P coda characteristics, China-Nepal-Burma, DAV.



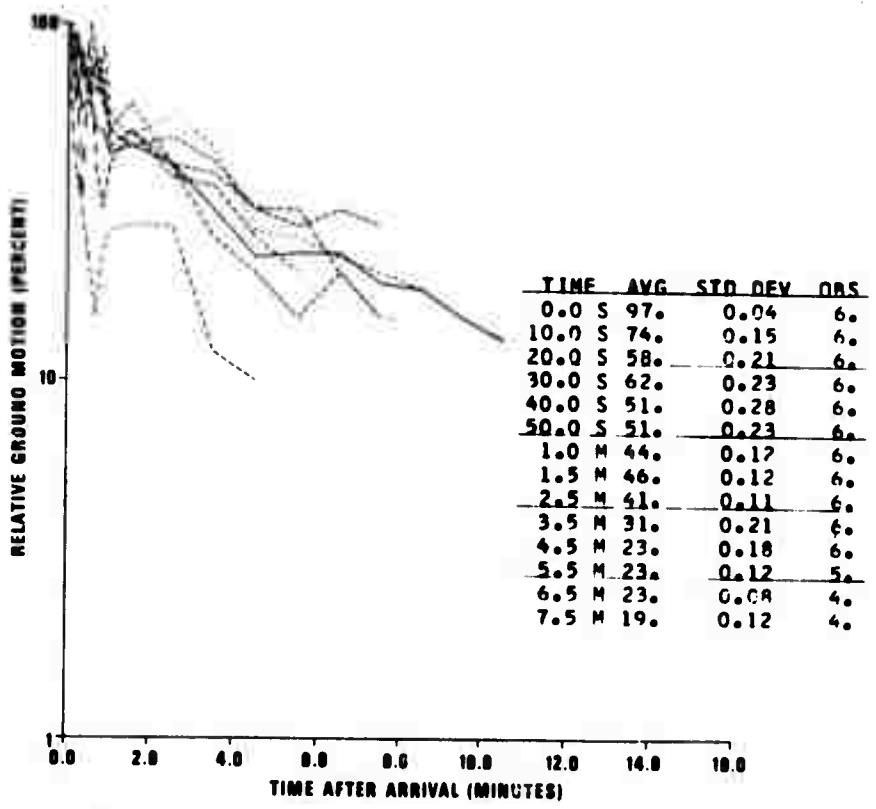
TIME	AVG	STD DEV	OBS
0.0 S	90.	0.10	9.
10.0 S	54.	0.20	9.
20.0 S	45.	0.20	9.
30.0 S	48.	0.28	9.
40.0 S	38.	0.32	9.
50.0 S	31.	0.30	9.
1.0 M	33.	0.25	9.
1.5 M	30.	0.23	8.
2.5 M	21.	0.30	8.
3.5 M	17.	0.31	6.
4.5 M	14.	0.34	4.

Figure 264. P coda characteristics, China-Nepal-Burma, IST.



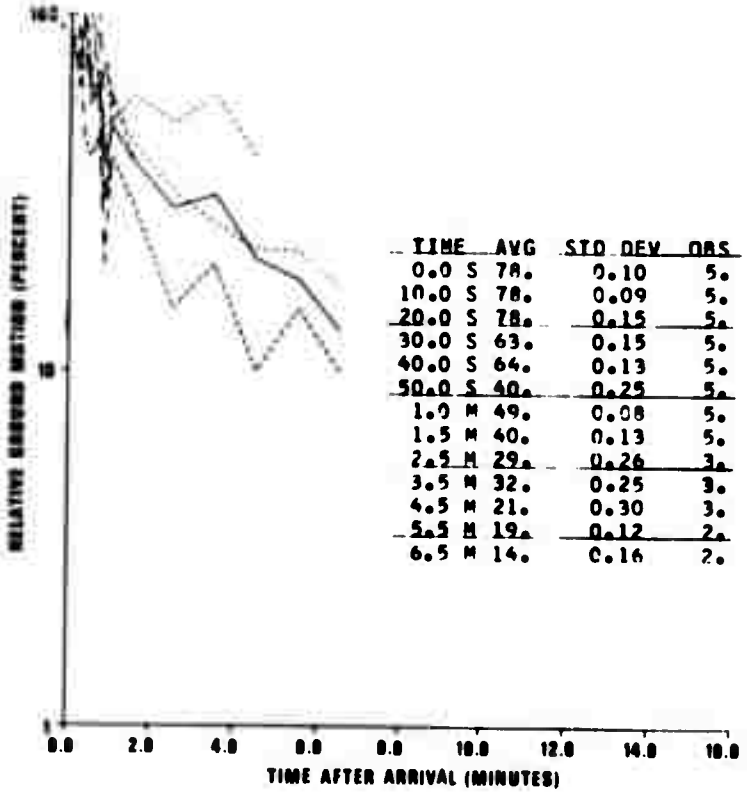
TIME	AVG	STD DEV	OBS
0.0 S	49.	0.28	4.
10.0 S	65.	0.14	4.
20.0 S	79.	0.13	4.
30.0 S	50.	0.21	4.
40.0 S	42.	0.26	4.
50.0 S	35.	0.20	4.
1.0 M	25.	0.26	4.
1.5 M	23.	0.31	4.
2.5 M	17.	0.47	4.
3.5 M	14.	0.62	4.
4.5 M	19.	0.32	4.
5.5 M	11.	0.43	4.
6.5 M	6.	0.57	2.

Figure 265. P coda characteristics, China-Nepal-Burma, KBL.



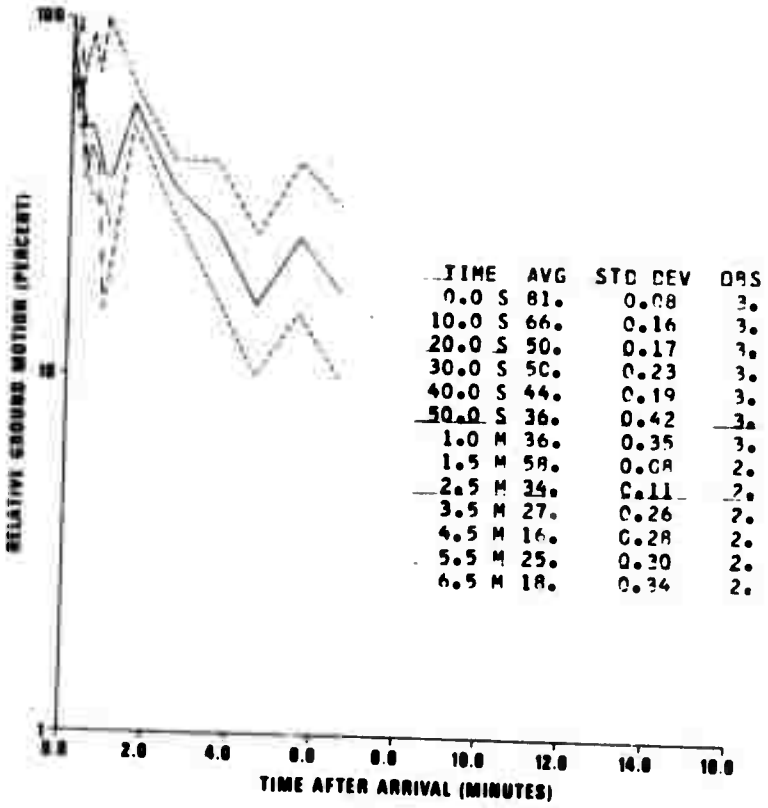
TIME		AVG	STD DEV	OBS
0.0	S	97.	0.04	6.
10.0	S	74.	0.15	6.
20.0	S	58.	0.21	6.
30.0	S	62.	0.23	6.
40.0	S	51.	0.28	6.
50.0	S	51.	0.23	6.
1.0	M	44.	0.17	6.
1.5	M	46.	0.12	6.
2.5	M	41.	0.11	6.
3.5	M	31.	0.21	6.
4.5	M	23.	0.18	6.
5.5	M	23.	0.12	5.
6.5	M	23.	0.08	4.
7.5	M	19.	0.12	4.

Figure 266. P coda characteristics, China-Nepal-Burma, KON.



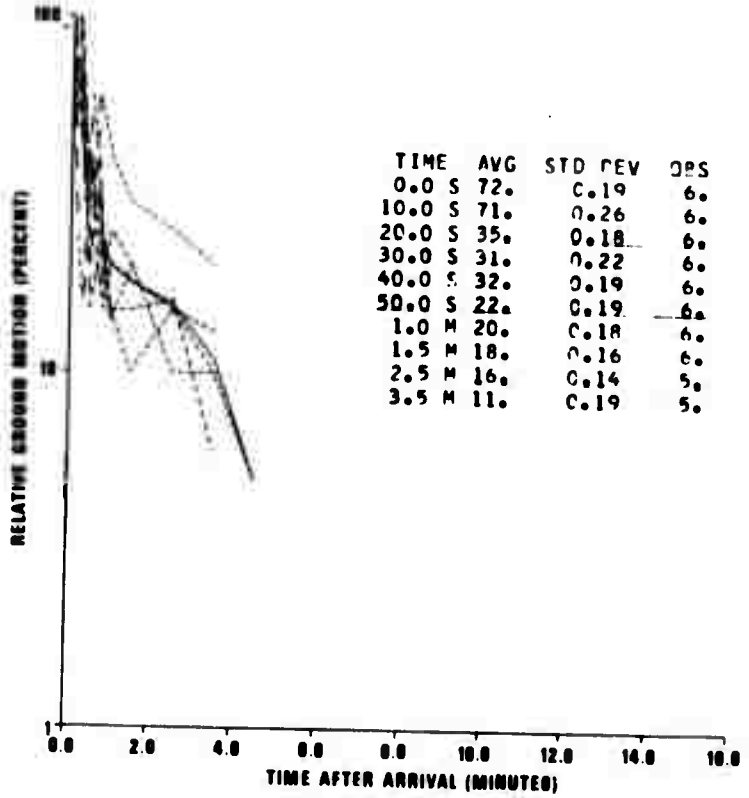
TIME		AVG	STD DEV	OBS
0.0	S	78.	0.10	5.
10.0	S	78.	0.09	5.
20.0	S	78.	0.15	5.
30.0	S	63.	0.15	5.
40.0	S	64.	0.13	5.
50.0	S	40.	0.25	5.
1.0	M	49.	0.08	5.
1.5	M	40.	0.13	5.
2.5	M	29.	0.26	3.
3.5	M	32.	0.25	3.
4.5	M	21.	0.30	3.
5.5	M	19.	0.12	2.
6.5	M	14.	0.16	2.

Figure 267. P coda characteristics, China-Nepal-Burma, MAL.



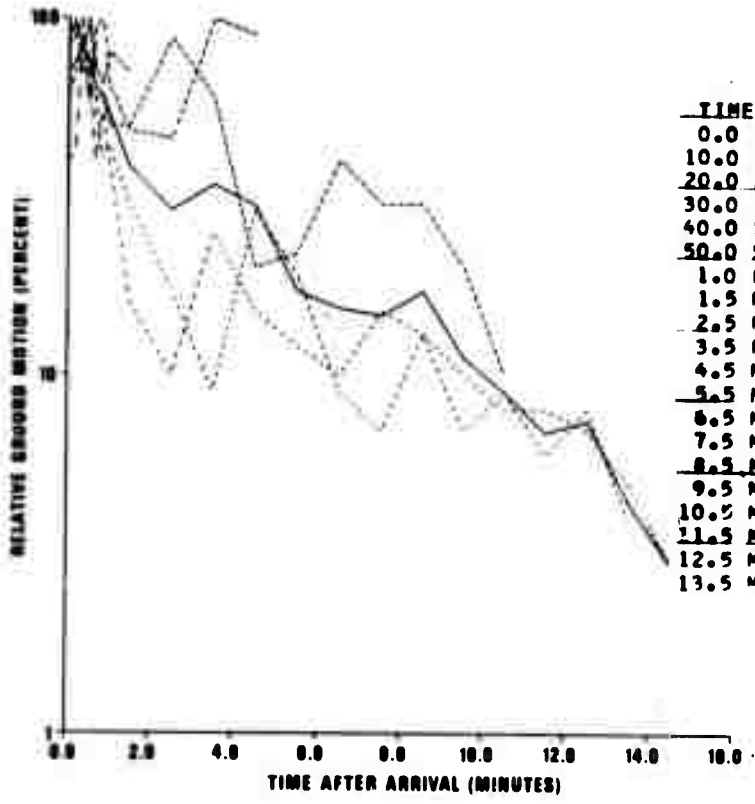
TIME		AVG	STD DEV	OBS
0.0	S	81.	0.08	3.
10.0	S	66.	0.16	3.
20.0	S	50.	0.17	3.
30.0	S	50.	0.23	3.
40.0	S	44.	0.19	3.
50.0	S	36.	0.42	3.
1.0	M	36.	0.35	3.
1.5	M	58.	0.08	2.
2.5	M	34.	0.11	2.
3.5	M	27.	0.26	2.
4.5	M	16.	0.28	2.
5.5	M	25.	0.30	2.
6.5	M	18.	0.34	2.

Figure 268. P coda characteristics, China-Nepal-Burma, MAT.



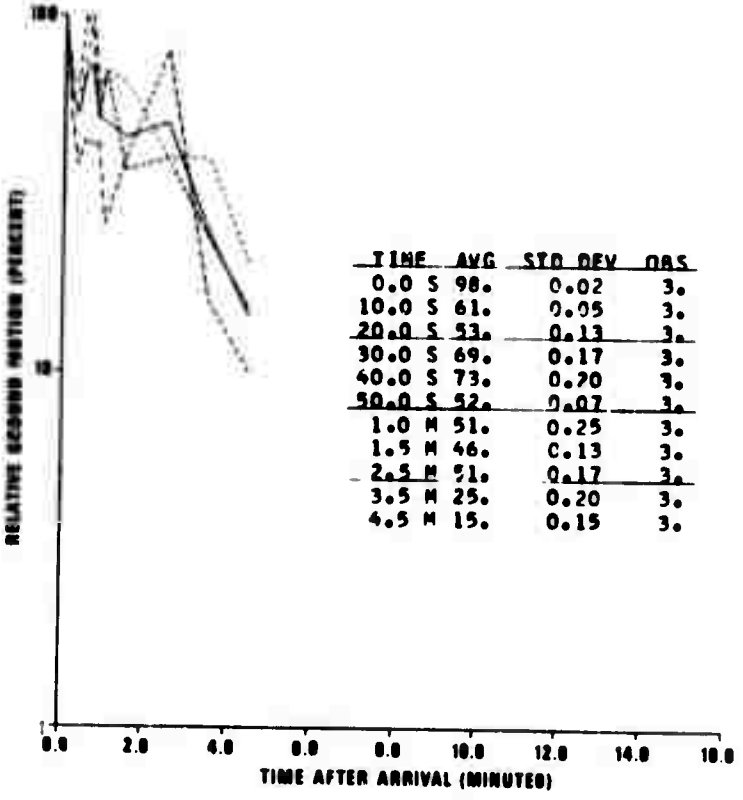
TIME		AVG	STD DEV	OBS
0.0	S	72.	0.19	6.
10.0	S	71.	0.26	6.
20.0	S	35.	0.18	6.
30.0	S	31.	0.22	6.
40.0	S	32.	0.19	6.
50.0	S	22.	0.19	6.
1.0	M	20.	0.18	6.
1.5	M	18.	0.16	6.
2.5	M	16.	0.14	5.
3.5	M	11.	0.19	5.

Figure 269. P coda characteristics, China-Nepal-Burma, MUN.



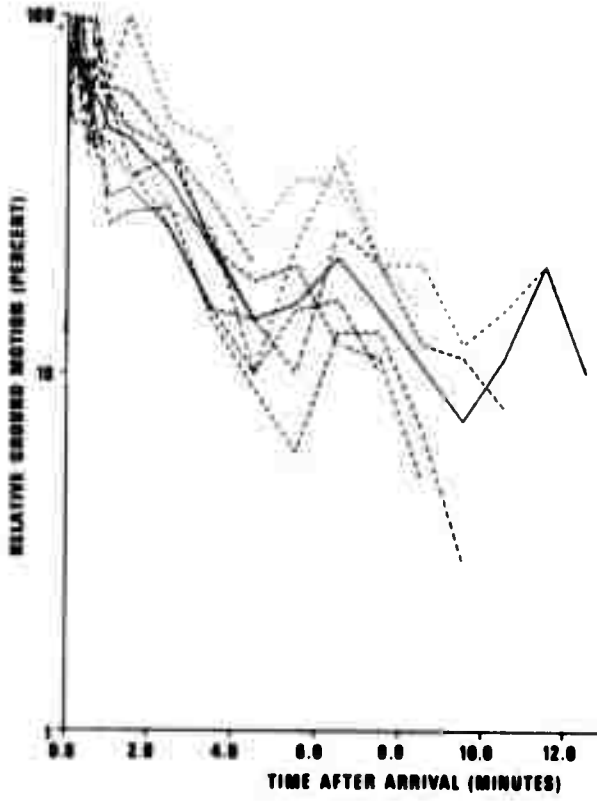
TIME	AVG	STD DEV	OBS
0.0 S	71.	0.15	5.
10.0 S	76.	0.17	5.
20.0 S	84.	0.06	5.
30.0 S	77.	0.12	5.
40.0 S	63.	0.14	5.
50.0 S	62.	0.14	5.
1.0 M	54.	0.12	5.
1.5 M	39.	0.25	5.
2.5 M	29.	0.42	4.
3.5 M	35.	0.46	4.
4.5 M	30.	0.34	4.
5.5 M	18.	0.14	3.
6.5 M	16.	0.36	3.
7.5 M	15.	0.32	3.
8.5 M	10.	0.21	3.
9.5 M	12.	0.23	3.
10.5 M	9.	0.05	3.
11.5 M	7.	0.09	2.
12.5 M	8.	0.04	2.
13.5 M	5.	0.07	2.

Figure 270. P coda characteristics, China-Nepal-Burma, NDI.



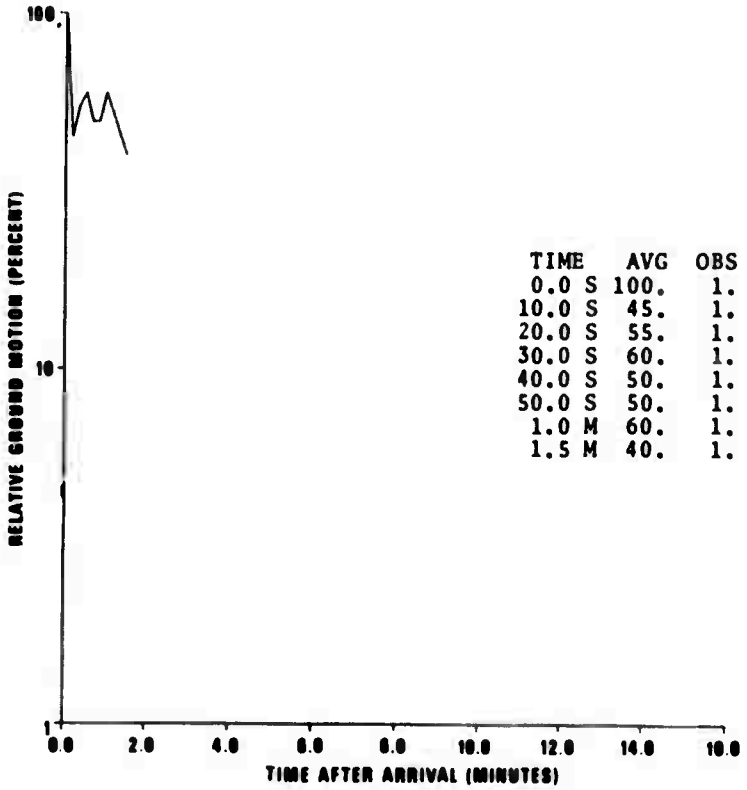
TIME	AVG	STD DEV	OBS
0.0 S	98.	0.02	3.
10.0 S	61.	0.05	3.
20.0 S	53.	0.13	3.
30.0 S	69.	0.17	3.
40.0 S	73.	0.20	3.
50.0 S	52.	0.07	3.
1.0 M	51.	0.25	3.
1.5 M	46.	0.13	3.
2.5 M	31.	0.17	3.
3.5 M	25.	0.20	3.
4.5 M	15.	0.15	3.

Figure 271. P coda characteristics, China-Nepal-Burma, SEO.



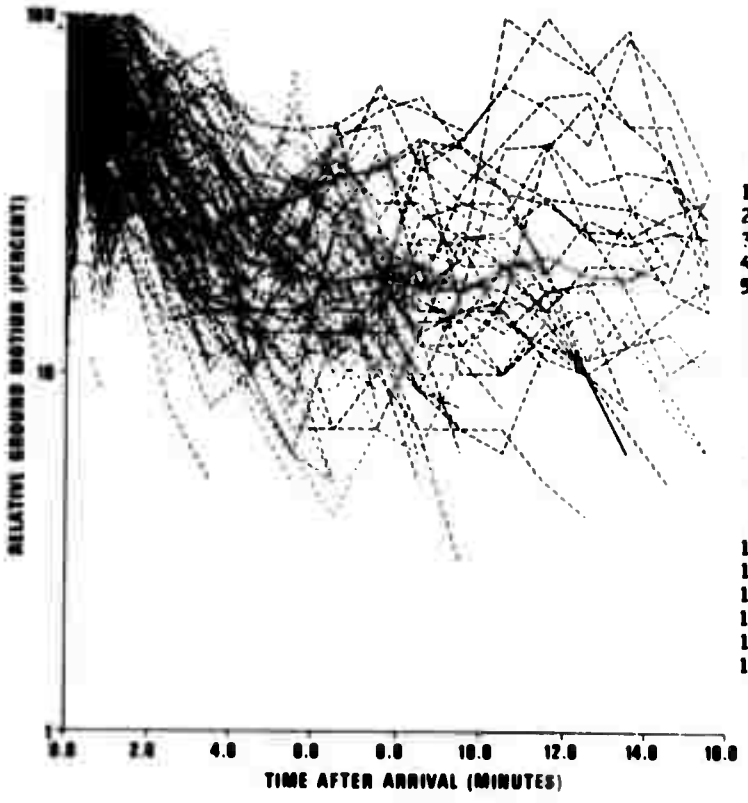
TIME	AVG	STD DEV	OBS
0.0 S	67.	0.11	8.
10.0 S	86.	0.10	8.
20.0 S	70.	0.12	8.
30.0 S	60.	0.13	8.
40.0 S	60.	0.15	8.
50.0 S	56.	0.12	8.
1.0 M	49.	0.15	8.
1.5 M	46.	0.18	8.
2.5 M	35.	0.12	8.
3.5 M	22.	0.17	8.
4.5 M	15.	0.16	8.
5.5 M	16.	0.27	6.
6.5 M	21.	0.22	6.
7.5 M	16.	0.14	6.
8.5 M	11.	0.25	5.
9.5 M	8.	0.34	3.
10.5 M	11.	0.19	2.

Figure 272. P coda characteristics, China-Nepal-Burma, SHI.



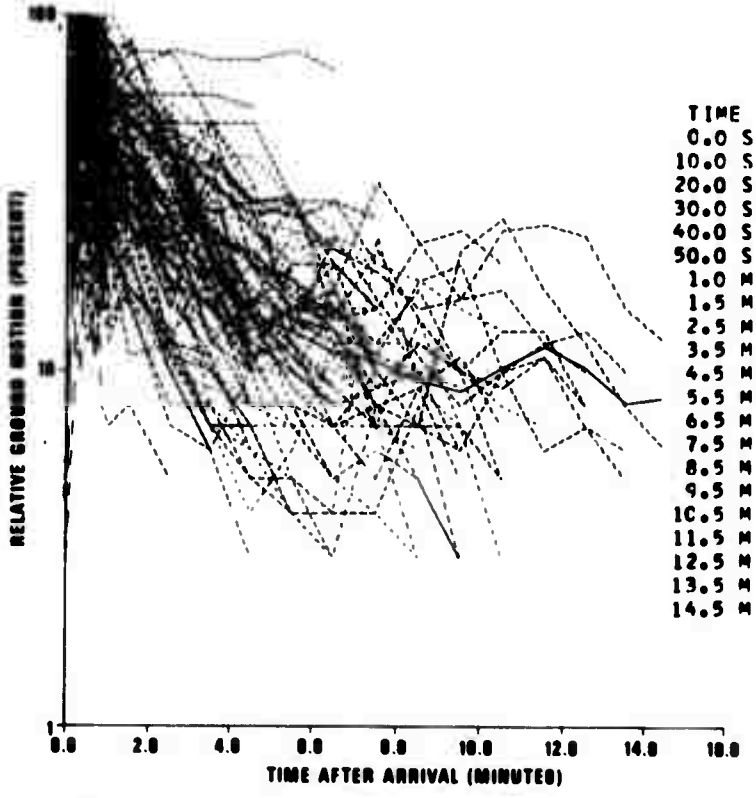
TIME	AVG	OBS
0.0 S	100.	1.
10.0 S	45.	1.
20.0 S	55.	1.
30.0 S	60.	1.
40.0 S	50.	1.
50.0 S	50.	1.
1.0 M	60.	1.
1.5 M	40.	1.

Figure 273. PKP coda characteristics, China-Nepal-Burma, WES.



TIME	AVG	STO DEV	OBS
0.0 S	61.	0.22	103.
10.0 S	64.	0.20	103.
20.0 S	69.	0.16	103.
30.0 S	56.	0.17	103.
40.0 S	51.	0.19	103.
50.0 S	49.	0.20	102.
1.0 M	47.	0.20	101.
1.5 M	49.	0.18	100.
2.5 M	33.	0.22	96.
3.5 M	25.	0.24	88.
4.5 M	21.	0.22	79.
5.5 M	19.	0.25	67.
6.5 M	19.	0.27	53.
7.5 M	20.	0.24	53.
8.5 M	18.	0.26	48.
9.5 M	18.	0.27	42.
10.5 M	20.	0.28	34.
11.5 M	22.	0.29	31.
12.5 M	19.	0.31	28.
13.5 M	19.	0.35	25.
14.5 M	21.	0.29	19.
15.5 M	18.	0.23	17.

Figure 274. Coda characteristics, worldwide events, 20° to 45°.



TIME	AVG	STO DEV	OBS
0.0 S	70.	0.30	83.
10.0 S	56.	0.24	83.
20.0 S	60.	0.23	83.
30.0 S	52.	0.23	83.
40.0 S	47.	0.23	83.
50.0 S	43.	0.22	83.
1.0 M	39.	0.22	83.
1.5 M	36.	0.22	82.
2.5 M	25.	0.26	79.
3.5 M	19.	0.27	77.
4.5 M	15.	0.28	68.
5.5 M	13.	0.27	58.
6.5 M	12.	0.29	50.
7.5 M	11.	0.23	38.
8.5 M	10.	0.24	27.
9.5 M	9.	0.27	22.
10.5 M	11.	0.27	15.
11.5 M	12.	0.19	9.
12.5 M	11.	0.18	8.
13.5 M	9.	0.19	5.
14.5 M	9.	0.21	2.

Figure 275. Coda characteristics, worldwide events, 45° to 80°.

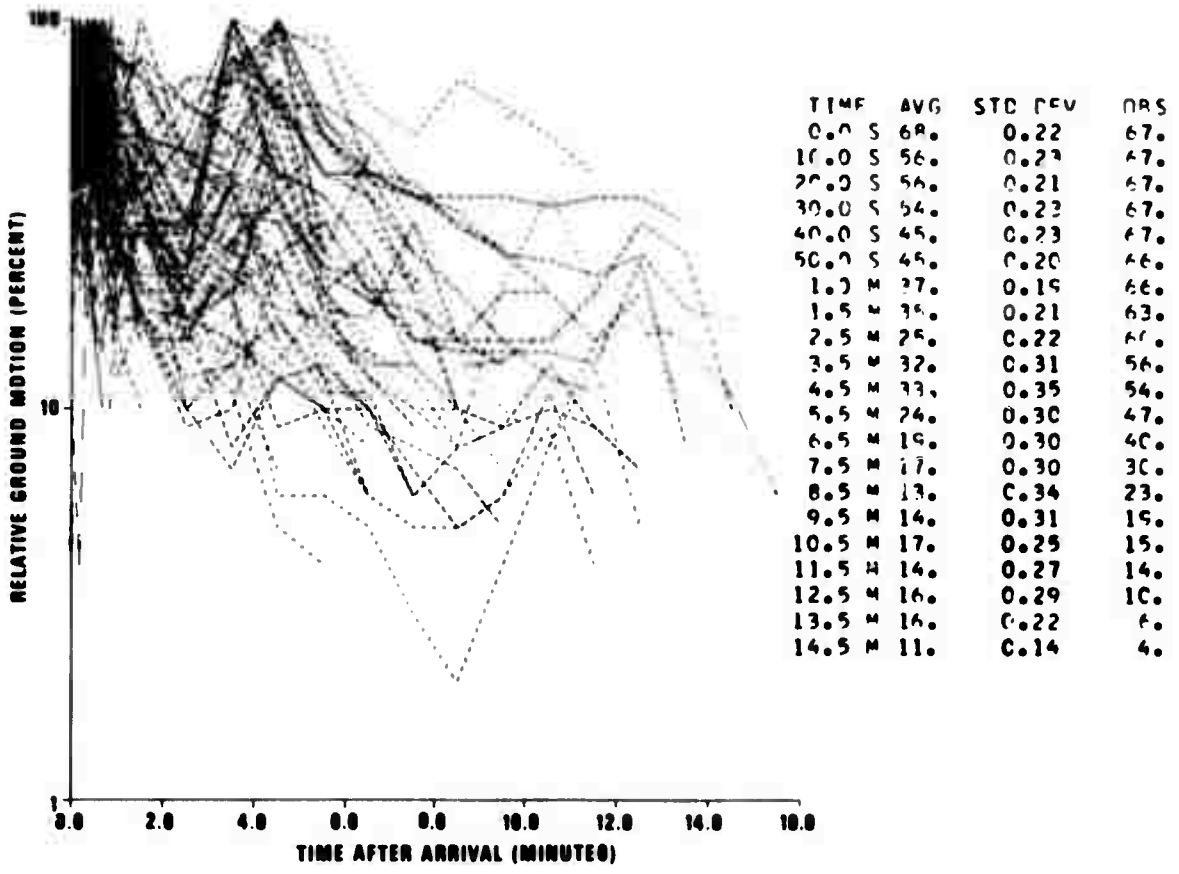


Figure 276. Coda characteristics, worldwide events, 80° to 105°.

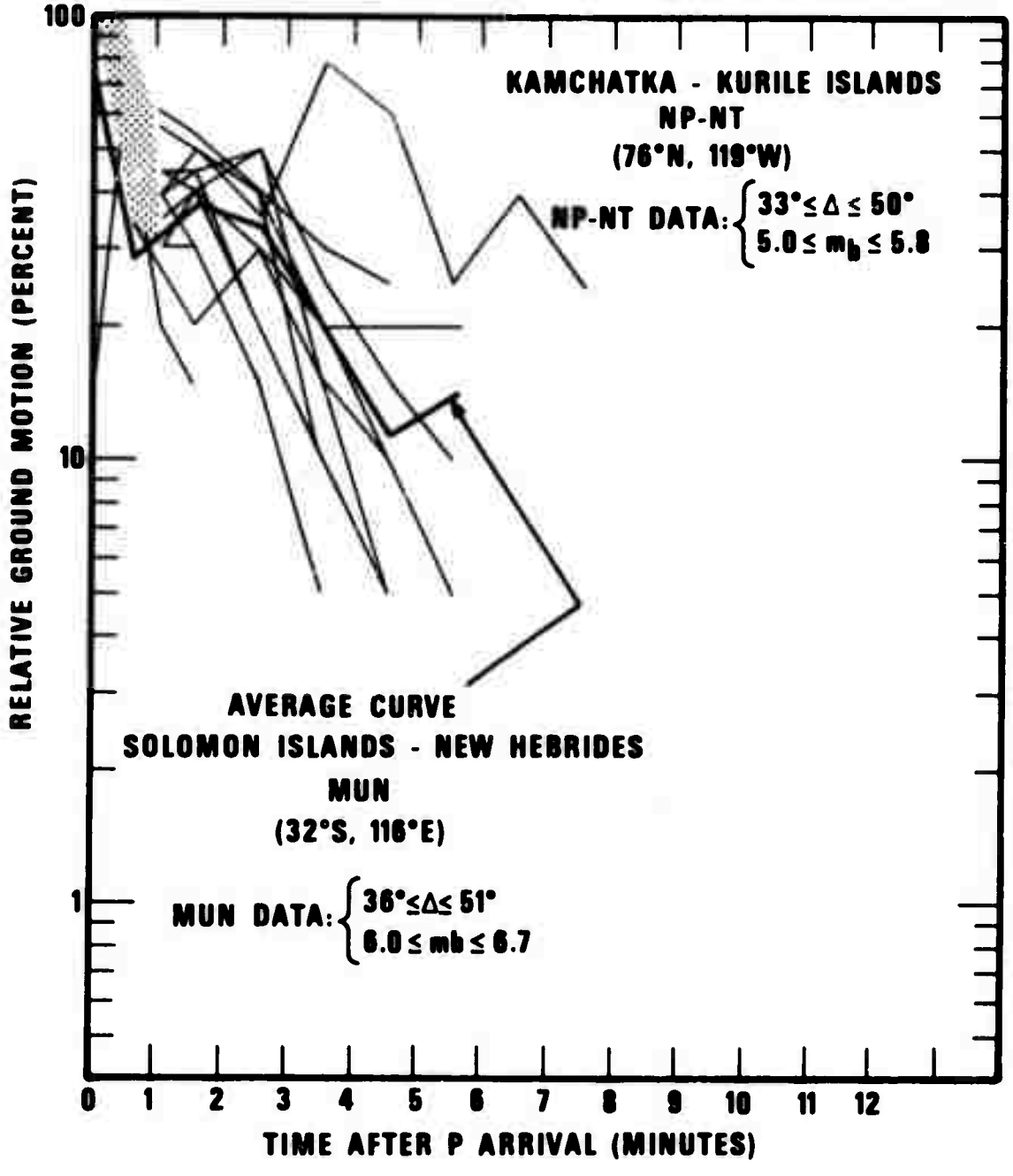


Figure 277. P coda characteristics, Kamchatka-Kurile Islands ($5.0 \leq m_b \leq 5.8$), NP-NT.

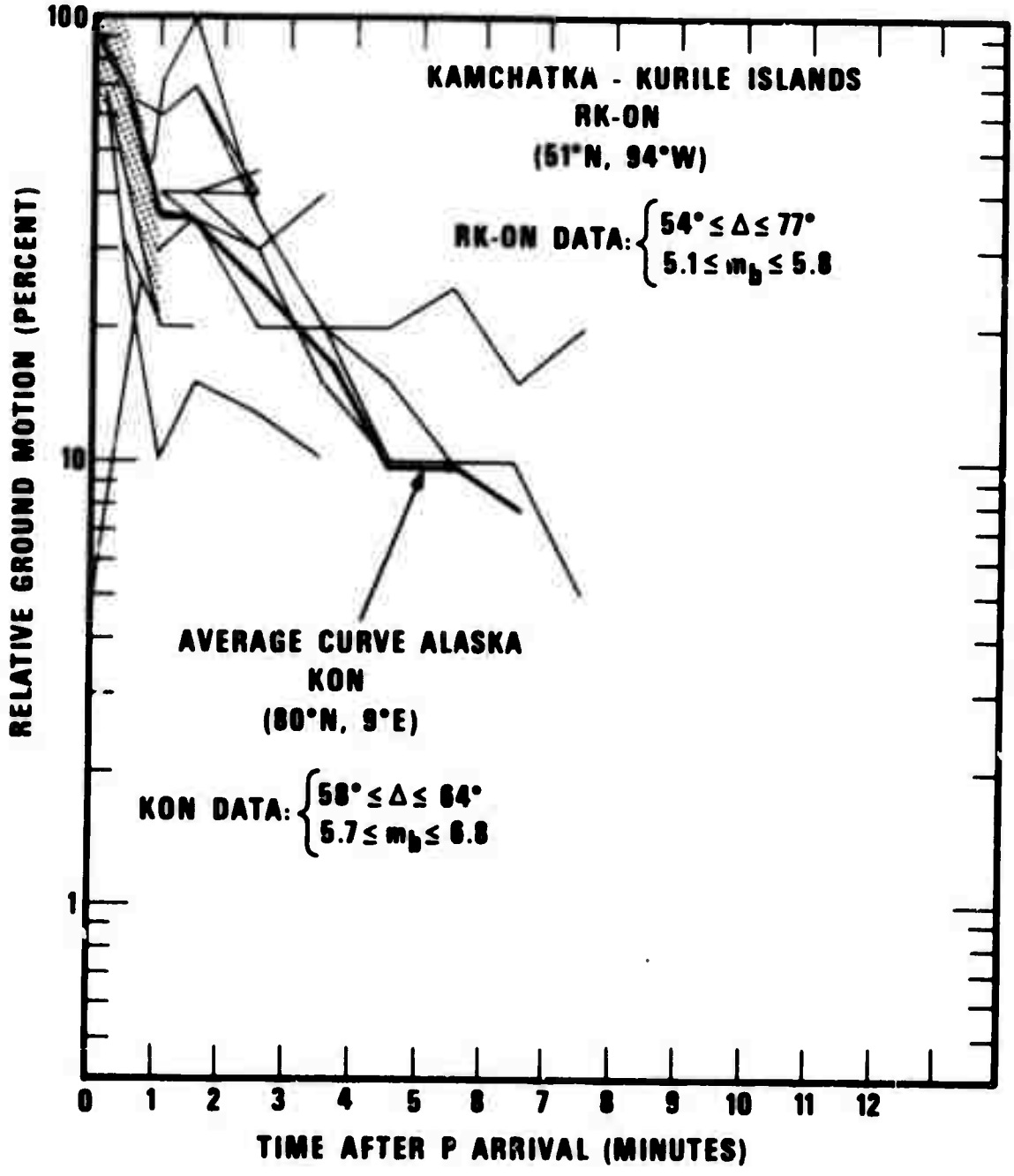


Figure 278. P coda characteristics, Kamchatka-Kurile Islands ($5.0 \leq m_b \leq 5.8$), RK-ON.

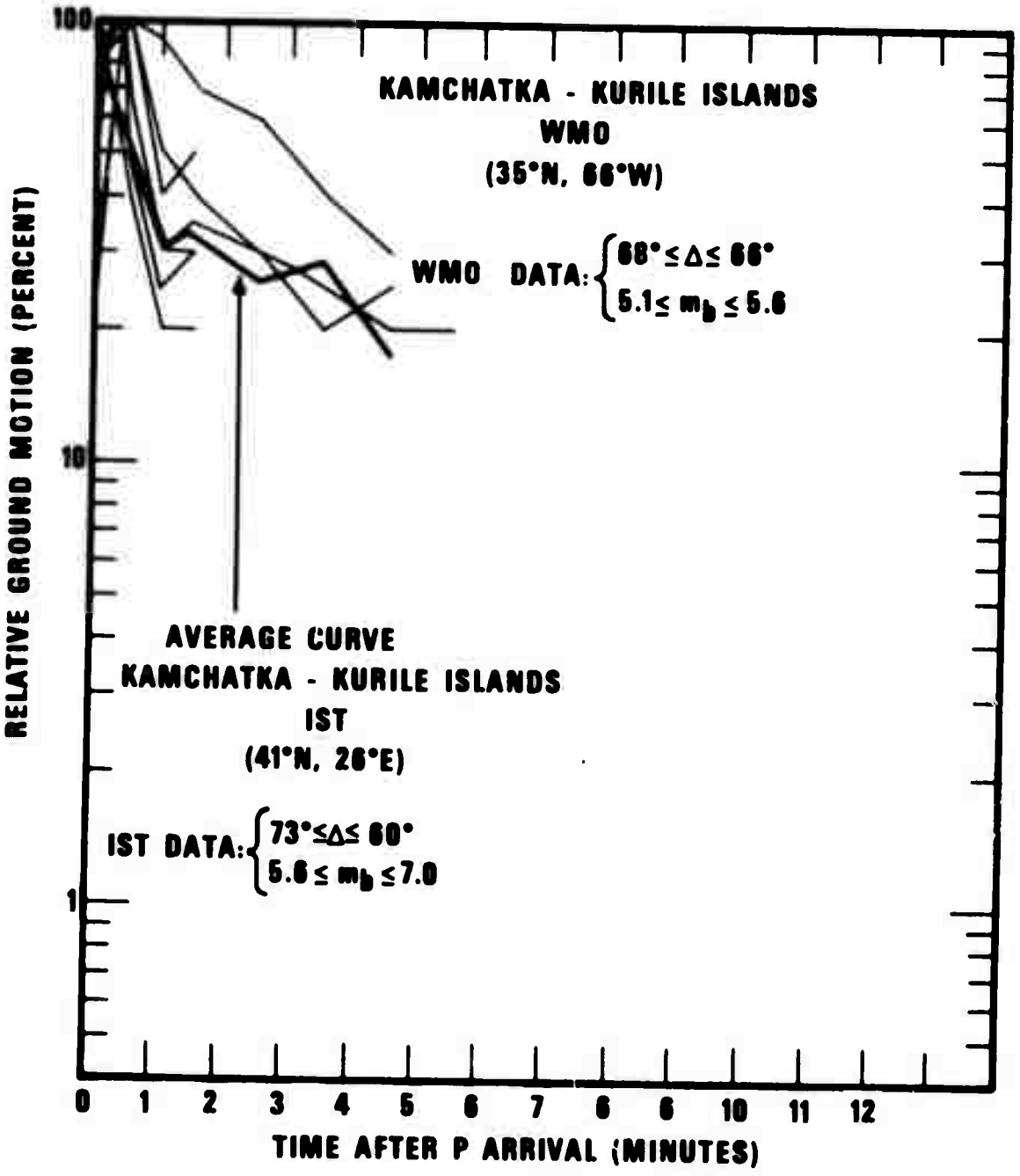


Figure 279. P coda characteristics, Kamchatka-Kurile Islands ($5.0 \leq m_b \leq 5.8$), WMO.