

Nordic Volcanological Institute 9302

University of Iceland

**DISTANCE MEASUREMENTS
IN THE KRAFLA-GJÁSTYKKI AREA 1983-1993**

by

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INTRODUCTION

Distance measurements in the vicinity of the volcanic center of Krafla have been made by the Nordic Volcanological Institute more or less regularly since early 1977. These measurements were initiated in February 1977 when about 40 bench marks were placed in an area along and on both sides of the Krafla fissure swarm, reaching from Krafla in the south to Hrótafjöll in the north (Fig. 1). Additional bench marks were established during the following years, until 1980. Several bench marks were buried by lava in 1980 to 1984 and a few have not been occupied in recent years. Presently, 48 of these bench marks (stations) in the Krafla-Gjástykki network are occupied regularly and one additional station was established in 1987 to replace a station overflowed by the 1984 lava.

Stations established in February and March 1977 were identified by the letter A followed by three digit number, beginning with A001 and ending with A043. Stations A039, A041, and A043 were never occupied. Stations A010, A016, A022, A029, A031, A032, and A036 were either destroyed by the eruptions of 1980-1984 or abandoned as they were considered of no significance. Stations established after early 1977 carry identifications NEyyynn, where yy is the year after 1900 (77 for 1977 etc.) and nnn is three digit number. These stations are NE77005 through NE77013 (NE77007 was destroyed by the 1984 eruption), NE79077, NE79078, NE80048 through NE80052, and NE87001. A station identified as NE9301 was established in March 1993 to serve as reference station for GPS measurements. This station was included in the distance measurements of March 1993.

The result of the distance measurements in the Krafla-Gjástykki area of 1977 to 1982 have been published in three reports from the Nordic Volcanological Institute (Tryggvason, 1978, 1980, 1983). The present report covers the period 1983 to 1993, although measurements 1977 to 1982 are included in Tables III and in the Appendix.

A total of about 250 lines between bench marks have been measured at one time or another in the Krafla-Gjástykki area. It takes measurements of about 100 lines to locate all bench marks in the network, and several additional line are usually required to improve the reliability of the locations. On many occasions, not all of the network was covered in one campaign of measurements. Sometimes, this was rectified by another campaign within a few weeks.

A total of 14 campaigns of distance measurements were carried out in the Krafla-Gjástykki area during the 11 year period from 1983 to 1993 as follows:

March 3-11	1983,	35 lines measured	(E.Ó., H.Ó.)
April 13-28	1983,	70 lines measured	(E.T., H.Ó.)
March 13-28	1984,	94 lines measured	(E.T., H.Ó., H.T.)
Sept. 27 - Oct 1	1984,	23 lines measured	(E.T., H.Ó.)

March 7-17	1985,	45 lines measured	(T.T., H.Ó.)
April 14-20	1985,	31 lines measured	(E.T., H.Ó.)
March 6-17	1986,	80 lines measured	(E.T., H.Ó.)
Feb. 25 - March 11	1987,	108 lines measured	(E.T., H.Ó.)
April 22-30	1988,	116 lines measured	(E.T., H.Ó.)
March 1-17	1989,	102 lines measured	(A.E., E.T., H.Ó.)
March 9-23	1990,	97 lines measured	(A.E., E.T., H.Ó.)
March 4-7	1991,	5 lines measured	(E.T., H.Ó.)
March 23-30	1992,	45 lines measured	(E.T., H.Ó.)
March 5-19	1993,	121 lines measured	(E.T., F.S., H.Ó.)

(Participants in the measurements are indicated in parenthesis as follows: A.E. = Axel Einarsson, E.Ó. = Eggert Ólafsson, E.T. = Eysteinn Tryggvason, F.S. = Freysteinn Sigmundsson, H.Ó. = Halldór Ólafsson, H.T. = Hjörtur Tryggvason)

As this table shows, all the distance measurements were made in late winter, except the measurements of September 27 to October 1, 1984, which were made soon after the eruption of September 1984. There are several reasons for these late winter measurements in the Krafla-Gjástykki area, but the principal reason is that this time of the year the ground is generally covered by snow, making it easy to travel on snow scooters. Another reason is that the short summer season in Iceland is heavily preoccupied at the Nordic Volcanological Institute by various field work, making it advisable to do in winter any field work which can be performed at that time of year.

The results of the distance measurements of 1983 to 1993 in the Krafla-Gjástykki area are here presented in three groups of tables and in an appendix. Tables I include 14 tables of measured distances and elevation differences, one for each measurement campaign. Tables II include 14 tables of observed length change since previous measurement, one table for each measurement campaign. Tables III contain about 200 tables of distance measurements, one for each measured line between bench marks in the Krafla-Gjástykki network of distance measurements. Observed elevation differences are also given. The appendix contains computer drawings of distance versus time for all lines which have been measured at least 9 times from 1977 to 1993.

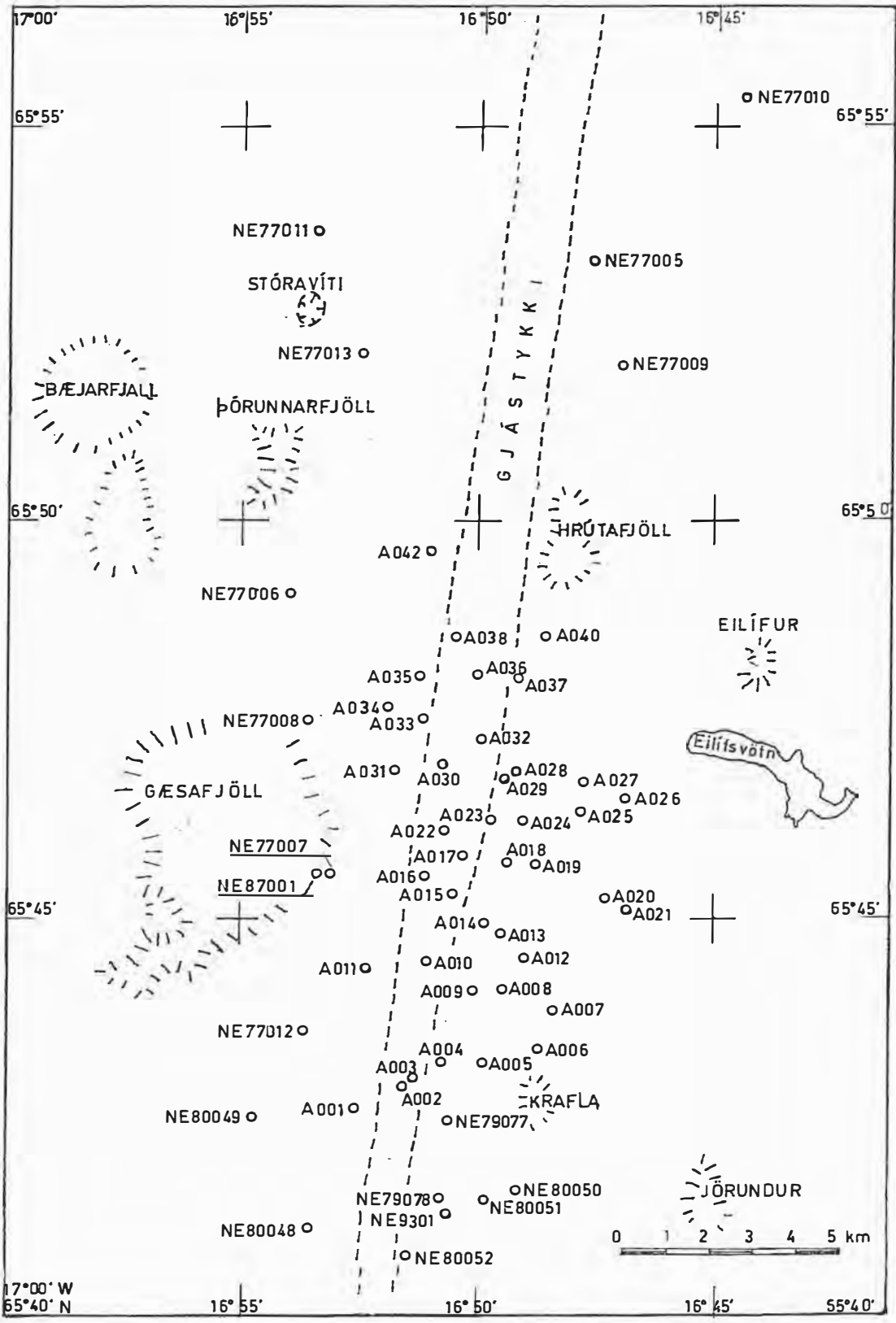


Fig. 1
 Sketch map of the Krafla-Gjástykkí area showing the stations used for distance measurements in the period 1977-1993.

STATIONS FOR DISTANCE MEASUREMENTS

- A001 Steel rod on top of Ytri Sáta, at its south end. This station is generally used as reflector station.
- A002 Steel rod in a lava and cinder hill immediately southwest of Leirhjúkur, east of the highest part of the hill (Hituhóll). This station was frequently used as geodimeter station from 1977 to 1981, but later as reflector station.
- A003 Brass nail on top of Leirhjúkur, near its south end. The bench mark was established by the National Energy Authority and carries identification number 5590. This station was generally used as geodimeter station from 1977 to 1979, but later as reflector station. Increased steam emission in 1980 in the vicinity of the station made observations difficult for several years.
- A004 Steel rod in lava of 1724-1729, at the east edge of the lava. This station has been used as reflector station.
- A005 Steel rod immediately east of a fault scarp, northeast of Víti. This station has frequently been used as geodimeter station.
- A006 Steel rod on top of a ridge between Krafla and Graddabunga. This station has been used as reflector station.
- A007 Steel rod on top of Graddabunga, south of its highest part. This station has been used as reflector station.
- A008 Steel rod on top of a big boulder like extrusion of old lava. This station has been used as reflector station.
- A009 Steel rod on small hill on top of an east facing fault scarp. This station has been used as reflector station.
- A010 Steel rod on top of a cinder cone of the 1724-1729 eruptions. This station was buried beneath about 2 meter of cinder during an eruption of November 1981. It will probably never be recovered. This station was generally used as geodimeter station.
- A011 Steel rod on a small lava extrusion in the 1724-1729 lava. This station has been used as reflector station.
- A012 Steel rod on top of the hill Hreindýrahóll. This station has been used as geodimeter station. The top of the steel rod was displaced

horizontally 2.5 to 3 cm in northerly direction between observations of April 1985 and March 1986.

- A013 Steel rod on even ground east of a fault scarp and north of the "caldera rim". This station has rarely been used as geodimeter station, but otherwise as reflector station.
- A014 Steel rod on a boulder like lava block. This station has been used as reflector station.
- A015 Steel rod on top of small hill of old volcanic material. This station has been used as reflector station.
- A016 Steel rod in the lava of 1724-1729. This station was covered by lava in March 1980. It was used as reflector station but once as geodimeter station.
- A017 Steel rod on top of a small ridge of old volcanic material. This station has been used as reflector station.
- A018 Steel rod on the east side of a prominent west facing fault scarp. This station has been used as reflector station.
- A019 Steel rod on the top of small hill. This station has frequently been used as geodimeter station
- A020 Steel rod immediately east of a west facing fault scarp. This station has been used as reflector station.
- A021 Steel rod on top of a small hill, one of several hills forming a ridge. This station has been used as reflector station.
- A022 Steel rod on top of a small hill. This station was last occupied in April 1981, but has not been found since then and is believed to be covered by lava of November 1981 or September 1984. It was used as reflector station.
- A023 Steel rod in old volcanic formation. This station has been used as reflector station.
- A024 Copper nail on top of the hill Sandmúli. The bench mark was installed by the National Energy Authority and carries the identification number 5593. In February 1977 a steel rod was placed on Sandmúli, given the identification A024, but the observers used the copper nail for measurements, except in November 1977 and April 1978, when the steel rod was used. Measurements from the steel rod (called

- A024A) have been reduced to the copper nail (called A024B). So all measurements reported in the present report refer to the copper nail. In March 1993 when the station was visited, the copper nail was missing but the drill hole was intact. A new copper nail was cemented into the hole. Its location is believed to be identical to the earlier copper nail to within 2 mm horizontally. This station was used as geodimeter station from 1977 to 1983, but as reflector station after 1983.
- A025 Steel rod on south side of a small hill. This station has been used as geodimeter station several times, but frequently as reflector station.
- A026 Steel rod on top of a steep conical hill at the north end of Hágangnahali. This station has been used as reflector station.
- A027 Steel rod on top of a small hill. This station has been used as reflector station.
- A028 Steel rod on top of a small ridge, at its west end. This station has been used as reflector station.
- A029 Steel rod on top of a small hill immediately north of Sandmúli. This station has not been occupied since September 1980, but it is believed to be intact. This station was used as reflector station.
- A030 Steel rod on top of a small hill surrounded by level lava fields. The bench mark is immediately west of a small east facing fault scarp. This station has frequently been used as geodimeter station.
- A031 Steel rod in relatively even lava. This station was covered by lava in September 1984. It was used as reflector station.
- A032 Steel rod in old lava. This station was rarely occupied, last time in April 1980, and is believed to have been covered by lava in one or more of the eruptions of 1980 to 1984. It was used as reflector station.
- A033 Steel rod on the west side of a east facing fault scarp a short distance south of a fence. This station has generally been used as reflector station.
- A034 Steel rod on a small lava hillock, short distance north of a fence. This station has been used as reflector station.
- A035 Steel rod immediately west of a prominent east facing fault scarp. This station has been used as geodimeter station.

- A036 Steel rod in lava. Last occupied in August 1978, believed to be covered by lava. This station was used as reflector station.
- A037 Steel rod in lava a short distance east of a prominent west facing fault scarp a short distance south of a fence. This station was originally used as reflector station but frequently as geodimeter station in later years.
- A038 Steel rod on top of the palagonite hill Snagi, south of its highest part. This station has been used as reflector station.
- A039 Steel rod in lava between stations A038 and A040. This station has never been occupied and may be intact.
- A040 Steel pipe of about 2 cm diameter on top of small ridge short distance south of Hrótafjöll. The center of the pipe is used as reference. This bench mark is of unknown origin. This station was originally used as reflector station but commonly as geodimeter station after 1982.
- A041 Steel rod in lava between the stations A040 and A042. It has never been occupied.
- A042 Steel rod in palagonite on top of the north end of Hituhólar. This station was used as geodimeter station before 1982, but later as reflector station.
- A043 Steel rod in lava west of Hituhólar. This station has never been occupied.
- NE77005 Brass nail in lava on top of rather large lava hill. This station has been used both as reflector station and geodimeter station.
- NE77006 Brass nail in almost level lava, a short distance east of the south end of Einbúi. This station has been used both as reflector station and geodimeter station.
- NE77007 Brass nail on a lava hill a short distance east of Gæsafjöll, in Stórikriki. This station was overflowed by lava in September 1984. It was used either as reflector station or as geodimeter station.
- NE77008 Brass nail in lava near northeast corner of Gæsafjöll. This station has been used both as reflector station and as geodimeter station.
- NE77009 Brass nail on southwest side of Mófell. This station has been used as reflector station.

- NE77010 Brass nail in lava on Skuggaklettur. This station has been used as reflector station.
- NE77011 Steel rod in lava on top of Þeistareykjabunga, about 3 m east of the big cairn. This station has been used as geodimeter station.
- NE77012 Brass nail in old (Pleistocene) lava on top of Hvannstóðshöfði, near its steep south side. This station was constructed by the National Energy Authority and it identified by them as HSH. It has been used as geodimeter station.
- NE77013 Steel rod on top of Sandfell on southern part of Þeistareykjabunga. This station has been used as geodimeter station.
- NE79077 Brass rod on Rauðhóll, south of its highest point. This station has been used as geodimeter station.
- NE79078 Brass rod on small fault scarp north of Hvíthólar. This station has been used as reflector station.
- NE80048 Brass rod on top of Syðri Bjarghóll. This station has been used as reflector station.
- NE80049 Brass nail some distance west of Ytri Bjarghóll. This station has been used as reflector station.
- NE80050 Brass nail on the south end of a small ridge on top of Sandabotnafjall. This station has been used as reflector station.
- NE80051 Brass nail on Sandabotnafjall, near the west slope. This station has been used as reflector station.
- NE80052 Brass nail on north end of Dalfjall. This station has been used as reflector station.
- NE87001 Brass nail on a lava hill, a short distance east of Gæsafjöll, in Stórikriki. It replaces the station NE77007 which was destroyed by lava flow in 1984. This station has been used both as geodimeter station and reflector station.
- NE9301 Brass nail in lava at Hvíthólar. This station was constructed as GPS station, but was used also as geodimeter station in March 1993.

THE INSTRUMENTS

The Nordic Volcanological Institute acquired in 1977 a geodimeter model 6BL. This instrument was used for all distance measurements made at the Institute from July 1977 to April 1985. In 1985 a new Geodimeter model A14 was obtained to replace the old instrument. This new Geodimeter has been used for all distance measurements made at the Institute from August 1985 to 1993. The distance measurements of February and March 1977 were made with a "Distomat" which was rented for a short period only.

If measurements of March and April 1985 are compared with those of March 1986, information is obtained on how the two geodimeters compare. Other measurements suggest practically no ground deformation during this period.

A total of 53 lines were measured in March or April 1985 and again in March 1986. Six of these lines appear to have increased in length by up to 12 mm, while 47 lines appear to have become shorter by up to 47 mm. The average shortening of these 53 lines was 17 mm with a standard deviation of 10 mm according to these measurements. If this suggested shortening is real then the relative shortening can be expected to be roughly constant. This would mean that the shortening would be roughly proportional to the length of the measured lines. This is not the case as can be verified by dividing the observed lines into groups of various line length.

Of these 53 lines, 17 were 1.0 to 2.0 km in length and their average apparent shortening was 17.0 mm. Sixteen lines were between 2.0 and 3.0 km in length and their average apparent shortening was 18.5 mm and 12 lines were between 3.0 and 5.0 km in length and their average apparent shortening was 18.8 mm. All 5 lines shorter than one km appear to have become 12 to 28 mm shorter and the apparent length change of the 5 lines of more than 5 km length varied between 9 mm lengthening to 19 mm shortening. These numbers indicate no correlation between line length and apparent length change from March or April 1985 to March 1986.

This incomplete comparison between the results of 1985 and 1986 distance measurements in the Krafla-Gjástykkí area, made with model 6BL geodimeter in 1985 and with model A14 geodimeter in 1986, suggest no significant length changes of the measured lines, but a significant difference of the two Geodimeters. If this suggestion is true, then the model A14 Geodimeter used in March 1986 and later, measures each distance 17 ± 3 mm shorter than the model 6BL Geodimeter used in April 1985 and earlier. The error margin of 3 mm is the standard error of the average length changes.

DAMAGE TO BENCH MARK A012

The station A012 is marked by a steel rod of 12 mm diameter, hammered deep into the top of a partly welded cinder cone. This cinder cone, named Hreindýrahóll, is subject to some wind erosion, and the iron rod, originally extending some 3 cm above the surface, now extends more than 5 cm above the surface. The cinder cone Hreindýrahóll was a popular point for viewing the eruptions of 1980-1984, and in 1984 and later drivers on 4-wheel drive cars frequently drove their cars to the top of the cone.

During the distance measurements of March 1986, it was observed that the steel rod marking the station A012 had been bent quite noticeably. This bending must have occurred between observations of April 1985 and March 1986, possibly by wheels of visiting cars, but possibly by vandalising visitors. No effort has been made to correct for the horizontal displacement of the top of the steel rod because of this bending, but comparison of measurements of 1985 and 1986 can be used to estimate this displacement.

Only 5 lines from A012 were measured in both 1985 and 1986. Their length changes and the azimuths from A012 are as follows:

A005 to A012	+12 mm length change,	azimuth 200 degrees from A012
A013 to A012	-32 mm length change,	azimuth 318 degrees from A012
A019 to A012	-43 mm length change,	azimuth 005 degrees from A012
NE77012 to A012	+3 mm length change,	azimuth 251 degrees from A012
NE79088 to A012	+2 mm length change,	azimuth 205 degrees from A012

These numerical values suggest that the top of the rod at station A012 has moved towards the stations A013 and A019, and away from the other three stations. Considering that the measurements of 1986 gave generally 17 mm shorter distances than the measurements of 1985, probably because of different instruments used, then the displacement of the top of the steel rod because of its bending has been 25 to 30 mm in azimuth 0 to 20 degrees east of north. The distances presented in this report are not corrected for this indicated horizontal displacement of the bench mark at the station A012.

Although all the stations established in February of March 1977 and also a few later established stations were marked by steel rods hammered into the ground, none of these has been damaged, except that at station A012.

REFERENCES

- Tryggvason, E., 1978. Distance measurements in 1977 in the Krafla-Mývatn area and observed ground movements. Nordic Volcanological Institute 7810, 47 pp.
- Tryggvason, E., 1980. Distance measurements in the Krafla-Gjástykki geodimeter network, March 1978 to May 1979. Nordic Volcanological Institute 8002, 42 pp.
- Tryggvason, E., 1983. Distance measurements in the Gjástykki-Krafla-Mývatn area 1979-1982. Progress report. Nordic Volcanological Institute 8301, 48 pp.

TABLES I

These tables present the measured distances and elevation differences between bench marks as observed in each campaign of distance measurement in the Krafla-Gjástykki area.

The first column identifies the Geodimeter station by its bench mark identification. These are arranged according to time of construction of the stations, beginning with stations established in early 1977 identified as Annn (nnn is a three digit number), followed by stations identified as NEyynn.

The second column identifies the reflector station arranged in the same way.

The third column gives the distance of a straight line connecting the bench marks of the two stations of column 1 and 2. The measured distance between geodimeter and reflector is corrected for meteorological factors, using mathematical equations supplied with the instruments from their producer. The distance from geodimeter to reflector is reduced to the bench marks, taking into account the height of both geodimeter and reflector above the bench marks. This reduction gives the "slope distance" between the bench marks. The instrument used in 1985 and earlier was a Geodimeter model 6BL acquired in 1977. (Measurements of February and March 1977 were made with a rented instrument of different type). A new instrument, Geodimeter model 14A was acquired in 1985 and used for all the distance measurements of 1986 and later. There are indications in the 1985 and 1986 measurements (Tables 1E, 1F, 1G) that measurements of the two instruments are not quite identical, in the way that the new model 14A instrument measures each distance 17 ± 3 mm shorter than the model 6BL instrument. The data is not corrected for this suggested instrumental difference.

The fourth column gives the observed elevation difference of the stations, positive if the reflector station is at higher elevation than the geodimeter station. The elevation difference is obtained from the vertical angle obtained with a theodolite at the reflector station, pointed to the top of the tripod at the reflector station. In reducing the elevation difference to the bench marks, the height of the two tripods is used and the height of the theodolite line of sight above the tripod. The curvature of the earth, taken as 6388 km, is taken into account, and also light refraction, assumed constant and bending the near horizontal light rays with 35000 km radius of curvature (Tryggvason, 1978). It should be noted that the refraction is only an estimate based on average weather condition in Iceland, but great deviations can occur, especially in calm weather when the near surface air tends to become layered.

The fifth column gives calculated horizontal distance between the stations, reduced to sea level. This reduction takes into account the radius of curvature of the earth's surface, assumed to be 6388 km, and the elevation of each station

calculated from the elevation difference of column 4 and assumed elevation of 680.0 m for the station A012.

TABLE I:1

Measured distances in the Krafla-Gjástykki area, March 3 - 11, 1983

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.618	26.28	1851.255
A005	A004	929.722	-13.21	929.547
A005	A006	1273.487	117.93	1267.892
A005	A007	1927.208	164.89	1919.947
A005	A008	1659.753	17.77	1659.509
A005	A009	1564.197	13.47	1564.000
A005	NE79077	1670.934	-5.03	1670.780
A012	A005	2543.666	-116.69	2540.740
A012	A006	2162.647	1.24	2162.416
A012	A007	1429.247	48.19	1428.277
A012	A008	906.484	-98.87	900.984
A012	A009	1371.931	-103.29	1367.905
A012	A018	2246.534	-71.19	2245.179
A012	A019	2186.162	-42.28	2185.528
A012	A020	2285.660	-5.59	2285.411
A012	A021	2511.839	33.14	2511.346
A012	A024B	3182.716		3182.200
NE77012	A001	2139.241	-3.57	2139.056
NE77012	A012	5238.151	134.00	5235.935
NE77012	NE80048	4608.032	-9.12	4607.632
NE77012	NE80049	2313.908	26.28	2313.556
NE79077	A001	2063.431	-15.66	2063.193
NE79077	A002	1249.277	31.96	1248.757
NE79077	A003	1205.455	35.33	1204.829
NE79077	A006	2678.289	122.92	2675.206
NE79077	NE79078	1819.658	-63.79	1818.391
NE79077	NE80049	4352.263	14.09	4351.855
NE79077	NE80050	2215.974	63.15	2214.870
NE80052	A001	616.685	26.85	3616.286
NE80052	NE79077	3247.477	42.55	3246.926

NE80052	NE79078	1490.453	-21.23	1490.184
NE80052	NE80048	2333.834	21.07	2333.546
NE80052	NE80049	4762.796	56.48	4762.054
NE80052	NE80050	2860.809	105.64	2858.603
NE80052	NE80051	2134.730	36.86	2134.233

TABLE I:2

Measured distances in the Krafla-Gjástykkí area, April 13 - 28, 1983

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A012	A013	750.113	-54.17	748.077
A012	A014	1191.636	-74.42	1189.192
A012	A015	2219.401	-136.52	2214.981
A012	A017	2749.630	-126.66	2746.448
A012	A023	3251.444	-104.06	3249.460
A012	NE77007	4773.703	-167.23	4770.333
A019	A018	616.508	-28.93	615.769
A019	A020	1825.243	36.78	1824.685
A019	A021	2307.830	75.40	2306.354
A019	A025	1647.058	-760.81	2557.190
A019	A027	2202.325	-104.70	2199.631
A024B	A011	4928.969	-106.14	4927.365
A024B	A013	2691.848	-19.86	2691.507
A024B	A014	2512.332	-40.02	2511.767
A024B	A015	2316.912	-102.33	2314.439
A024B	A017	1568.202	-92.24	1565.338
A024B	A018	1040.216	-36.87	1039.460
A024B	A019	1037.386	-8.00	1037.251
A024B	A020	2622.080	28.75	2621.651
A024B	A021	3094.585	67.48	3093.521
A024B	A023	749.842	-69.64	746.526
A024B	A025	1336.441	-84.05	1333.669
A024B	A027	1631.260	-112.74	1627.212
A024B	A028	1182.001	-117.96	1175.985
A024B	A030	2291.538	-103.39	2288.997
A024B	A031	3169.139	-132.66	3166.081
A024B	A035	4071.148	-136.91	4068.473
A024B	A037	3294.144	-147.06	3290.566
A024B	A042	6586.295	-157.06	6583.833

A024B	NE77006	7455.461	-199.91	7452.150
A024B	NE77007	4500.713	-132.35	4498.347
A024B	NE77008	5372.249	-155.89	5369.510
A030	A027	3243.149	-9.47	3242.862
A030	A028	1694.668	-14.63	1694.462
A030	A031	1091.149	-29.07	1090.668
A030	A037	2576.052	-43.76	2575.470
A030	A040	3796.069	-54.64	3795.370
A030	A042	4898.619	-53.98	4897.926
A030	NE77008	3145.709	-52.44	3145.016
A035	A019	5053.704	129.31	5051.601
A035	A028	3063.804	18.80	3063.496
A035	A037	2165.983	-10.02	2165.789
A035	A040	2965.600	-20.83	2965.296
A035	A042	2905.735	-20.04	2905.438
A035	NE77006	3529.430	-62.53	3528.611
A035	NE77008	2714.558	-18.83	2714.281
A040	A024B	4381.859	158.00	4378.626
A040	A026	4216.684	150.47	4213.622
A040	A027	3575.214	45.20	3574.643
A040	A028	3252.037	39.85	3251.535
A040	A037	1235.118	10.81	1234.975
A042	A037	3536.772	10.13	3536.484
A042	A040	3187.174	-0.67	3186.930
A042	NE77006	3336.083	-42.27	3335.569
A042	NE77009	6091.153	-37.34	6090.588
NE77005	NE77009	2470.679	45.77	2470.087
NE77005	NE77010	5204.632	-82.28	5203.685
NE77011	NE77005	6252.336	-159.25	6249.834
NE77011	NE77009	7526.494	-113.29	7525.042
NE77011	NE77010	10176.040	-241.51	10172.425
NE77011	NE77013	3033.897	-24.31	3033.538
NE77012	A009	3951.357	30.61	3950.891
NE77012	A011	2028.406	-6.98	2028.222
NE77012	NE77007	3739.379	-33.45	3738.921
NE77012	NE80049	2313.984	26.11	2313.634
NE77013	A042	4905.418	-51.34	4904.753
NE77013	NE77005	5602.526	-134.98	5600.484

NE77013	NE77006	5842.216	-93.77	5841.011
NE77013	NE77009	5831.613	-89.30	5830.480

TABLE I:3

Measured distances in the Krafla-Gjástykki area, March 13 - 28, 1984

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.642	26.87	1851.280
A005	A003	1567.374	30.29	1566.940
A005	A004	929.711	-13.19	929.537
A005	A006	1273.517	117.94	1267.919
A005	A007	1927.216	164.94	1919.951
A005	A008	1659.780	17.85	1659.535
A005	A009	1564.206	13.45	1564.008
A005	A012	2543.666	116.81	2540.738
A005	A013	2934.835	62.64	2933.895
A012	A004	3068.298	-129.93	3065.250
A012	A006	2162.648	1.22	2162.417
A012	A007	1429.256	48.17	1428.286
A012	A008	906.473	-98.87	900.974
A012	A009	1371.934	-103.23	1367.909
A012	A013	750.153	-54.18	748.117
A012	A014	1191.619	-74.23	1189.185
A012	A015	2219.385	-136.61	2214.964
A012	A017	2749.638	-126.66	2746.454
A012	A019	2186.188	-42.40	2185.553
A012	A020	2285.715	-5.55	2285.466
A012	A021	2511.892	33.17	2511.400
A019	A013	1798.021	-11.90	1797.804
A019	A018	616.496	-28.96	615.755
A019	A020	1825.280	36.74	1824.722
A019	A021	2307.857	75.39	2306.380
A019	A023	1397.365	61.73	1395.868
A019	A024B	1037.387	7.95	1037.252
A019	A025	1647.058	-76.13	1645.143
A019	A026	2557.266	0.80	2557.010
A019	A027	2202.321	-104.62	2199.630
A030	A012	4910.796	137.62	4908.397

A030	A019	3156.959	94.28	3155.228
A030	A024B	2291.506	103.38	2288.964
A030	A028	1694.648	-15.26	1694.414
A030	A031	1091.134	-28.86	1090.662
A030	A037	2576.064	-43.89	2575.482
A030	A040	3796.087	-54.62	3795.389
A030	A042	4898.616	-53.91	4897.924
A030	NE77007	3585.775	-29.44	3585.357
A030	NE77008	3145.721	-52.47	3145.029
A035	A024B	4071.133	136.89	4068.463
A035	A037	2166.003	-10.12	2165.808
A035	A040	2965.629	-20.88	2965.324
A035	NE77006	3529.488	-62.68	3528.667
A037	A024B	3294.152	146.96	3290.574
A037	A025	3370.322	62.95	3369.455
A037	A026	3666.301	139.78	3663.308
A037	A027	2834.380	34.33	2833.942
A037	A028	2123.047	29.04	2122.678
A037	A040	1235.127	-10.83	1234.984
A042	A035	2905.725	20.36	2905.427
A042	A037	3536.774	10.05	3536.486
A042	A040	3187.159	-0.72	3186.903
A042	NE77005	7658.538	-83.62	7657.545
A042	NE77006	3336.110	-42.43	3335.596
A042	NE77009	6091.128	-37.69	6090.563
NE77007	A011	2362.416	26.56	2362.073
NE77007	A012	4773.721	167.25	4770.346
NE77007	A024B	4500.706	132.86	4498.337
NE77007	NE77012	3739.377	33.50	3738.920
NE77008	A024B	5372.252	155.79	5369.516
NE77008	A035	2714.614	18.93	2714.336
NE77008	NE77006	2957.626	-43.85	2956.721
NE77011	NE77005	6252.330	-158.47	6249.844
NE77011	NE77009	7526.474	-112.62	7525.031
NE77011	NE77013	3033.901	-24.07	3033.545
NE77012	A001	2139.726	-3.56	2139.091
NE77012	A003	2742.752	47.93	2742.096
NE77012	A009	3951.410	30.80	3950.943
NE77012	A011	2028.421	-6.82	2028.238

NE77012	A012	5238.186	134.12	5235.969
NE77012	NE80048	4608.116	-9.31	4607.716
NE77012	NE80049	2313.983	26.14	2313.632
NE77013	A042	4905.400	-51.21	4904.738
NE77013	NE77005	5602.514	-134.82	5600.479
NE77013	NE77006	5842.181	-93.59	5840.980
NE77013	NE77009	5831.610	-88.96	5830.480
NE79077	A001	2063.502	-15.75	2063.264
NE79077	A002	1249.317	31.86	1248.798
NE79077	A003	1205.544	35.26	1204.919
NE79077	A005	1671.031	5.03	1670.877
NE79077	A006	2678.364		2675.279
NE79077	A012	4201.616	121.82	4199.443
NE79077	NE79078	1819.671		1818.403
NE79077	NE80049	4352.330	13.98	4351.922
NE79077	NE80050	2216.006	63.16	2214.901
NE79077	NE80051	2048.865	-5.60	2048.679
NE80052	A001	3616.720	26.91	3616.321
NE80052	NE79077	3247.510	42.34	3246.957
NE80052	NE79078	1490.352	-21.16	1490.084
NE80052	NE80048	2333.886	20.98	2333.599
NE80052	NE80049	4762.882	56.63	4762.140
NE80052	NE80050	2860.834	105.75	2858.624
NE80052	NE80051	2134.746	37.00	2134.247

TABLE I:4

Measured distanced in the Krafla-Gjástykki area, September 27 - October 1, 1984

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.765	6.54	1851.403
A005	A003	1567.283	30.03	1566.849
A005	A004	929.568	-13.23	929.394
A005	A006	1273.478	118.04	1267.880
A005	A007	1927.295	165.13	1920.030
A005	A008	1659.852	18.08	1659.607
A005	A009	1564.156	13.72	1563.958
A005	A012	2543.797	116.94	2540.869
A005	A013	2934.935	62.90	2933.995

A005	NE79077	1670.763	-5.18	1670.609
A012	A003	3711.456	-86.99	3710.078
A012	A006	2162.671		2162.440
A012	A007	1429.164	48.27	1428.194
A012	A008	906.517	-99.40	901.018
A012	A009	1371.922	-103.24	1367.897
A012	A013	750.072	-54.21	748.036
A012	A014	1191.567	-74.32	1189.133
A012	A015	2219.297	-136.96	2214.876
A012	NE77012	5238.688		5236.471
NE79077	A001	2063.506	-15.68	2063.268
NE79077	A002	1249.351	31.84	1248.832
NE79077	A006	2678.235	123.24	2675.165
NE79077	A012	4201.527	122.16	4199.354

TABLE I:5

Measured distances in the Krafla-Gjástykkki area, March 7 - 17, 1985

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.885	26.62	1851.523
A005	A003	1567.362	30.02	1566.928
A005	A004	929.623	-13.24	929.449
A005	A006	1273.502	117.94	1267.904
A005	A007	1927.299	164.96	1920.034
A005	A008	1659.832	17.92	1659.587
A005	A009	1564.182	13.60	1563.984
A005	A012	2543.799	116.81	2540.871
A005	A013	2934.922	62.69	2933.982
A005	NE79077	1670.908	-5.21	1670.754
A013	A006	2807.220	55.27	2806.387
A013	A007	2158.084	102.35	2155.427
A013	A009	1472.550	-48.96	1471.594
A013	A012	750.102	54.16	748.066
A013	A014	443.610	-20.20	443.114
A013	A017	2031.179	-72.00	2029.698
A013	A018	1678.755	-16.70	1678.506
A013	A019	1798.078	12.07	1797.861
A013	A023	2632.578	-49.23	2631.858

A013	A024B	2691.901	20.08	2691.560
A019	A014	1740.454	-32.07	1739.992
A019	A018	616.468	-28.88	615.727
A019	A023	1397.319	-61.66	1395.822
A019	A024B	1037.431	7.93	1037.296
NE77012	A001	2139.317	-3.64	2139.132
NE77012	A002	2585.842	43.84	2585.236
NE77012	A009	3952.103	30.49	3951.636
NE77012	A012	5238.816	133.99	5236.599
NE77012	NE80048	4607.982	-9.52	4607.582
NE77012	NE80049	2313.855	26.18	2313.504
NE79077	A001	2063.643	-15.70	2063.405
NE79077	A002	1249.441	31.88	1248.922
NE79077	A003	1205.373	35.26	1204.748
NE79077	A006	2678.356	123.14	2675.271
NE79077	A012	4201.659	121.88	4199.486
NE79077	NE79078	1819.564	-63.80	1818.296
NE79077	NE80049	4352.474	14.32	4352.066
NE79077	NE80050	2215.917	63.26	2214.812
NE79077	NE80051	2048.749	-5.66	2048.563
NE79077	NE80052	3247.413	-42.54	3246.860
NE80052	A001	3616.662	26.868	3616.262
NE80052	NE80048	2333.841	20.972	2333.554
NE80052	NE80049	4762.842	56.739	4762.098
NE80052	NE80050	2860.797	105.750	2858.587
NE80052	NE80051	2134.729	37.000	2134.230

TABLE I:6

Measured distances in the Krafla-Gjástykkí area, April 14 - 20, 1985

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A019	A012	2186.251	42.31	2185.618
A019	A020	1825.176	36.60	1824.622
A019	A021	2307.729	75.44	2306.252
A035	A024B	4071.488	136.98	4068.814
A035	A028	3064.162	19.03	3063.854

A035	A037	2166.841	-10.05	2166.647
A035	A040	2965.827	-21.00	2965.521
A035	A042	2905.751	-20.31	2905.453
A035	NE77006	3529.514	-62.76	3528.692
A035	NE77008	2714.720	-18.92	2714.442
A037	A024B	3294.227	147.08	3290.648
A037	A026	3666.064	139.85	3663.068
A037	A042	3537.140	-10.30	3536.852
A040	A024B	4381.894	158.04	4378.655
A040	A026	4216.824	150.88	4213.753
A040	A037	1234.777	10.90	1234.633
A040	A042	3187.233	0.76	3186.989
NE77005	A042	7658.805	84.26	7657.812
NE77005	NE77009	2470.697	45.79	2470.107
NE77005	NE77011	6252.389	159.60	6249.878
NE77005	NE77013	5602.574	135.08	5600.530
NE77006	NE77008	2957.215	43.82	2956.673
NE77013	A035	7659.295	-31.55	7658.602
NE77013	A042	4905.446	-51.44	4904.781
NE77013	NE77006	5842.202	-93.96	5840.995
NE77013	NE77009	5831.666	-89.24	5830.530
NE77013	NE77011	3033.932	24.39	3033.571
NE79077	A001	2063.636	-15.77	2063.399
NE79077	A002	1249.435	31.74	1248.917
NE79077	A005	1670.907	5.16	1670.752
NE79077	A012	4201.657	121.78	4199.479

TABLE I:7

Measured distances in the Krafla-Gjástykkí area, March 6 - 17, 1986

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.855	26.61	1851.497
A005	A003	1567.348	30.09	1566.918
A005	A004	929.604	-13.21	929.429
A005	A006	1273.491	118.05	1267.888

A005	A007	1927.288	165.02	1920.016
A005	A008	1659.825	17.90	1659.580
A005	A009	1564.168	13.60	1563.969
A005	A012	2543.811	116.80	2540.880
A005	A013	2934.921	62.75	2933.977
A005	NE79077	1670.898	-5.20	1670.743
A013	A004	3267.763	-75.93	3266.580
A013	A006	2807.195	55.25	2806.364
A013	A007	2158.062	102.28	2155.408
A013	A009	1472.516	-49.06	1471.559
A013	A012	750.070	54.09	748.041
A013	A014	443.598	-20.20	443.095
A013	A018	1678.718	-16.97	1678.470
A013	A019	1798.050	11.97	1797.833
A013	A021	2837.829	87.29	2836.188
A013	A023	2632.564	-49.82	2631.845
A013	A024B	2691.891	19.81	2691.550
A019	A012	2186.208	42.26	2185.575
A019	A018	616.444	-28.90	615.707
A019	A020	1825.160	36.51	1824.607
A019	A021	2307.719	75.45	2306.242
A019	A023	1397.311	-61.74	1395.814
A019	A024B	1037.408	7.92	1037.273
A019	A026	2557.162	0.76	2556.906
A019	A027	2202.309	-104.86	2199.610
A019	A030	3156.824	-95.27	3155.093
A025	A019	1647.026	76.16	1645.106
A025	A020	2159.253	112.77	2156.098
A025	A021	2531.983	151.68	2527.184
A025	A024B	1336.332	84.14	1333.552
A025	A026	1017.412	77.02	1014.399
A025	A028	1734.607	-33.90	1734.129
A025	A030	3344.097	-18.98	3343.753
A035	A024B	4071.454	137.18	4068.774
A035	A042	2905.725	-20.04	2905.429
A035	NE77006	3529.495	-62.62	3528.676
A035	NE77008	2714.702	-18.80	2714.424
A037	A024B	3294.215	147.26	3290.632
A037	A025	3370.194	63.28	3369.326
A037	A026	3666.045	139.94	3663.046
A037	A027	2834.176	34.37	2833.739

A037	A028	2123.085	29.13	2122.715
A037	A030	2576.101	43.70	2575.518
A037	A035	2166.805	10.09	2166.611
A037	A040	1234.776	-10.90	1234.633
A037	A042	3537.141	-10.24	3536.853
A040	A035	2965.780	20.96	2965.475
A040	A042	3187.223	0.69	3186.979
NE77006	A042	3336.146	42.52	3335.631
NE77006	NE77008	2957.197	43.46	2956.658
NE77011	NE77005	6252.398	-159.84	6249.896
NE77011	NE77009	7526.539	-113.59	7525.072
NE77011	NE77010	10176.056	-242.02	10172.487
NE77012	A001	2139.306	-3.69	2139.121
NE77012	A002	2585.837	43.95	2585.237
NE77012	A003	2743.218	47.19	2742.566
NE77012	A009	3952.075	30.81	3951.607
NE77012	A011	2028.341	-6.81	2028.157
NE77012	A012	5238.819	134.08	5236.602
NE77012	A013	4971.178	79.96	4970.079
NE77012	NE80048	4607.945	-9.39	4607.545
NE77012	NE80049	2313.824	26.07	2313.475
NE77013	A024B	11490.228	103.51	11488.669
NE77013	A042	4905.429	-51.16	4904.765
NE77013	NE77005	5602.567	-134.75	5600.532
NE77013	NE77006	5842.183	-94.02	5840.978
NE77013	NE77009	5831.652	-89.86	5830.507
NE77013	NE77010	10531.492	-216.76	10528.547
NE77013	NE77011	3033.903	24.45	3033.542
NE79077	A001	2063.617	-15.69	2063.379
NE79077	A002	1249.421	31.68	1248.906
NE79077	A003	1205.370	35.27	1204.747
NE79077	A006	2678.342	123.13	2675.249
NE79077	A012	4201.659	121.93	4199.481
NE79077	NE79078	1819.538	-63.78	1818.270
NE79077	NE80052	3247.390	-42.55	3246.838

TABLE I:8

Measured distances in the Krafla-Gjástykki area, February 28 - March 11, 1987

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.926	26.76	1851.567
A005	A003	1567.422	30.05	1566.992
A005	A004	929.631	-13.15	929.455
A005	A006	1273.492	117.96	1267.893
A005	A007	1927.270	164.85	1920.009
A005	A008	1659.821	17.84	1659.576
A005	A009	1564.192	13.51	1563.994
A005	A012	2543.789	116.71	2540.861
A005	A013	2934.908	62.61	2933.966
A005	NE79077	1671.010	-5.10	1670.855
A012	A001	5195.908	-137.39	5193.589
A012	A002	3992.437	-90.16	3991.024
A012	A003	3711.529	-86.80	3710.147
A012	A004	3068.372	-130.13	3065.321
A012	A006	2162.690	1.22	2162.459
A012	A007	1429.248	48.18	1428.280
A012	A008	906.484	-98.88	900.984
A012	A009	1371.886	-103.16	1367.866
A012	A013	750.074	-54.14	748.043
A012	A014	1191.555	-74.38	1189.115
A012	A015	2219.313	-136.75	2214.884
A012	A017	2749.549	-126.75	2746.361
A012	A018	2246.552	-71.12	2245.200
A012	A019	2186.195	-42.23	2185.561
A012	A020	2285.639	-5.59	2285.390
A012	A021	2511.790	33.13	2511.298
A012	A023	3251.431	-104.05	3249.448
A012	A024B	3182.757	-34.26	3182.243
A012	NE79077	4201.745	-121.88	4199.570
A019	A013	1798.036	-11.80	1797.819
A019	A014	1740.441	-32.06	1739.976
A019	A018	616.467	-28.86	615.730
A019	A020	1825.180	36.68	1824.624
A019	A021	2307.727	75.32	2306.253
A019	A023	1397.326	-61.66	1395.829
A019	A024B	1037.403	7.99	1037.268

A019	A025	1647.020	-76.14	1645.106
A019	A026	2557.159	0.78	2556.903
A019	A027	2202.300	-104.82	2199.605
A019	A030	3156.843	-95.22	3155.113
A025	A020	2159.258	112.77	2156.102
A025	A024B	1336.342	84.11	1333.563
A025	A026	1017.407	76.89	1014.399
A025	A028	1734.614	-33.85	1734.137
A025	A030	3344.114	-19.19	3343.770
A025	A037	3370.203	-62.98	3369.332
A033	A034	846.812	-11.27	846.668
A035	A024B	4071.429	137.09	4068.749
A035	A033	993.980	14.54	993.794
A035	A034	1020.163	3.29	1020.076
A035	A038	1249.714	-25.29	1249.361
A035	A042	2905.720	-20.22	2905.423
A037	A024B	3294.202	147.14	3290.613
A037	A026	3666.064	139.89	3663.061
A037	A027	2834.185	34.55	2833.746
A037	A028	2123.073	29.36	2122.700
A037	A030	2576.098	43.83	2575.513
A037	A035	2166.800	10.19	2166.606
A037	A038	1719.213	-15.12	1719.014
A037	A040	1234.779	-10.82	1234.635
A037	A042	3537.125	-9.90	3536.837
A040	A024B	4381.867	158.19	4378.621
A040	A026	4216.796	151.21	4213.721
A040	A027	3575.317	45.39	3574.743
A040	A035	2965.793	20.92	2965.487
A040	A038	2001.674	-4.30	2001.517
A040	A042	3187.233	0.83	3186.989
NE77005	NE77009	2470.684	45.77	2470.093
NE77005	NE77010	5204.664	-82.42	5203.715
NE77005	NE77011	6252.393	159.70	6249.885
NE77005	NE77013	5602.586	134.87	5600.545
NE77006	A024B	7455.908	200.56	7452.583
NE77006	A034	3441.963	66.25	3441.068
NE77006	A035	3529.506	63.03	3528.681
NE77006	A042	3336.158	42.61	3335.641

NE77008	A024B	5372.931	156.26	5370.180
NE77008	A030	3146.695	52.98	3145.996
NE77008	A034	1810.421	22.16	1810.142
NE77008	A035	2714.706	19.02	2714.427
NE77008	NE77006	2957.188	-43.72	2956.646
NE77011	NE77009	7526.532	-113.47	7525.076
NE77011	NE77010	10176.075	241.87	10172.491
NE77011	NE77013	3033.906	-24.34	3033.545
NE77012	A001	2139.371	-3.64	2139.186
NE77012	A002	2585.896	43.86	2585.293
NE77012	A003	2743.253	47.39	2742.600
NE77012	A009	3952.145	30.88	3951.677
NE77012	A011	2028.381	-6.64	2028.198
NE77012	A012	5238.859	134.07	5236.642
NE77012	NE80048	4608.053	-9.45	4607.653
NE77012	NE80049	2313.886	26.12	2313.536
NE77013	A040	7742.825	-51.96	7742.027
NE77013	A042	4905.434	-51.40	4904.772
NE77013	NE77006	5842.182	-93.62	5840.976
NE77013	NE77009	5831.664	-89.25	5830.530
NE79077	A001	2063.696	-15.71	2063.459
NE79077	A002	1249.477	31.82	1248.960
NE79077	A003	1205.462	35.24	1204.840
NE79077	NE79078	1819.589	-63.88	1818.318
NE79077	NE80050	2215.925	63.15	2214.821
NE79077	NE80051	2048.756	-5.78	2048.570
NE80052	A001	3616.687	26.86	3616.287
NE80052	NE79077	3247.434	42.63	3246.894
NE80052	NE79078	1490.318	-21.21	1490.049
NE80052	NE80048	2333.864	21.07	2333.577
NE80052	NE80049	4762.908	56.63	4762.166
NE80052	NE80050	2860.823	105.75	2858.613
NE80052	NE80051	2134.726	36.94	2134.229

TABLE I:9

Measured distances in the Krafla-Gjástykkki area, April 22 - 30, 1988

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.972	26.685	1851.613
A005	A003	1567.464	30.162	1567.032
A005	A004	929.649	-13.100	929.476
A005	A006	1273.503	117.883	1267.912
A005	A007	1927.278	164.827	1920.023
A005	A008	1659.835	17.933	1659.589
A005	A009	1564.211	13.575	1564.013
A005	A012	2543.802	116.638	2540.879
A005	A013	2934.916	62.682	2933.973
A012	A004	3068.384	-129.843	3065.341
A012	A006	2162.712	1.162	2162.482
A012	A007	1429.258	48.197	1428.287
A012	A008	906.481	-98.843	900.987
A012	A009	1371.893	-103.164	1367.874
A012	A014	1191.557	-74.321	1189.118
A012	A015	2219.324	-136.610	2214.903
A012	A017	2749.557	-126.548	2746.378
A012	A018	2246.558	-71.167	2245.204
A012	A019	2186.194	-42.299	2185.559
A012	A020	2285.641	-5.581	2285.391
A012	A021	2511.798	33.119	2511.306
A012	A023	3251.432	-104.003	3249.449
A012	A024B	3182.759	-34.395	3182.243
A013	A004	3267.750	-75.488	3266.577
A013	A006	2807.230	55.615	2806.391
A013	A007	2158.101	102.421	2155.441
A013	A009	1472.477	-48.963	1471.524
A013	A012	750.085	54.189	748.049
A013	A014	443.602	-20.197	443.099
A013	A018	1678.724	-16.908	1678.476
A013	A019	1798.039	11.958	1797.822
A013	A024B	2691.876	20.018	2691.534
A019	A018	616.457	-28.882	615.720
A019	A020	1825.193	36.685	1824.637
A019	A021	2307.763	75.402	2306.287

A019	A023	1397.326	-61.758	1395.828
A019	A024B	1037.406	7.959	1037.271
A019	A025	1647.013	-76.160	1645.096
A019	A026	2557.165	734	2556.910
A019	A027	2202.300	-104.755	2199.605
A025	A024B	1336.360	84.109	1333.584
A030	A019	3156.856	95.679	3155.114
A030	A024B	2291.332	103.361	2288.787
A030	A025	3344.134	19.506	3343.788
A030	A026	4207.110	96.280	4205.619
A030	A027	3242.803	-9.320	3242.515
A030	A028	1694.391	-14.660	1694.186
A030	A037	2576.077	-43.768	2575.495
A030	A040	3795.685	-54.702	3794.985
A035	A034	1020.161	3.223	1020.075
A035	A042	2905.729	-20.321	2905.431
A035	NE77006	3529.511	-62.748	3528.689
A037	A024B	3294.197	147.073	3290.617
A037	A025	3370.203	63.053	3369.333
A037	A026	3666.077	139.970	3663.078
A037	A027	2834.190	34.235	2833.754
A037	A028	2123.072	29.075	2122.702
A037	A035	2166.803	10.129	2166.608
A037	A038	1719.205	-15.290	1719.004
A037	A042	3537.124	-10.238	3536.836
A040	A019	5367.146	150.084	5364.574
A040	A026	4216.812	150.799	4213.743
A040	A027	3575.308	45.193	3574.737
A040	A028	3251.977	39.993	3251.473
A040	A035	2965.800	20.849	2965.496
A040	A037	1234.786	10.854	1234.642
A040	A038	2001.672	-4.346	2001.515
A040	A042	3187.240	.670	3186.996
NE77005	NE77009	2470.690	45.883	2470.098
NE77005	NE77010	5204.668	-82.444	5203.718
NE77006	A042	3336.179	42.599	3335.662
NE77008	A030	3146.694	53.387	3145.987
NE77008	A034	1810.426	22.202	1810.148

NE77008	A035	2714.716	19.208	2714.436
NE77008	A042	4773.190	-1.064	4772.825
NE77008	NE77006	2957.183	-43.614	2956.644
NE77011	NE77005	6252.408	-159.310	6249.903
NE77011	NE77009	7526.556	-113.862	7525.096
NE77011	NE77010	10176.093	-242.107	10172.504
NE77012	A001	2139.429	-3.584	2139.243
NE77012	A002	2585.939	43.955	2585.335
NE77012	A003	2743.288	47.407	2742.634
NE77012	A009	3952.216	30.747	3951.748
NE77012	A011	2028.408	-6.741	2028.224
NE77012	A012	5238.933	133.850	5236.720
NE77012	A013	4971.286	79.663	4970.192
NE77012	NE80048	4608.128	-9.353	4607.728
NE77012	NE80049	2313.923	26.236	2313.572
NE77012	NE87001	3724.600	-28.456	3724.181
NE77013	A042	4905.439	-51.309	4904.776
NE77013	NE77005	5602.583	-135.018	5600.541
NE77013	NE77006	5842.190	-93.973	5840.983
NE77013	NE77009	5831.676	-89.410	5830.538
NE77013	NE77011	3033.919	24.336	3033.559
NE79077	A001	2063.737	-15.623	2063.500
NE79077	A002	1249.507	31.768	1248.991
NE79077	A003	1205.517	35.245	1204.893
NE79077	A005	1671.087	5.148	1670.933
NE79077	A006	2678.506	122.975	2675.422
NE79077	A012	4201.825	121.704	4199.655
NE79077	NE79078	1819.629	-64.034	1818.353
NE79077	NE80049	4352.562	14.114	4352.154
NE79077	NE80050	2215.939	63.074	2214.837
NE79077	NE80051	2048.774	-5.809	2048.588
NE79077	NE80052	3247.435	-42.682	3246.882
NE80052	A001	3616.727	27.105	3616.326
NE80052	NE79078	1490.307	-21.184	1490.039
NE80052	NE80048	2333.880	21.076	2333.593
NE80052	NE80049	4762.967	57.209	4762.217
NE80052	NE80050	2860.852	105.566	2858.649
NE80052	NE80051	2134.733	36.976	2134.235
NE87001	A011	2508.626	22.291	2508.320
NE87001	A012	5074.681	163.073	5071.584

NE87001	A019	4897.929	120.739	4895.997
NE87001	A024B	4802.667	128.699	4800.505
NE87001	A030	3799.122	25.489	3798.721

TABLE I:10

Measured distances in the Krafla-Gjástykkki area, March 1 - 17, 1989

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1852.028	26.683	1851.669
A005	A003	1567.502	30.177	1567.069
A005	A004	929.669	-13.098	929.495
A005	A006	1273.491	117.892	1267.898
A005	A007	1927.264	164.832	1920.009
A005	A008	1659.832	17.904	1659.586
A005	A009	1564.221	13.591	1564.023
A005	A012	2543.785	116.745	2540.857
A005	A013	2934.909	62.574	2933.969
A005	NE79077	1671.172	-4.955	1671.018
A012	A002	3992.514	-89.828	3991.106
A012	A003	3711.587	-86.533	3710.209
A012	A004	3068.377	-129.788	3065.335
A012	A006	2162.724	1.264	2162.493
A012	A007	1429.272	48.214	1428.301
A012	A008	906.471	-98.821	900.979
A012	A009	1371.877	-103.054	1367.866
A012	A013	750.078	-54.133	748.046
A012	A014	1191.569	-74.355	1189.127
A012	A015	2219.334	-136.755	2214.904
A012	A017	2749.568	-126.652	2746.384
A012	A018	2246.557	-71.260	2245.200
A012	A019	2186.189	-42.370	2185.553
A012	A020	2285.646	-5.618	2285.397
A012	A021	2511.803	33.211	2511.309
A012	A023	3251.431	-104.022	3249.447
A012	A024B	3182.753	-34.381	3182.237
A012	NE87001	5074.702	-162.983	5071.608
A019	A013	1798.032	-11.733	1797.816
A019	A014	1740.436	-31.923	1739.974
A019	A015	1962.736	-94.128	1960.296

A019	A018	616.466	-28.914	615.728
A019	A020	1825.219	36.722	1824.662
A019	A021	2307.789	75.392	2306.313
A019	A023	1397.333	-61.657	1395.839
A019	A024B	1037.408	8.125	1037.272
A019	A025	1647.020	-76.113	1645.106
A019	A026	2557.166	.854	2556.910
A019	A027	2202.306	-104.824	2199.609
A019	A030	3156.852	-95.152	3155.126
A019	A035	5053.974	-128.595	5051.884
A019	NE77008	6087.407	-147.443	6085.084
A019	NE87001	4897.948	-120.459	4896.023
A030	A012	4910.770	137.985	4908.361
A030	A024B	2291.355	103.460	2288.805
A030	A025	3344.152	19.399	3343.807
A030	A026	4207.123	96.299	4205.632
A030	A027	3242.819	-9.323	3242.533
A030	A028	1694.397	-14.613	1694.192
A030	A037	2576.078	-43.545	2575.500
A030	A038	2982.467	-58.928	2981.645
A030	A040	3795.685	-54.565	3794.987
A030	NE77008	3146.704	-51.883	3146.022
A030	NE87001	3799.134	-24.870	3798.737
A035	A033	993.988	14.556	993.801
A035	A034	1020.160	3.465	1020.073
A035	A042	2905.712	-20.136	2905.416
A035	NE77006	3529.529	-62.770	3528.707
A035	NE77008	2714.720	-18.604	2714.443
A037	A019	4315.227	139.667	4312.582
A037	A024B	3294.184	147.397	3290.590
A037	A026	3666.075	140.130	3663.070
A037	A028	2123.064	29.229	2122.692
A037	A035	2166.797	10.177	2166.602
A037	A038	1719.196	-15.226	1718.996
A037	A042	3537.114	-10.040	3536.826
A040	A019	5367.127	150.468	5364.545
A040	A024B	4381.838	158.622	4378.578
A040	A028	3251.964	40.749	3251.450
A040	A035	2965.799	21.124	2965.492
A040	A037	1234.784	10.972	1234.640
A040	A038	2001.671	-4.312	2001.514
A040	A042	3187.225	.774	3186.981

NE77006	A042	3336.180	42.513	3335.665
NE77008	A033	2582.707	33.440	2582.285
NE77008	A034	1810.444	22.083	1810.167
NE77008	A042	4773.208	-1.297	4772.841
NE77008	NE77006	2957.192	-43.627	2956.654
NE77012	A001	2139.485	-3.518	2139.300
NE77012	A002	2585.987	43.914	2585.384
NE77012	A003	2743.327	47.431	2742.672
NE77012	A009	3952.283	30.862	3951.815
NE77012	A011	2028.436	-6.741	2028.252
NE77012	A012	5238.997	134.237	5236.774
NE77012	NE80048	4608.204	-9.520	4607.803
NE77012	NE80049	2313.965	26.196	2313.614
NE77012	NE87001	3724.602	-29.088	3724.178
NE79077	A001	2063.795	-16.304	2063.553
NE79077	A002	1249.549	31.676	1249.035
NE79077	A003	1205.595	35.284	1204.970
NE79077	A006	2678.591	122.885	2675.511
NE79077	A012	4201.923	121.634	4199.755
NE79077	NE79078	1819.657	-63.972	1818.382
NE79077	NE80050	2215.956	63.266	2214.848
NE79077	NE80051	2048.792	-5.787	2048.605
NE80052	A001	3616.766	27.125	3616.364
NE80052	NE79077	3247.453	42.849	3246.978
NE80052	NE79078	1490.293	-21.178	1490.024
NE80052	NE80048	2333.912	21.029	2333.625
NE80052	NE80049	4763.021	56.945	4762.274
NE80052	NE80050	2860.896	105.748	2858.686
NE80052	NE80051	2134.745	37.017	2134.245

TABLE I:11

Measured distances in the Krafla-Gjástykkki area, March 9 - 23, 1990

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.976	26.663	1851.616
A005	A003	1567.457	30.047	1567.027
A005	A004	929.649	-13.170	929.474

A005	A006	1273.501	117.858	1267.912
A005	A007	1927.279	164.814	1920.025
A005	A008	1659.834	17.855	1659.589
A005	A009	1564.211	13.503	1564.014
A005	A012	2543.797	116.712	2540.870
A005	A013	2934.919	62.545	2933.979
A005	NE79077	1671.123	-5.110	1670.969
A012	A002	3992.482	-90.136	3991.068
A012	A003	3711.563	-86.685	3710.180
A012	A004	3068.367	-130.039	3065.315
A012	A006	2162.716	1.199	2162.485
A012	A007	1429.266	48.132	1428.297
A012	A008	906.488	-98.844	900.994
A012	A009	1371.890	-103.185	1367.870
A012	A013	750.077	-54.145	748.044
A012	A014	1191.570	-74.346	1189.129
A012	A017	2749.561	-126.562	2746.382
A012	A018	2246.553	-71.214	2245.197
A012	A020	2285.647	-5.662	2285.398
A012	A021	2511.810	33.041	2511.318
A012	A023	3251.431	-104.174	3249.443
A012	A024B	3182.746	-34.539	3182.229
A012	NE87001	5074.690	-162.770	5071.603
A019	A012	2186.198	42.328	2185.563
A019	A013	1798.033	-11.807	1797.817
A019	A014	1740.435	-32.048	1739.970
A019	A015	1962.725	-94.274	1960.278
A019	A018	616.452	-28.853	615.717
A019	A020	1825.211	36.767	1824.653
A019	A021	2307.773	75.395	2306.297
A019	A023	1397.329	-61.680	1395.835
A019	A024B	1037.405	7.946	1037.270
A019	A025	1647.019	-76.100	1645.106
A019	A026	2557.163	.692	2556.907
A019	A027	2202.291	-104.702	2199.599
A019	NE87001	4897.926	-120.280	4896.006
A025	A020	2159.264	112.901	2156.101
A025	A024B	1336.357	84.108	1333.581
A025	A026	1017.422	76.896	1014.416
A025	A028	1734.637	-33.875	1734.158
A025	A037	3370.197	-63.069	3369.327
A030	A012	4910.787	137.885	4908.381

A030	A019	3156.879	95.375	3155.147
A030	A024B	2291.343	103.428	2288.795
A030	A025	3344.166	19.318	3343.821
A030	A027	3242.821	-9.419	3242.534
A030	A028	1694.398	-14.580	1694.193
A030	A037	2576.071	-43.759	2575.489
A030	A038	2982.462	-59.057	2981.638
A030	A040	3795.680	-54.599	3794.982
A030	NE87001	3799.127	-25.266	3798.727
A035	A019	5053.979	129.226	5051.873
A035	A024B	4071.463	136.946	4068.792
A035	A028	3064.118	19.312	3063.809
A035	A033	993.996	14.523	993.809
A035	A034	1020.159	3.566	1020.071
A035	A037	2166.788	-9.984	2166.594
A035	A038	1249.721	-25.255	1249.369
A035	A040	2965.791	-20.831	2965.487
A035	A042	2905.711	-20.054	2905.415
A035	NE77006	3529.521	-62.472	3528.704
A035	NE77008	2714.719	-18.289	2714.445
A037	A019	4315.238	139.276	4312.606
A037	A024B	3294.189	147.206	3290.603
A037	A026	3666.082	139.903	3663.086
A037	A027	2834.190	34.431	2833.752
A037	A028	2123.065	29.209	2122.694
A037	A042	3537.110	-10.089	3536.823
A040	A024B	4381.844	158.052	4378.604
A040	A042	3187.223	.944	3186.979
NE77012	A001	2139.449	-3.549	2139.264
NE77012	A002	2585.962	43.858	2585.360
NE77012	A003	2743.303	47.389	2742.649
NE77012	A009	3952.230	30.849	3951.762
NE77012	A011	2028.419	-6.765	2028.236
NE77012	A012	5238.961	133.837	5236.748
NE77012	NE80048	4608.161	-9.773	4607.760
NE77012	NE80049	2313.940	26.216	2313.589
NE77012	NE87001	3724.615	-28.877	3724.193
NE79077	A001	2063.754	-15.677	2063.517
NE79077	A002	1249.523	31.766	1249.007
NE79077	A003	1205.555	35.269	1204.931
NE79077	A006	2678.540	122.958	2675.457

NE79077	A012	4201.866	121.764	4199.694
NE79077	NE79078	1819.631	-63.885	1818.360
NE79077	NE80050	2215.938	63.053	2214.836
NE79077	NE80051	2048.770	-5.778	2048.584
NE80052	A001	3616.744	26.959	3616.344
NE80052	NE79077	3247.436	42.839	3246.880
NE80052	NE79078	1490.303	-21.192	1490.035
NE80052	NE80048	2333.898	21.009	2333.612
NE80052	NE80049	4762.993	56.644	4762.251
NE80052	BE80050	2860.871	105.746	2858.662
NE80052	NE80051	2134.742	36.930	2134.244

TABLE I:12

Measured distances in the Krafla-Gjástykkki area, March 4 - 7, 1991

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.958	26.623	1851.600
A005	A003	1567.438	30.136	1567.006
A005	A004	929.640	-13.155	929.465
A005	NE79077	1671.099	-5.110	1670.944
NE79077	A002	1249.518	31.757	1249.002

TABLE I:13

Measured distances in the Krafla Gjástykkki area, March 23 - 30, 1992

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.945	26.650	1851.586
A005	A003	1567.432	30.121	1567.001
A005	A004	929.638	-13.113	929.464
A005	A006	1273.505	117.927	1267.910
A005	A007	1927.284	164.986	1920.015
A005	A008	1659.831	17.824	1659.587
A005	A009	1564.206	13.603	1564.007
A005	A012	2543.802	116.677	2540.877

A005	A013	2934.919	62.612	2933.978
A005	NE79077	1671.089	-5.089	1670.935
A012	A002	3992.466	-90.061	3991.053
A012	A003	3711.560	-86.533	3710.181
A012	A004	3068.380	-130.006	3065.329
A012	A006	2162.717	1.106	2162.486
A012	A007	1429.269	48.207	1428.298
A012	A008	906.483	-98.881	900.985
A012	A009	1371.894	-103.132	1367.877
A012	A013	750.068	-54.181	748.032
A012	A014	1191.562	-74.337	1189.121
A012	A015	2219.313	-136.698	2214.887
A012	A017	2749.552	-126.616	2746.370
A012	A018	2246.555	-71.189	2245.200
A012	A019	2186.192	-42.322	2185.557
A012	A020	2285.649	-5.673	2285.400
A012	A021	2511.816	33.189	2511.323
A012	A023	3251.428	-104.078	3249.442
A012	A024B	3182.748	-34.285	3182.233
A019	A013	1798.032	-11.907	1797.815
A019	A014	1740.438	-32.113	1739.972
A019	A015	1962.713	-94.428	1960.259
A019	A018	616.458	-28.904	615.720
A019	A020	1825.206	36.669	1824.650
A019	A021	2307.773	75.424	2306.296
A019	A023	1397.350	-61.675	1395.856
A019	A024B	1037.403	7.983	1037.268
A019	A025	1647.018	-76.191	1645.100
A019	A026	2557.167	.708	2556.911
A019	A027	2202.293	-104.833	2199.595
A019	A037	4315.216	-139.636	4312.573
A019	A040	5367.117	-150.051	5364.546
NE79077	A001	2063.734	-15.671	2063.497
NE79077	A002	1249.506	31.818	1248.989
NE79077	A003	1205.530	35.307	1204.904
NE79077	A006	2678.504	123.031	2675.417
NE79077	A012	4201.829	121.841	4199.655

TABLE I:14

Measured distances in the Krafla-Gjástykkki area, March 5 - 19, 1993

STATIONS		SLOPE DISTANCE M	ELEVATION DIFFERENCE M	SEA LEVEL DISTANCE M
A005	A002	1851.920	26.618	1851.562
A005	A003	1567.410	30.170	1566.978
A005	A004	929.638	-13.166	929.464
A005	A006	1273.494	117.902	1267.901
A005	A007	1927.280	164.906	1920.018
A005	A008	1659.827	17.813	1659.583
A005	A009	1564.199	13.571	1564.001
A005	A012	2543.804	116.549	2540.885
A005	A013	2934.920	62.621	2933.979
A005	NE79077	1671.066	-5.068	1670.912
A012	A002	3992.447	(-92.782)	3991.034
A012	A003	3711.534	(-86.723)	3710.155
A012	A004	3068.378	(-136.212)	3065.327
A012	A006	2162.710	(0.921)	2162.479
A012	A007	1429.263	48.150	1428.294
A012	A008	906.500	(-99.494)	901.002
A012	A009	1371.904	(-103.621)	1367.887
A012	A013	750.070	-54.149	748.036
A012	A014	1191.561	-74.354	1189.119
A012	A015	2219.301	-136.592	2214.881
A012	A017	2749.546	-126.528	2746.368
A012	A018	2246.552	-71.130	2245.199
A012	A020	2285.658	-5.605	2285.409
A012	A021	2511.837	33.105	2511.345
A012	A023	3251.429	-103.842	3249.451
A019	A012	2186.199	42.298	2185.564
A019	A020	1825.200	36.679	1824.644
A019	A021	2307.763	75.502	2306.284
A019	A024	1037.406	7.952	1037.271
A025	A019	1647.030	76.058	1645.118
A025	A020	2159.268	112.800	2156.111
A025	A021	2532.006	151.564	2527.213
A025	A024	1336.365	83.553	1333.624
A025	A026	1017.424	76.872	1014.421
A025	A028	1734.641	-33.905	1734.162

A030	A019	3156.858	95.588	3155.119
A030	A024	2291.330	103.413	2288.782
A030	A025	3344.143	19.335	3343.798
A030	A026	4207.122	96.246	4205.632
A030	A027	3242.804	-9.231	3242.518
A030	A028	1694.383	-14.543	1694.179
A030	A037	2576.053	-43.678	2575.473
A035	A024	4071.413	137.194	4068.733
A035	A025	4767.606	53.287	4766.908
A035	A028	3064.108	19.133	3063.800
A035	A033	993.993	14.488	993.807
A035	A034	1020.160	3.282	1020.073
A035	A037	2166.772	-10.063	2166.578
A035	A038	1249.713	-25.282	1249.360
A035	A040	2965.784	-20.953	2965.479
A035	A042	2905.713	-20.142	2905.416
A037	A024	3294.176	147.354	3290.584
A037	A025	3370.197	63.065	3369.327
A037	A026	3666.079	139.913	3663.082
A037	A027	2834.183	34.470	2833.745
A037	A028	2123.058	29.336	2122.685
A037	A038	1719.163	-15.093	1718.965
A037	A040	1234.786	-10.847	1234.643
A037	A042	3537.100	-9.818	3536.813
A040	A019	5367.110	150.589	5364.524
A040	A024	4381.828	158.305	4378.579
A040	A026	4216.785	151.990	4213.673
A040	A027	3575.279	45.330	3574.706
A040	A028	3251.957	40.281	3251.449
A040	A030	3795.664	54.884	3794.961
A040	A038	2001.645	-4.351	2001.488
A040	A042	3187.214	.867	3186.970
NE77005	NE77009	2470.679	45.844	2470.088
NE77005	NE77010	5204.632	-81.344	5203.699
NE77006	A034	3441.974	66.619	3441.071
NE77006	A035	3529.533	63.070	3528.706
NE77006	A042	3336.190	42.713	3335.672
NE77008	A019	6087.378	148.683	6085.024
NE77008	A024	5372.929	156.070	5370.184

NE77008	A030	3146.688	52.827	3145.990
NE77008	A033	2582.721	33.856	2582.294
NE77008	A034	1810.433	22.194	1810.155
NE77008	A035	2714.717	19.040	2714.438
NE77008	A042	4773.198	-0.993	4772.832
NE77008	NE77006	2957.183	-43.456	2956.647
NE77011	NE77005	6252.409	-159.429	6249.901
NE77011	NE77009	7526.558	-113.369	7525.105
NE77012	A001	2139.410	-3.665	2139.224
NE77012	A002	2585.933	43.731	2585.333
NE77012	A003	2743.282	47.186	2742.631
NE77012	A009	3952.171	30.810	3951.703
NE77012	A011	2028.393	-6.813	2028.209
NE77012	A012	5238.900	133.578	5236.694
NE77012	A013	4971.249	79.657	4970.154
NE77012	NE80048	4608.085	-9.499	4607.684
NE77012	NE80049	2313.902	26.127	2313.552
NE77012	NE87001	3724.604	-29.033	3724.181
NE77013	A042	4905.444	-51.358	4904.780
NE77013	NE77005	5602.575	-134.896	5600.536
NE77013	NE77006	5842.168	-93.793	5840.964
NE77013	NE77009	5831.685	-89.107	5830.552
NE77013	NE77010	10531.475	-216.398	10528.537
NE77013	NE77011	3033.910	24.390	3033.550
NE79077	A001	2063.718	-15.655	2063.481
NE79077	A002	1249.490	31.762	1248.974
NE79077	A003	1205.513	35.258	1204.889
NE79077	A006	2678.477	123.017	2675.391
NE79077	A012	4201.818	121.646	4199.649
NE79077	NE79078	1819.586	-63.787	1818.318
NE79077	NE80049	4352.561	14.225	4352.152
NE79077	NE80050	2215.897	63.162	2214.792
NE79077	NE80051	2048.726	-5.721	2048.540
NE80052	A001	3616.697	26.906	3616.297
NE80052	NE79077	3247.406	40.540	3246.880
NE80052	NE79078	1490.309	-21.204	1490.040
NE80052	NE80048	2333.868	22.989	2333.562
NE80052	NE80049	4762.949	56.574	4762.207
NE80052	NE80050	2860.832	105.700	2858.624
NE80052	NE80051	2134.723	37.056	2134.223

NE87001	A011	2508.644	22.312	2508.337
NE87001	A012	5074.664	162.712	5071.579
NE87001	A019	4897.923	120.565	4895.996
NE87001	A030	3799.124	25.405	3798.724
NE9301	NE79077	2153.938	106.181	2151.149
NE9301	NE80051	890.649	100.485	884.893
NE9301	NE80052	1318.271	63.561	1316.638

TABLES II

These tables present changes with time of measured distances between bench marks in the Krafla-Gjástykki network of stations. Each table refer to a observational campaign specified by the dates of observation. The table lists changes in observed distance since previous observation on each line measured in the specified campaign of distance measurements. It begins with the lines where the previous measurement was earliest, and generally ends with lines measured during the previous observational campaign.

TABLE II:1

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 3 - 11 March 1983. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
July 4 - 17, 1981	A012	A006	11.3
February 22, 1982	NE79077	A006	12.3
April 15 - 20, 1982	A005	A002	5.6
	A005	A004	7.6
	A005	A006	-0.4
	A005	A007	-0.6
	A005	A008	1.3
	A005	A009	5.1
	A005	NE79077	12.0
	A012	A005	-0.3
	A012	A009	-0.3
	NE77012	A001	-4.1
	NE77012	A012	6.7
	NE77012	NE80048	6.2
	NE77012	NE80049	0.1
	NE79077	A001	3.2
	NE79077	A002	7.5
	NE79077	A003	11.1
	NE79077	NE79078	3.9
	NE79077	NE80049	7.7
	NE79077	NE80050	0.9
	NE80052	A001	3.9
NE80052	NE79077	0.9	
NE80052	NE79078	5.9	
NE80052	NE80048	3.6	

	NE80052	NE80049	6.2
	NE80052	NE80050	4.1
	NE80052	NE80051	2.9
May 13 - 18, 1982	A012	A007	3.7
	A012	A008	0.0
	A012	A018	-5.0
	A012	A019	-4.1
	A012	A020	-1.8
	A012	A021	0.8
	A012	A024B	-3.3

TABLE II:2

Measured change in slope distance between stations in the Krafla-Gjástykkí area prior to measurements of 13 - 18 April 1983. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
March 10 - 18, 1978	A024B	A013	-3.1
April 16 - 19, 1978	A024B	A042	-21.6
	A024B	NE77006	165.7
August 4 -10, 1978	A024B	A028	2.7
Feb 20 - Mar 3, 1979	A030	A040	126.9
May 19 - 28, 1979	NE77005	NE77009	-1.1
	NE77005	NE77010	7.3
	NE77013	NE77006	2.1
March 13 - 16, 1980	NE77013	A042	-49.1
April 11 - 20, 1980	A012	A023	-23.5
	A030	A027	154.5
	A030	A037	80.8
	A030	A042	4.9
September 19 - 26, 1980	A030	A028	141.9
	A030	A031	27.0
	A035	A028	92.9
April 1 - 24, 1981	A019	A018	-0.1

	A019	A020	-3.3
	A019	A021	-1.8
	A019	A025	-5.2
	A019	A026	7.0
	A019	A027	-7.5
	A024B	A017	32.1
	A024B	A018	-6.7
	A024B	A019	6.9
	A024B	A020	5.5
	A024B	A021	3.7
	A024B	A023	4.9
	A024B	A025	-8.7
	A024B	A027	-14.4
	A024B	A030	63.8
	A024B	A031	69.0
	A024B	A035	15.5
	A024B	NE77007	83.0
	A024B	NE77008	58.1
	A030	NE77008	-15.5
	A035	A042	2.6
	A035	NE77006	8.1
	A035	NE77008	15.9
	A042	A037	-2.5
	A042	NE77006	12.6
	A042	NE77009	3.9
April 15 - 20, 1982	A012	A013	-0.1
	A012	NE77007	2.8
	NE77011	NE77005	0.4
	NE77011	NE77009	2.4
	NE77011	NE77010	2.0
	NE77011	NE77013	-0.3
	NE77012	A009	7.1
	NE77012	A011	1.3
	NE77012	NE77007	2.3
	NE77012	NE80049	7.7
	NE77013	NE77005	-0.9
	NE77013	NE77009	-1.6
May 13 - 18, 1982	A012	A014	1.1
	A012	A015	0.7
	A012	A017	2.5
	A024B	A037	-3.4
	A035	A037	-3.1
	A035	A040	-2.0
	A040	A024B	-2.8

A042	A037	-2.3
A042	A040	-2.2

TABLE II:3

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 13 - 28 March 1984. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
Feb 20 - Mar 3, 1979	A030	A012	167.3
March 13 - 16, 1980	NE77012	A003	221.9
April 11 - 20, 1980	A030	A019	135.0
April 1 - 24, 1981	A019	A023	8.3
	A030	NE77007	4.6
	NE77008	NE77006	-0.3
April 15 - 20, 1982	A005	A003	10.1
	A005	A013	4.4
	A012	A004	2.7
March 3 - 11, 1983	A005	A002	2.4
	A005	A004	-1.1
	A005	A006	3.0
	A005	A007	0.8
	A005	A008	2.7
	A005	A009	0.9
	A005	A012	0.0
	A012	A006	0.1
	A012	A007	0.9
	A012	A008	-1.1
	A012	A009	0.3
	A012	A019	2.6
	A012	A020	5.5
	A012	A021	5.3
	NE77012	A001	3.5
	NE77012	A012	3.5
	NE77012	NE80048	8.4
NE79077	A001	7.1	
NE79077	A002	4.0	
NE79077	A003	8.9	

	NE79077	A006	7.5
	NE79077	NE79078	1.3
	NE79077	NE80049	6.7
	NE79077	NE80050	3.2
	NE80052	A001	3.5
	NE80052	NE79077	3.3
	NE80052	NE79078	-10.1
	NE80052	NE80048	5.2
	NE80052	NE80049	8.6
	NE80052	NE80050	2.5
	NE80052	NE80051	1.6
April 13 - 28, 1983	A012	A013	4.0
	A012	A014	-1.7
	A012	A015	-1.6
	A012	A017	0.8
	A019	A018	-1.2
	A019	A020	3.7
	A019	A021	2.7
	A019	A024B	0.1
	A019	A025	0.0
	A019	A026	-18.0
	A019	A027	-0.4
	A030	A024B	-3.2
	A030	A028	-2.0
	A030	A031	-1.5
	A030	A037	1.2
	A030	A040	1.8
	A030	A042	-0.3
	A030	NE77008	1.2
	A035	A024B	-1.5
	A035	A037	2.0
	A035	A040	2.9
	A035	NE77006	5.8
	A037	A024B	0.8
	A037	A040	0.9
	A042	A035	-1.0
	A042	A037	0.2
	A042	A040	-1.5
	A042	NE77006	2.7
	A042	NE77009	-2.5
	NE77007	A012	1.8
	NE77007	A024B	-0.7
	NE77007	NE77012	-0.2
	NE77008	A024B	0.3
	NE77008	A035	5.6

NE77011	NE77005	-0.6
NE77011	NE77009	-2.0
NE77011	NE77013	0.4
NE77012	A009	5.3
NE77012	A011	1.5
NE77012	NE80049	-0.1
NE77013	A042	-1.8
NE77013	NE77005	-1.2
NE77013	NE77006	-3.5
NE77013	NE77009	-0.3

TABLE II:4

Measured change in slope distance between stations in the Krafla-Gjástykkí area prior to measurements of 27 September to 1 October 1984. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations	DL	
July 4 - 17, 1981	A012 A003	30.3	
March 13 - 28, 1984	A005 A002	12.3	
	A005 A003	9.1	
	A005 A004	-14.3	
	A005 A006	-3.9	
	A005 A007	7.9	
	A005 A008	7.2	
	A005 A009	-5.0	
	A005 A012	13.1	
	A005 A013	10.0	
	A005 NE79077	-26.8	
	A012 A006	2.3	
	A012 A007	-9.2	
	A012 A008	4.4	
	A012 A009	-1.2	
	A012 A013	-8.1	
	A012 A014	-5.2	
	A012 A015	-8.8	
	A012 NE77012	50.2	
	NE79077	A001	0.4
	NE79077	A002	3.4
NE79077	A006	-12.9	
NE79077	A012	-8.9	

TABLE II:5

Measured change in slope distance between stations in the Krafla Gjástykkí area prior to measurements of 7 - 17 March 1985. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
November 25 - 30, 1977	A013	A014	-0.7
March 13 - 28, 1984	A013	A019	5.7
	A019	A018	2.8
	A019	A023	-4.6
	A019	A024B	4.4
	NE77012	A001	4.1
	NE77012	A009	69.3
	NE77012	NE80048	-13.4
	NE77012	NE80049	-12.8
	NE79077	A003	-17.1
	NE79077	NE79078	-10.7
	NE79077	NE80049	14.4
	NE79077	NE80050	-8.9
	NE79077	NE80051	-11.6
	NE79077	NE80052	-9.7
	NE80052	A001	-5.8
	NE80052	NE80048	-4.5
	NE80052	NE80049	-4.0
	NE80052	NE80050	-3.7
	NE80052	NE80051	-1.7
	Sep 27 - Oct 1, 1984	A005	A002
A005		A003	7.9
A005		A004	5.5
A005		A006	2.4
A005		A007	0.4
A005		A008	-2.0
A005		A009	2.6
A005		A012	0.2
A005		A013	-1.3
A005		NE79077	14.5
A013		A012	3.0
NE77012		A012	12.8
NE79077		A001	13.7
NE79077		A002	9.0
NE79077		A006	12.1
NE79077		A012	13.2

TABLE II:6

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 14 - 20 April 1985. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
April 13 - 28, 1983	A035	A028	35.8
	A040	A024B	3.5
	A040	A026	14.0
	NE77005	NE77009	1.8
March 13 - 28, 1984	A019	A012	6.3
	A019	A020	-10.4
	A019	A021	-12.8
	A035	A024B	35.5
	A035	A037	83.8
	A035	A040	19.8
	A035	A042	2.6
	A035	NE77006	2.6
	A035	NE77008	10.6
	A037	A024B	7.5
	A037	A026	-23.7
	A037	A042	36.6
	A040	A037	-35.0
	A040	A042	7.4
	NE77005	A042	26.7
	NE77005	NE77011	5.9
	NE77005	NE77013	6.0
	NE77006	NE77008	-4.7
	NE77013	A042	4.6
	NE77013	NE77006	2.1
NE77013	NE77009	5.6	
NE77013	NE77011	3.1	
March 7 - 17, 1985	NE79077	A001	-0.7
	NE79077	A002	-0.6
	NE79077	A005	-0.1
	NE79077	A012	-0.2

TABLE II:7

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 6 - 17 March 1986. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
Feb 26 - Mar 3, 1977	A025	A020	12.7
	A025	A026	-12.7
April 11 - 20, 1980	A025	A030	123.9
April 15 - 20, 1982	NE77013	NE77010	1.4
April 13 - 28, 1983	NE77011	NE77010	1.6
March 13 - 28, 1984	A019	A026	-10.4
	A019	A027	-1.2
	A019	A030	-13.5
	A025	A019	-3.2
	A037	A025	-12.8
	A037	A027	-20.4
	A037	A028	3.8
	A037	A030	3.7
	NE77006	A042	3.6
	NE77011	NE77009	6.5
	NE77012	A003	46.6
	NE77012	A011	-8.0
March 7 - 17, 1985	A005	A002	-3.0
	A005	A003	-1.4
	A005	A004	-1.9
	A005	A006	-1.1
	A005	A007	-1.1
	A005	A008	-0.7
	A005	A009	-1.4
	A005	A012	1.2
	A005	A013	-0.1
	A005	NE79077	-1.0
	A013	A006	-2.5
	A013	A007	-2.2
	A013	A009	-3.4
	A013	A012	-3.2
	A013	A014	-1.2
A013	A018	-3.7	

A013	A019	-2.8	
A013	A023	-1.4	
A013	A024B	-1.0	
A019	A018	-2.4	
A019	A023	-0.8	
A019	A024B	-2.3	
NE77012	A001	-1.1	
NE77012	A002	-0.5	
NE77012	A009	-2.8	
NE77012	A012	0.3	
NE77012	NE80048	-3.7	
NE77012	NE80049	-3.1	
NE79077	A003	-0.3	
NE79077	A006	-1.4	
NE79077	NE79078	-2.6	
NE79077	NE80052	-2.3	
April 4 - 20, 1985	A005	NE79077	-0.9
	A019	A012	-4.3
	A019	A020	-1.6
	A019	A021	-1.0
	A035	A024B	-3.4
	A035	A042	-2.6
	A035	NE77006	-1.9
	A035	NE77008	-1.8
	A037	A024B	-1.2
	A037	A026	-1.9
	A037	A035	-3.6
	A037	A040	-0.1
	A037	A042	0.1
	A040	A035	-4.7
	A040	A042	-1.0
	NE77006	NE77008	-1.8
	NE77011	NE77005	0.9
	NE77013	A042	-1.7
	NE77013	NE77005	-0.7
	NE77013	NE77006	-1.9
	NE77013	NE77009	-1.4
	NE77013	NE77011	-2.9
	NE79077	A001	-1.9
	NE79077	A002	-1.4
	NE79077	A012	0.2

TABLE II:8

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 28 February to 11 March 1987. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations	DL
Feb 26 - Mar 3, 1977	A033 A034	-12.0
May 19 - 28, 1979	NE77005 NE77010	10.5
September 19 - 26, 1980	A035 A038	24.6
April 1 - 24, 1981	A035 A033	-51.0
	A035 A034	8.9
	NE77006 A034	10.7
	NE77008 A034	10.2
April 15 - 20, 1982	A012 A002	35.4
March 3 - 11, 1983	A012 A018	1.8
	A012 A024B	4.1
April 13 - 28, 1983	A012 A023	-1.3
	NE77006 A024B	44.7
March 13 - 28, 1984	A012 A004	7.4
	A012 A017	-8.9
	A012 A020	-7.6
	A012 A021	-10.2
	NE77008 A024B	67.9
	NE77008 A030	97.4
	NE80052 NE79078	-3.4
Sep 27 - Oct 1, 1984	A012 A003	7.3
	A012 A006	1.9
	A012 A007	8.4
	A012 A008	-3.3
	A012 A009	-3.6
	A012 A014	-1.2
	A012 A015	1.6
March 7 - 17, 1985	A019 A014	-1.3
	NE79077 NE80050	0.8
	NE79077 NE80051	0.7

	NE80052	A001	2.5
	NE80052	NE80048	2.3
	NE80052	NE80049	6.6
	NE80052	NE80050	2.6
	NE80052	NE80051	-0.3
April 14 - 20, 1985	A040	A024B	-2.7
	A040	A026	-2.8
	NE77005	NE77009	-1.3
March 6 - 17, 1986	A005	A002	7.1
	A005	A003	9.4
	A005	A004	2.7
	A005	A006	0.1
	A005	A007	-1.8
	A005	A008	-0.4
	A005	A009	2.4
	A005	A012	-2.2
	A005	A013	-1.3
	A005	NE79077	11.2
	A012	A013	0.4
	A012	A019	-1.3
	A012	NE79077	8.6
	A019	A013	-1.4
	A019	A018	2.3
	A019	A020	2.0
	A019	A021	0.8
	A019	A023	1.5
	A019	A024B	-0.5
	A019	A025	-0.6
	A019	A026	-0.3
	A019	A027	-0.9
	A019	A030	1.9
	A025	A020	0.5
	A025	A024B	1.0
	A025	A026	-0.5
	A025	A028	0.7
	A025	A030	1.7
	A025	A037	0.8
	A035	A024B	-2.5
	A035	A042	-0.5
	A037	A024B	-1.3
	A037	A026	1.9
	A037	A027	0.9
	A037	A028	-1.5
	A037	A030	-0.3

A037	A035	-0.5
A037	A040	0.3
A037	A042	-1.6
A040	A035	1.3
A040	A042	1.0
NE77005	NE77011	-0.5
NE77005	NE77013	1.9
NE77006	A035	1.1
NE77006	A042	1.2
NE77008	A035	0.4
NE77008	NE77006	-0.9
NE77011	NE77009	-0.7
NE77011	NE77010	1.9
NE77011	NE77013	0.3
NE77012	A001	6.5
NE77012	A002	5.9
NE77012	A003	3.5
NE77012	A009	7.0
NE77012	A011	4.0
NE77012	A012	4.0
NE77012	NE80048	10.8
NE77012	NE80049	6.2
NE77013	A042	0.5
NE77013	NE77006	-0.1
NE77013	NE77009	1.2
NE79077	A001	7.9
NE79077	A002	5.6
NE79077	A003	9.2
NE79077	NE79078	5.1
NE80052	NE79077	4.4

TABLE II:9

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 22 - 30 April 1988. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
April 11 - 20, 1980	A030	A025	127.6
	A030	A026	117.6
September 19 - 26, 1980	NE77008	A042	15.1
April 13 - 28, 1983	A030	A027	-34.6

	A040	A028	-6.0
March 13 - 28, 1984	A030	A024B	-17.4
	A030	A028	-25.7
	A030	A040	-40.2
March 7 - 17, 1985	NE79077	NE80049	8.8
March 4 - 18, 1986	A013	A004	-1.3
	A013	A006	3.5
	A013	A007	3.9
	A013	A009	-6.9
	A003	A014	0.3
	A013	A018	0.6
	A013	A024B	-1.5
	NE77012	A013	10.8
	NE79077	A006	16.4
Feb 28 - Mar 11, 1987	A005	A002	4.6
	A005	A003	4.2
	A005	A004	1.8
	A005	A006	1.1
	A005	A007	0.8
	A005	A008	1.4
	A005	A009	1.3
	A005	A012	1.3
	A005	A013	0.8
	A012	A004	1.2
	A012	A016	2.2
	A012	A007	1.0
	A012	A008	-0.3
	A012	A009	0.7
	A012	A014	0.2
	A012	A015	1.1
	A012	A017	0.8
	A012	A018	0.6
	A012	A019	-0.1
	A012	A020	0.2
	A012	A021	0.8
	A012	A023	0.1
	A012	A024B	0.2
	A013	A012	1.1
	A013	A019	0.3
	A019	A018	-1.0
	A019	A020	1.3
	A019	A021	3.6

A019	A023	0.0
A019	A024B	0.3
A019	A025	-0.3
A019	A026	0.6
A019	A027	0.0
A025	A024B	1.8
A030	A019	1.3
A030	A037	-2.1
A035	A034	-0.2
A035	A042	0.9
A035	NE77006	0.5
A037	A024B	-0.5
A037	A025	0.0
A037	A026	1.3
A037	A027	0.5
A037	A028	-0.1
A037	A035	0.3
A037	A038	-0.8
A037	A042	-0.1
A040	A026	1.6
A040	A027	-0.9
A040	A035	0.7
A040	A037	0.7
A040	A038	-0.2
A040	A042	0.7
NE77005	NE77009	0.6
NE77005	NE77010	0.4
NE77006	A042	2.1
NE77008	A030	-0.1
NE77008	A034	0.5
NE77008	A035	1.0
NE77008	NE77006	-0.5
NE77011	NE77005	1.5
NE77011	NE77009	2.4
NE77011	NE77010	1.8
NE77012	A001	5.8
NE77012	A002	4.3
NE77012	A003	3.5
NE77012	A009	7.1
NE77012	A011	2.7
NE77012	A012	7.4
NE77012	NE80048	7.5
NE77012	NE80049	3.7
NE77013	A042	0.5
NE77013	NE77005	-0.4
NE77013	NE77006	0.8

NE77013	NE77009	1.2
NE77013	NE77011	1.3
NE79077	A001	4.1
NE79077	A002	3.0
NE79077	A003	5.5
NE79077	A005	7.7
NE79077	A012	8.0
NE79077	NE79078	4.0
NE79077	NE80050	1.4
NE79077	NE80051	1.8
NE79077	NE80052	0.1
NE80052	A001	4.0
NE80052	NE79078	-1.1
NE80052	NE80048	1.6
NE80052	NE80049	5.9
NE80052	NE80050	2.9
NE80052	NE80051	0.7

TABLE II:10

Measured change in slope distance between stations in the Krafla-Gjástykkí area prior to measurements of 1 - 17 March 1989. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
April 13 - 28, 1983	A019	A035	27.0
March 13 - 28, 1984	A030	A012	-2.6
March 4 - 18, 1986	A019	NE77008	5.0
Feb 28 - Mar 11, 1987	A012	A002	7.7
	A012	A003	5.8
	A019	A014	-0.5
	A035	A033	0.8
	A040	A024B	-2.9
April 22 - 30, 1988	A005	A002	5.6
	A005	A003	3.8
	A005	A004	2.0
	A005	A006	-1.2
	A005	A007	-1.4
	A005	A008	-0.3
	A005	A009	1.0

A005	A012	-1.7
A005	A013	-0.7
A005	NE79077	8.5
A012	A004	-0.7
A012	A006	1.2
A012	A007	1.4
A012	A008	-1.0
A012	A009	-1.6
A012	A013	-0.7
A012	A014	1.2
A012	A015	1.0
A012	A017	1.1
A012	A018	-0.1
A012	A019	-0.5
A012	A020	0.5
A012	A021	0.5
A012	A023	-0.1
A012	A024B	-0.6
A012	NE87001	2.1
A019	A013	-0.7
A019	A018	0.9
A019	A020	2.6
A019	A021	2.6
A019	A023	0.7
A019	A024B	0.2
A019	A025	0.7
A019	A026	0.1
A019	A027	0.6
A019	A030	-0.4
A019	NE87001	1.9
A030	A024B	2.3
A030	A025	1.8
A030	A026	1.3
A030	A027	1.6
A030	A028	0.6
A030	A037	0.1
A030	A040	0.0
A030	NE77008	1.0
A030	NE87001	1.2
A035	A034	-0.1
A035	A042	-1.7
A035	NE77007	1.8
A035	NE77008	0.4
A037	A024B	-1.3
A037	A026	-0.2
A037	A028	-0.8

A037	A035	-0.6
A037	A038	-0.9
A037	A042	-1.0
A040	A019	-1.9
A040	A028	-1.3
A040	A035	-0.1
A040	A037	-0.2
A040	A038	-0.1
A040	A042	-1.5
NE77006	A042	0.1
NE77008	A034	1.8
NE77008	A042	1.8
NE77008	NE77006	0.9
NE77012	A001	5.6
NE77012	A002	4.8
NE77012	A003	3.9
NE77012	A009	6.7
NE77012	A011	2.8
NE77012	A012	6.4
NE77012	NE80048	7.6
NE77012	NE80049	4.2
NE77012	NE87001	0.2
NE79077	A001	5.8
NE79077	A002	4.2
NE79077	A003	7.8
NE79077	A006	8.5
NE79077	A012	9.8
NE79077	NE79078	-2.8
NE79077	NE80050	1.7
NE79077	NE80051	1.8
NE80052	A001	3.9
NE80052	NE79077	1.8
NE80052	NE79078	-1.4
NE80052	NE80048	3.2
NE80052	NE80049	5.4
NE80052	NE80050	4.4
NE80052	NE80051	1.2

TABLE II:11

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 9 - 23 March 1990. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
April 14 - 20, 1985	A035	A028	-4.4
Feb 28 - Mar 11, 1987	A025	A020	0.6
	A025	A026	1.5
	A025	A028	2.3
	A035	A024B	3.4
	A035	A038	0.7
April 22 - 30, 1988	A025	A024B	-0.3
	A025	A037	-0.6
	A037	A027	0.0
March 1 - 17, 1989	A005	A002	-5.2
	A005	A003	-4.5
	A005	A004	-2.0
	A005	A006	1.0
	A005	A007	1.5
	A005	A008	0.2
	A005	A009	-1.0
	A005	A012	1.2
	A005	A013	1.0
	A005	NE79077	-4.9
	A012	A002	-3.2
	A012	A003	-2.4
	A012	A004	-1.0
	A012	A006	-0.8
	A012	A007	-0.6
	A012	A008	1.7
	A012	A009	1.3
	A012	A013	-0.1
	A012	A014	0.1
	A012	A017	-0.7
	A012	A018	-0.4
	A012	A020	0.1
	A012	A021	0.7
	A012	A023	0.0
	A012	A024B	-0.7
	A012	NE87001	-1.2

A019	A012	0.9
A019	A013	0.1
A019	A014	-0.1
A019	A015	-1.1
A019	A018	-1.4
A019	A020	-0.8
A019	A021	-1.6
A019	A023	-0.4
A019	A024B	-0.3
A019	A025	-0.1
A019	A026	-0.3
A019	A027	-1.5
A019	NE87001	-2.2
A030	A012	1.7
A030	A019	2.7
A030	A024B	-1.2
A030	A025	1.4
A030	A027	0.2
A030	A028	0.1
A030	A037	-0.7
A030	A038	-0.5
A030	A040	-0.5
A030	NE87001	-0.7
A035	A019	0.5
A035	A033	0.8
A035	A034	-0.1
A035	A037	-0.9
A035	A040	-0.8
A035	A042	-0.1
A035	NE77006	-0.8
A035	NE77008	-0.1
A037	A019	1.1
A037	A024B	0.5
A037	A026	0.7
A037	A028	0.1
A037	A042	-0.4
A040	A024B	0.6
A040	A042	-0.2
NE77012	A001	-3.6
NE77012	A002	-2.5
NE77012	A003	-2.4
NE77012	A009	-5.3
NE77012	A011	-1.7
NE77012	A012	-3.6
NE77012	NE89948	-4.3
NE77012	NE89949	-2.5

NE77012	NE87001	1.3
NE79077	A001	-4.1
NE79077	A002	-2.6
NE79077	A003	-4.0
NE79077	A006	-5.1
NE79077	A012	-5.7
NE79077	NE79078	-2.6
NE79077	NE89950	-1.8
NE79077	NE80051	-2.2
NE80052	A001	-2.2
NE80052	NE79077	-1.7
NE80052	NE79078	1.0
NE80052	NE80048	-1.4
NE80052	NE80049	-2.8
NE80052	NE80050	-2.5
NE80052	NE80051	-0.3

TABLE II:12

Measured change in slope distance between stations in the Krafla-Gjástykkí area prior to measurements of 4 - 7 March 1991. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
March 9 - 23, 1990	A005	A002	-1.8
	A005	A003	-1.9
	A005	A004	-0.9
	A005	NE79077	-2.4
	NE79077	A002	-0.5

TABLE II:13

Measured change in slope distance between stations in the Krafla-Gjástykkí area prior to measurements of 23 - 30 March 1992. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations		DL
March 1 - 17, 1989	A012	A015	-2.1
	A019	A040	-1.0
March 9 - 23, 1990	A005	A006	0.4
	A005	A007	0.5

A005	A008	-0.3	
A005	A009	-0.5	
A005	A012	0.5	
A005	A013	0.0	
A012	A002	-1.6	
A012	A003	-0.3	
A012	A004	1.3	
A012	A006	0.1	
A012	A007	0.3	
A012	A008	-0.5	
A012	A009	0.4	
A012	A013	-0.9	
A012	A014	-0.8	
A012	A017	-0.9	
A012	A018	0.2	
A012	A019	-0.6	
A012	A020	0.2	
A012	A021	0.6	
A012	A023	-0.3	
A012	A024B	0.2	
A019	A013	-0.1	
A019	A014	0.3	
A019	A015	-1.2	
A019	A018	0.6	
A019	A020	-0.5	
A019	A021	0.0	
A019	A023	2.1	
A019	A024B	-0.2	
A019	A025	-0.1	
A019	A026	0.4	
A019	A027	0.2	
A019	A037	-2.2	
NE79077	A001	-2.0	
NE79077	A003	-2.5	
NE79077	A006	-3.6	
NE79077	A012	-3.7	
March 4 - 7, 1991	A005	A002	-1.3
	A005	A003	-0.6
	A005	A004	-0.2
	A005	NE79077	-1.0
	NE79077	A002	-1.2

TABLE II:14

Measured change in slope distance between stations in the Krafla-Gjástykki area prior to measurements of 4 - 19 March 1993. DL is the distance change in cm, positive if length has increased.

Date of previous obs.	Stations	DL
March 6 - 17, 1986	A025 A021	2.3
	NE77013 NE77010	-1.7
Feb 28 - Mar 11, 1987	NE77006 A034	1.1
	NE77008 A024	-0.2
April 22 - 30, 1988	A040 A026	-2.7
	A040 A027	-2.9
	NE77005 NE77009	-1.1
	NE77005 NE77010	-3.6
	NE77006 A042	1.1
	NE77011 NE77005	0.1
	NE77011 NE77009	0.2
	NE77012 A013	-3.7
	NE77013 A042	0.5
	NE77013 NE77005	-0.8
	NE77013 NE77006	-2.2
	NE77013 NE77009	0.9
	NE77013 NE77011	-0.9
	NE79077 NE80049	-0.1
	NE87001 A011	1.8
March 1 - 17, 1989	A030 A026	-0.1
	A037 A038	-3.3
	A037 A040	0.2
	A040 A019	-1.7
	A040 A028	-0.7
	A040 A038	-2.6
	NE77008 A019	-2.9
	NE77008 A030	-1.6
	NE77008 A033	1.4
	NE77008 A034	-0.8
	NE77008 A042	-1.0
	NE77008 NE77006	-0.9
	NE87001 A019	-2.5
	NE87001 A012	-3.8

March 9 - 23, 1990

A025	A020	0.4
A025	A024	0.8
A025	A026	0.2
A025	A027	0.4
A025	A030	-2.3
A030	A019	-2.1
A030	A024	-1.3
A030	A027	-1.7
A030	A028	-1.5
A030	A037	-1.8
A030	A040	-1.6
A030	NE87001	-0.3
A035	A024	-5.0
A035	A028	-1.0
A035	A033	-0.3
A035	A034	0.1
A035	A037	-1.6
A035	A038	-0.8
A035	A040	-0.7
A035	A042	0.2
A035	NE77006	1.2
A035	NE77008	-0.2
A037	A024	-1.3
A037	A025	0.0
A037	A026	-0.3
A037	A027	-0.7
A037	A028	-0.7
A037	A042	-1.0
A040	A024	-1.6
A040	A042	-0.9
NE77012	A001	-3.9
NE77012	A002	-2.9
NE77012	A003	-2.1
NE77012	A009	-5.9
NE77012	A011	-2.6
NE77012	A012	-6.1
NE77012	NE80048	-7.6
NE77012	NE80049	-3.8
NE77012	NE87001	-1.1
NE79077	NE79078	-4.5
NE79077	NE80050	-4.1
NE79077	NE80051	-4.4
NE80052	A001	-4.7
NE80052	NE79077	-3.0
NE80052	NE79078	0.6
NE80052	NE80048	-3.0

	NE80052	NE80049	-4.4
	NE80052	NE80050	-3.9
	NE80052	NE80051	-1.9
March 23 - 30, 1992	A005	A002	-2.5
	A005	A003	-2.2
	A005	A004	0.0
	A005	A006	-1.1
	A005	A007	-0.4
	A005	A008	-0.4
	A005	A009	-0.7
	A005	A012	0.2
	A005	A013	0.1
	A005	NE79077	-2.3
	A012	A002	-1.9
	A012	A003	-2.6
	A012	A004	-0.2
	A012	A006	-0.7
	A012	A007	-0.6
	A012	A008	1.7
	A012	A009	1.0
	A012	A013	0.2
	A012	A014	-0.1
	A012	A015	-1.2
	A012	A017	-0.6
	A012	A018	-0.3
	A012	A020	0.9
	A012	A021	2.1
	A012	A023	0.1
	A019	A012	0.7
	A019	A020	-0.6
	A019	A021	-1.0
	A019	A024	0.3
	A019	A025	1.2
	NE79077	A001	-1.6
	NE79077	A002	-1.6
	NE79077	A003	-1.7
	NE79077	A006	-2.7
	NE79077	A012	-1.1

TABLES III

Tables of slope distances and elevation differences of all measured station intervals in the Krafla-Gjástykkir network of geodimeter stations. Each table contains all measurements between the two stations which are identified in the station heading. The date of observation (first three columns) as given is an "average" date for each campaign of measurements.

The distances in the tables are the slope distances between the bench marks.

The height differences are calculated from measured distances and vertical angles, corrected for instrument heights. It may be in error by several centimeters as the light refraction during the measurement is not well known.

Each table is identified only by the stations. The first station named in the table heading has been used as geodimeter station at one time or another, beginning with the station of earliest construction. It is followed by tables giving distances from this station to any station if measurements between it and the first station has been made at one or more times.

The first group of tables present distances from the station A002 which was used as geodimeter station from 1977 to 1981 (Station A001 has never been used as geodimeter station). This group of tables contains 11 tables presenting distances from A002 to A001, A003, A005, A006, A010, A011, A012, NE77012, NE79077, NE80048, and NE80049. The second group of tables contains distances from the station A003, not including the distance to the station A002, which was presented in the first group of tables.

Date y m d	Distance meters	Height diff. meters	Date y m d	Distance meters	Height diff. meters
Stations A002 and A001			78 7 21	1849.772	-28.53
77 2 28	1265.776	-50.28	78 8 7	1849.876	-28.60
77 7 20	1266.079	-49.72	78 8 29	1849.948	-28.64
77 8 14	1266.122	-49.81	79 2 26	1850.038	-28.69
77 10 24	1266.532		79 8 4	1850.037	-28.59
78 3 14	1266.368	-48.95	79 8 24	1850.054	-28.63
78 6 26	1266.608	-49.18	79 10 6	1850.102	-28.61
78 7 21	1266.412	-49.07	80 3 14	1850.134	-28.73
78 8 7	1266.494	-49.12	80 3 17	1850.404	
78 8 29	1266.569	-49.17	80 4 16	1850.586	-27.78
79 2 26	1266.670	-49.12	80 9 22	1850.700	-27.78
79 8 4	1266.676	-49.15	81 2 8	1851.045	-27.23
79 8 24	1266.676	-49.13	81 4 12	1851.178	-27.22
79 10 6	1266.749		81 7 10	1851.226	-27.26
79 11 21	1266.766	-49.14	82 4 18	1851.562	-26.89
80 3 14	1266.793	-49.15	83 3 7	1851.618	-26.28
80 3 17	1266.987		84 3 20	1851.642	-26.87
80 4 16	1267.115	-48.27	84 9 29	1851.765	-26.54
81 2 8	1267.506	-47.74	85 3 12	1851.885	-26.62
Stations A002 and A003			86 3 11	1851.855	-26.61
77 2 28	292.895	1.92	87 3 5	1851.926	-26.76
77 7 20	292.840	2.17	88 4 26	1851.972	-26.68
77 8 14	292.857	2.16	89 3 9	1852.028	-26.68
77 10 24	292.898	2.40	90 3 16	1851.976	-26.66
78 3 14	292.883	2.46	91 3 5	1851.958	-26.62
78 6 24	292.888	2.51	92 3 26	1851.945	-26.65
78 7 21	292.823	2.48	93 3 11	1851.920	-26.62
78 8 7	292.839	2.48	Stations A002 and A006		
78 8 29	292.868	2.48	78 3 14	3111.025	89.89
79 2 26	292.894	2.50	78 7 21	3111.057	89.66
79 8 4	292.871	2.51	78 8 29	3111.252	89.62
79 8 24	292.882	2.52	79 8 4	3111.352	89.56
79 10 6	292.889		79 8 24	3111.355	89.51
79 11 21	292.896	2.55	79 11 21	3111.442	89.42
80 3 14	292.907	2.53	Stations A002 and A010		
80 3 17	292.896		78 6 26	2878.295	8.05
80 4 16	292.946	2.90	78 8 7	2878.191	8.37
Stations A002 and A005			80 4 16	2878.405	8.36
78 3 14	1849.800	-28.39			
78 6 26	1849.991	-28.76			

Stations A002 and A011

78	8	7	2842.324	-52.32
80	3	14	2842.545	-52.46
80	3	17	2842.816	
80	4	16	2842.930	-51.45

Stations A002 and A012

78	6	26	3990.828	87.97
78	7	21	3990.643	88.56
78	8	7	3990.752	88.28
78	8	29	3990.778	88.39
81	4	12	3991.769	89.50
81	7	10	3991.748	89.58
82	4	18	3992.083	
87	3	5	3992.437	90.16
89	3	9	3992.514	89.83
90	3	16	3992.482	90.14
92	3	23	3992.466	90.06
93	3	11	3992.447	(92.78)

Stations A002 and NE77012

85	3	12	2585.842	-43.84
86	3	11	2585.837	-43.95
87	3	5	2585.896	-43.86
88	4	26	2585.939	-43.96
89	3	9	2585.987	-43.91
90	3	16	2585.962	-43.86
93	3	11	2585.933	-43.73

Stations A002 and NE79077

79	8	4	1247.949	-33.55
79	8	24	1247.974	-33.49
79	10	6	1248.023	-33.52
79	11	21	1248.032	-33.53
80	3	17	1248.306	-32.76
80	4	16	1248.392	-32.75
80	9	22	1248.495	-32.71
80	10	21	1248.765	-32.21
81	2	8	1248.797	-32.15
81	4	12	1248.904	-32.19
81	7	10	1248.939	-32.13
82	2	22	1249.213	-31.97
82	4	18	1249.202	-31.94
83	3	7	1249.277	-31.96
84	3	20	1249.317	-31.86
84	9	29	1249.351	-31.84

85	3	12	1249.441	-31.88
85	4	17	1249.435	-31.74
86	3	11	1249.421	-31.68
87	3	5	1249.477	-31.82
88	4	26	1249.507	-31.77
89	3	9	1249.549	-31.68
90	3	16	1249.523	-31.77
91	3	5	1249.518	-31.76
92	3	26	1249.506	-31.82
93	3	11	1249.490	-31.76

Stations A002 and NE80048

81	2	8	4015.352	-52.83
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Stations A002 and NE80049

81	2	8	3519.692	-17.58
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Stations A003 and A004

77	2	28	681.575	-44.80
77	7	20	681.835	-44.65
77	8	14	681.853	-44.56
77	10	24	682.141	-44.28
78	3	14	682.021	-44.24
78	6	26	682.166	-44.37
78	8	7	682.093	-44.28
78	8	29	682.139	-44.29
79	8	4	682.153	-44.38
79	8	24	682.180	-44.37
79	11	21	682.198	-44.36

Stations A003 and A005

78	3	14	1565.894	-31.04
78	4	17	1566.020	
78	6	26	1566.116	-31.24
78	7	21	1565.947	
78	8	7	1566.023	-31.03
78	8	29	1566.063	-31.10
79	2	26	1566.175	-31.19
79	8	4	1566.161	-31.12
79	8	24	1566.198	-31.23
79	10	6	1566.234	
79	11	21	1566.241	-31.17
80	3	14	1566.266	-31.32
80	3	17	1566.568	-30.54
80	4	16	1566.668	-30.66
80	9	22	1566.776	-30.74

81	4	12	1567.069	-30.51
81	7	10	1567.138	-30.42
82	4	18	1567.273	-30.26
84	3	20	1567.374	-30.29
84	9	29	1567.283	-30.03
85	3	12	1567.362	-30.02
86	3	11	1567.348	-30.09
87	3	5	1567.422	-30.05
88	4	26	1567.464	-30.16
89	3	9	1567.502	-30.18
90	3	16	1567.457	-30.05
91	3	5	1567.438	-30.14
92	3	26	1567.432	-30.12
93	3	11	1567.410	-30.17

Stations A003 and A006

78	3	14	2831.316	87.36
78	7	21	2831.332	
78	8	29	2831.526	87.10
79	8	4	2831.622	87.07
79	8	24	2831.650	87.01
79	11	21	2831.686	86.92

Stations A003 and A007

78	3	14	3443.248	134.33
78	4	17	3443.377	
78	8	29	3443.422	134.10

Stations A003 and A008

78	3	14	2825.852	-12.88
78	8	29	2825.980	-13.14
79	8	4	2826.003	-13.35
79	8	24	2826.022	-13.36
79	11	21	2826.057	-13.45

Stations A003 and A009

78	3	14	2393.508	
78	8	29	2393.710	-17.66
79	8	4	2393.747	-17.72
79	8	24	2393.763	-17.76
79	11	21	2939.797	-17.84

Stations A003 and A010

78	3	14	2690.803	5.90
78	4	17	2690.880	
78	6	26	2690.939	5.51

78	8	7	2690.876	5.83
78	8	29	2690.906	5.56
79	8	4	2690.952	5.43
79	8	24	2690.971	5.33
79	11	21	2690.975	5.38

Stations A003 and A012

78	3	14	3710.329	86.22
78	6	26	3710.463	85.64
78	7	21	3710.360	86.10
78	8	7	3710.419	85.98
78	8	29	3710.445	85.80
79	8	4	3710.455	85.60
79	8	24	3710.458	85.62
79	11	21	3710.481	85.61
80	4	12	3711.162	86.02
81	7	10	3711.153	86.30
84	9	29	3711.456	86.99
87	3	5	3711.529	86.80
89	3	9	3711.587	86.53
90	3	16	3711.563	86.68
92	3	26	3711.560	86.53
93	3	11	3711.534	86.72

Stations A003 and NE77012

78	3	14	2740.276	-48.73
78	4	16	2740.387	
78	6	25	2740.437	-47.98
78	8	7	2740.381	-47.88
78	8	29	2740.409	-47.83
79	2	26	2740.500	-47.80
79	8	4	2740.438	-47.88
79	8	24	2740.488	-47.97
80	3	14	2740.533	-48.19
84	3	20	2742.752	-47.93
86	3	11	2743.218	-47.19
87	3	5	2743.253	-47.39
88	4	26	2743.288	-47.41
89	3	9	2743.327	-47.43
90	3	16	2743.303	-47.39
93	3	11	2743.282	-47.19

Stations A003 and NE79077

79	8	4	1204.519	-36.02
79	8	24	1204.552	-36.05
79	10	6	1204.598	

79	11	21	1204.650	-35.99
80	3	17	1204.746	-35.68
80	4	16	1204.867	-35.69
80	9	19	1204.980	-35.61
80	10	21	1205.110	-35.53
81	4	12	1205.192	-35.44
81	7	10	1205.284	-35.41
82	4	18	1205.344	-35.30
83	3	7	1205.455	-35.33
84	3	20	1205.544	-35.26
85	3	12	1205.373	-35.26
86	3	11	1205.370	-35.27
87	3	5	1205.462	-35.24
88	4	26	1205.517	-35.24
89	3	9	1205.595	-35.28
90	3	16	1205.555	-35.27
92	3	26	1205.530	-35.31
93	3	11	1205.513	-35.26

Stations A005 and A004

77	2	28	929.298	-13.12
77	7	20	929.424	-13.25
77	8	14	929.444	-13.17
77	10	24	929.510	-13.69
79	2	26	929.590	-13.21
79	4	4	929.651	-13.23
79	8	24	929.607	-13.23
79	10	6	929.619	-13.09
79	11	21	929.655	-13.18
80	3	14	929.642	-13.12
80	3	17	929.666	-13.38
80	4	16	929.690	-13.35
80	9	22	929.765	-13.28
81	2	8	929.639	-13.24
81	4	12	929.697	-13.18
81	7	10	929.726	-13.26
82	4	18	929.646	-13.22
83	3	7	929.722	-13.21
84	3	20	929.711	-13.19
84	9	29	929.568	-13.23
85	3	12	929.623	-13.24
86	3	11	929.604	-13.21
87	3	5	929.631	-13.15
88	4	26	929.649	-13.10
89	3	9	929.669	-13.10
90	3	16	929.649	-13.17

91	3	5	929.640	-13.16
92	3	26	929.638	-13.11
93	3	11	929.638	-13.17

Stations A005 and A006

77	2	28	1273.598	118.45
77	7	20	1273.586	118.24
77	10	24	1273.499	117.76
79	2	26	1273.584	118.17
79	8	4	1273.570	118.19
79	8	24	1273.567	118.15
79	10	6	1273.565	118.19
79	11	21	1273.562	118.10
80	3	17	1273.518	118.28
80	4	16	1273.536	118.14
80	9	22	1273.553	118.08
81	2	8	1273.470	118.15
82	4	18	1273.491	117.97
83	3	7	1273.487	117.93
84	3	20	1273.517	117.94
84	9	29	1273.478	118.04
85	3	12	1273.502	117.94
86	3	11	1273.491	118.05
87	3	5	1273.492	117.96
88	4	26	1273.503	117.88
89	3	9	1273.491	117.89
90	3	16	1273.501	117.86
92	3	26	1273.505	117.93
93	3	11	1273.494	117.90

Stations A005 and A007

79	2	26	1927.207	165.18
79	8	4	1927.203	165.25
79	8	24	1927.191	165.12
79	10	6	1927.206	165.18
79	11	21	1927.181	165.03
80	3	17	1927.194	165.29
80	4	16	1927.192	165.21
80	9	22	1927.183	165.15
81	2	8	1927.193	165.21
82	4	18	1927.214	164.90
83	3	7	1927.208	164.89
84	3	20	1927.216	164.94
84	9	29	1927.295	165.13
85	3	12	1927.299	164.96
86	3	11	1927.288	165.02

87	3	5	1927.270	164.85
88	4	26	1927.278	164.83
89	3	9	1927.264	164.83
90	3	16	1927.279	164.81
92	3	26	1927.284	164.99
93	3	11	1927.280	164.91

Stations A005 and A008

79	2	26	1659.582	17.92
79	8	4	1659.582	17.84
79	8	24	1659.598	17.85
79	10	6	1659.594	
79	11	21	1659.570	17.73
80	3	17	1659.580	18.05
80	4	16	1659.568	17.95
80	9	22	1659.580	17.82
81	4	12	1659.643	17.92
81	7	10	1659.665	17.83
82	4	18	1659.740	17.84
83	3	7	1659.753	17.77
84	3	20	1659.780	17.85
84	9	29	1659.852	18.08
85	3	12	1659.832	17.92
86	3	11	1659.825	17.90
87	3	5	1659.821	17.84
88	4	26	1659.835	17.93
89	3	9	1659.832	17.90
90	3	16	1659.834	17.86
92	3	26	1659.831	17.82
93	3	11	1659.827	17.81

Stations A005 and A009

77	2	28	1564.023	13.79
79	2	26	1564.069	13.46
79	8	4	1564.072	13.46
79	8	24	1564.097	13.37
79	10	6	1564.109	13.34
79	11	21	1564.089	13.31
80	3	17	1564.019	13.58
80	4	16	1564.066	13.55
80	9	22	1564.101	13.45
81	4	12	1564.126	13.55
81	7	10	1564.149	13.48
82	4	18	1564.146	13.50
83	3	7	1564.197	13.47
84	3	20	1564.206	13.45

84	9	29	1564.156	13.72
85	3	12	1564.182	13.60
86	3	11	1564.168	13.60
87	3	5	1564.192	13.51
88	4	26	1564.211	13.58
89	3	9	1564.221	13.59
90	3	16	1564.211	13.50
92	3	26	1564.206	13.60
93	3	11	1564.199	13.57

Stations A005 and A010

78	3	14	2557.020	36.94
78	6	25	2557.122	36.71
78	8	7	2557.101	36.86
79	2	26	2557.213	36.58
79	8	4	2557.225	36.61
79	8	24	2557.242	36.55
79	10	6	2557.271	36.52
79	11	21	2557.272	36.65
80	3	14	2557.300	36.58
80	3	17	2557.827	36.15
80	4	16	2557.921	36.03
80	9	22	2558.003	35.95
81	4	12	2558.400	35.66
81	7	10	2558.424	35.58

Stations A005 and A012

78	6	26	2543.437	116.83
78	7	21	2543.465	117.10
78	8	29	2543.459	116.88
79	2	26	2543.433	116.80
79	8	4	2543.444	116.79
79	8	24	2543.424	116.79
79	10	6	2543.426	116.75
79	11	21	2543.422	116.75
80	3	17	2543.510	117.10
80	4	16	2543.503	116.92
80	9	22	2543.442	116.82
81	2	8	2543.549	
81	4	12	2543.544	116.79
81	7	10	2543.522	116.77
82	4	18	2543.669	116.73
83	3	7	2543.666	116.69
84	3	20	2543.666	116.81
84	9	29	2543.797	116.94
85	3	12	2543.799	116.81

86	3	11	2543.811	116.80
87	3	5	2543.789	116.71
88	4	26	2543.802	116.64
89	3	9	2543.785	116.74
90	3	16	2543.797	116.71
92	3	26	2543.802	116.68
93	3	11	2543.804	116.55

Stations A005 and A013

79	2	26	2934.566	62.53
80	4	16	2934.637	62.73
80	9	22	2934.602	62.64
82	4	18	2934.791	62.60
84	3	20	2934.835	62.64
84	9	29	2934.935	62.90
85	3	12	2934.922	62.69
86	3	11	2934.921	62.75
87	3	5	2934.908	62.61
88	4	26	2934.916	62.68
89	3	9	2934.909	62.57
90	3	16	2934.919	62.54
92	3	26	2934.919	62.61
93	3	11	2934.920	62.62

Stations A005 and NE79077

79	8	4	1670.616	-4.89
79	8	24	1670.531	-4.88
79	10	6	1670.604	-4.78
79	11	21	1670.636	-4.80
80	3	14	1670.675	-4.74
80	3	17	1670.223	-5.08
80	4	16	1670.406	-4.96
80	9	22	1670.543	-4.92
80	11	28	1670.514	
80	12	7	1670.553	
81	2	8	1670.452	-4.95
81	4	12	1670.602	-4.83
81	7	10	1670.712	-5.02
82	2	22	1670.793	-5.02
82	4	18	1670.814	-5.01
83	3	7	1670.934	-5.03
84	3	20	1671.031	-5.03
84	9	29	1670.763	-5.18
85	3	12	1670.908	-5.21
86	3	11	1670.898	-5.20
87	3	5	1671.010	-5.10

88	4	26	1671.087	-5.15
89	3	9	1671.172	-4.96
90	3	16	1671.123	-5.11
91	3	5	1671.099	-5.11
92	3	26	1671.089	-5.09
93	3	11	1671.066	-5.07

Stations A006 and A007

77	2	28	929.085	46.94
77	7	20	929.093	47.00
77	10	24	929.101	47.33

Stations A007 and A008

77	2	28	1231.676	-147.28
77	10	24	1231.596	-147.25

Stations A008 and A009

77	2	28	637.627	-4.50
77	7	20	637.610	
77	11	27	637.640	-4.45

Stations A010 and A001

78	3	14	3780.578	-57.52
78	8	7	3780.742	-57.54
79	2	26	3781.057	-57.13
80	4	16	3780.936	-56.62
81	4	12	3781.316	-56.27
81	7	10	3781.427	-56.31

Stations A010 and A004

78	2	14	2337.062	-50.16
78	6	26	2337.105	-50.09
78	8	7	2337.090	-50.04
79	2	26	2337.157	-49.84
80	4	16	2337.479	-49.41

Stations A010 and A006

78	6	26	3195.011	81.54
78	8	7	3194.938	81.41
79	2	26	3195.108	81.67
80	4	16	3196.048	82.33
81	4	12	3196.692	82.35
81	7	10	3196.708	82.37

Stations A010 and A007

78	6	26	3037.209	128.55
78	8	7	3037.196	128.57
79	2	26	3037.326	128.57
80	4	16	3038.356	129.22
81	4	12	3039.025	
81	7	10	3039.081	129.34

Stations A010 and A008

78	3	14	1812.853	-18.51
78	6	26	1812.938	-18.92
78	8	7	1812.939	-18.75
79	2	26	1813.004	-18.78
80	4	16	1814.103	-18.11
81	4	12	1814.826	-17.81
81	7	10	1814.837	-17.82

Stations A010 and A009

77	2	28	1259.350	-24.18
77	7	20	1260.024	-23.63
77	11	27	1260.730	-23.32
78	3	14	1260.659	-23.32
78	6	26	1260.678	-23.19
78	8	7	1260.677	-23.29
79	2	26	1260.716	-23.11
80	4	16	1261.724	-22.55
81	4	12	1262.458	-22.16
81	7	10	1262.472	-22.16

Stations A010 and A011

77	2	28	1389.558	-61.27
77	7	20	1389.816	-60.74
77	11	27	1390.075	-60.46
78	3	14	1389.978	-60.44
78	6	26	1390.036	-60.45
78	8	7	1390.030	-60.39
79	2	26	1390.063	-60.44
80	4	1	1390.360	-59.80
81	4	16	1391.119	-59.53
81	7	10	1391.169	-59.51

Stations A010 and A012

77	2	28	2162.398	79.31
78	3	14	2163.669	80.10
78	6	26	2163.730	80.17
78	7	21	2163.706	80.27

78	8	7	2163.752	80.21
78	8	29	2163.766	80.18
79	2	26	2163.798	80.27
80	4	16	2164.913	80.83
81	4	12	2165.628	81.11
81	7	10	2165.620	81.14

Stations A010 and A013

78	3	14	1770.153	25.84
78	6	26	1770.140	25.97
78	8	7	1770.169	25.98
79	2	26	1770.179	25.95
80	4	16	1771.170	26.56
81	4	12	1771.787	26.89
81	7	10	1771.791	26.96

Stations A010 and A014

78	3	14	1605.112	5.57
78	6	26	1605.091	5.66
78	8	7	1605.083	5.66
79	2	26	1605.078	5.69
80	4	16	1605.900	6.35
81	4	12	1606.400	6.67
81	7	10	1606.391	6.74

Stations A010 and A015

78	3	14	1730.835	-54.87
78	6	26	1730.758	-54.70
78	8	7	1730.796	-54.70
79	2	26	1730.754	-54.71
80	4	16	1730.924	-54.75
81	4	12	1730.981	-55.08
81	7	10	1730.955	-55.05

Stations A010 and A016

78	3	14	2065.451	-77.85
79	2	26	2065.378	-77.93

Stations A010 and A017

80	4	16	2936.927	9.56
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Stations A010 and A019

78	8	7	3317.067	38.08
80	4	16	3317.740	38.63
81	4	12	3318.142	38.80

Stations A010 and A022	92	3	26	3068.380	-130.01
79 2 26 3146.966 -76.45	93	3	11	3068.378	(-136.21)
80 4 16 3147.161 -76.28					
	Stations A012 and A006				
Stations A010 and A023	78	3	14	2162.469	1.28
80 4 16 3574.247 -23.45	78	6	26	2162.511	1.49
	78	7	21	2162.423	1.26
Stations A010 and A024	78	8	29	2162.483	1.19
78 8 7 3945.887 45.92	81	4	12	2162.544	1.26
79 5 24 3945.882 46.08	81	7	10	2162.534	1.21
80 4 16 3946.343 46.36	83	3	7	2162.647	1.24
81 4 12 3946.584 46.81	84	3	20	2162.648	1.22
	84	9	29	2162.671	
Stations A010 and A030	87	3	5	2162.690	1.22
79 2 26 4685.126 -56.88	88	4	26	2162.712	1.16
80 4 16 4685.243 -56.78	89	3	9	2162.724	1.26
	90	3	16	2162.716	1.20
Stations A010 and A031	92	3	26	2162.717	1.11
80 4 16 4600.434 -85.73	92	3	11	2162.710	(0.92)
Stations A010 and NE77007	Stations A012 and A007				
78 3 14 3028.676 -86.58	77	2	28	1429.237	48.31
78 8 7 3028.750 -86.58	77	7	20	1429.221	48.28
79 2 26 3028.752 -86.62	77	10	24	1429.251	48.29
80 4 16 3029.016 -86.02	78	3	14	1429.215	48.24
81 4 12 3029.601 -85.83	78	6	26	1429.267	48.39
	78	7	21	1429.205	48.26
Stations A010 and NE77012	78	8	29	1429.257	48.39
78 3 14 3206.973 -53.44	81	4	12	1429.213	48.17
78 8 7 3207.066 -53.54	81	7	10	1429.230	48.18
79 2 26 3207.210 -53.37	82	5	16	1429.210	48.21
80 3 14 3207.324 -53.26	83	3	7	1429.247	48.19
80 3 17 3207.239 -52.91	84	3	20	1429.256	48.17
80 4 16 3207.347 -53.01	84	9	29	1429.164	48.27
81 4 12 3207.943 -52.78	87	3	5	1429.248	48.18
	88	4	26	1429.258	48.20
Stations A012 and A004	89	3	9	1429.272	48.21
78 8 29 3068.029 -130.03	90	3	16	1429.266	48.13
81 4 12 3068.175 -130.04	92	3	26	1429.269	48.21
81 7 10 3068.141 -130.01	93	3	11	1429.263	48.15
82 4 18 3068.271					
84 3 20 3068.298 -129.93	Stations A012 and A008				
87 3 5 3068.372 -130.13	78	6	26	906.428	-98.91
88 4 26 3068.384 -129.84	78	7	21	906.464	-99.01
89 3 9 3068.377 -129.79	78	8	29	906.459	-98.98
90 3 16 3068.367 -130.04	81	4	12	906.449	-98.90

81	7	10	906.421	-98.91
82	5	16	906.484	-98.90
83	3	7	906.484	-98.87
84	3	20	906.473	-98.87
84	9	29	906.517	-99.40
87	3	5	906.484	-98.88
88	4	26	906.481	-98.84
89	3	9	906.471	-98.82
90	3	16	906.488	-98.84
92	3	26	906.483	-98.88
93	3	11	906.500	(-99.49)

Stations A012 and A009

78	6	26	1371.953	-103.35
78	7	21	1372.006	-103.52
78	8	29	1372.003	-103.43
81	4	12	1371.965	-103.28
81	7	10	1371.947	-103.29
82	4	18	1371.934	-103.21
83	3	7	1371.931	-103.29
84	3	20	1371.934	-103.23
84	9	29	1371.922	-103.24
87	3	5	1371.886	-103.16
88	4	26	1371.893	-103.16
89	3	9	1371.877	-103.05
90	3	16	1371.890	-103.18
92	3	26	1371.894	-103.13
93	3	11	1371.904	(-103.62)

Stations A012 and A013

77	2	28	750.188	-54.24
77	7	20	750.129	-54.27
77	11	27	750.147	-54.31
78	3	14	750.121	-54.26
78	6	26	750.141	-54.28
78	7	21	750.118	-54.25
81	4	12	750.110	-54.18
81	7	10	750.138	-54.21
82	4	18	750.114	-54.17
83	4	20	750.113	-54.17
84	3	20	750.153	-54.18
84	9	29	750.072	-54.21
85	3	12	750.102	-54.16
86	3	11	750.070	-54.09
87	3	5	750.074	-54.14
88	4	26	750.085	-54.19

89	3	9	750.078	-54.13
90	3	16	750.077	-54.14
92	3	26	750.068	-54.18
93	3	11	750.070	-54.15

Stations A012 and A014

78	6	26	1191.645	-74.53
78	7	21	1191.630	-74.57
81	4	12	1191.650	-74.40
81	7	10	1191.646	-74.47
82	5	16	1191.625	-74.40
83	4	20	1191.636	-74.42
84	3	20	1191.619	-74.23
84	9	29	1191.567	-74.32
87	3	5	1191.555	-74.38
88	4	26	1191.557	-74.32
89	3	9	1191.569	-74.36
90	3	16	1191.570	-74.35
92	3	26	1191.562	-74.34
93	3	11	1191.561	-74.35

Stations A012 and A015

78	6	26	2217.205	-134.94
78	7	21	2217.200	-134.90
80	4	12	2218.690	-136.17
81	7	10	2218.727	-136.17
82	5	16	2219.394	-136.59
83	4	20	2219.401	-136.52
84	3	20	2219.385	-136.61
84	9	29	2219.297	-136.96
87	3	5	2219.313	-136.75
88	4	26	2219.324	-136.61
89	3	9	2219.334	-136.76
92	3	26	2219.313	-136.70
93	3	11	2219.301	-136.59

Stations A012 and A016

78	3	14	2924.122	-157.98
78	6	26	2924.141	-158.08
78	7	21	2924.171	-158.09

Stations A012 and A017

78	7	21	2747.885	-124.92
80	4	12	2749.380	-126.28
82	5	16	2749.605	-126.52
83	4	20	2749.630	-126.66

84	3	20	2749.638	-126.66
87	3	5	2749.549	-126.75
88	4	26	2749.557	-126.55
89	3	9	2749.568	-126.65
90	3	16	2749.561	-126.56
92	3	26	2749.552	-126.62
93	3	11	2749.546	-126.53

Stations A012 and A018

78	7	21	2246.499	-71.29
80	4	16	2246.511	-71.22
81	4	12	2246.508	-71.23
82	5	16	2246.584	-71.15
83	3	7	2246.534	-71.19
87	3	5	2246.552	-71.12
88	4	26	2246.558	-71.17
89	3	9	2246.557	-71.26
90	3	16	2246.553	-71.21
92	3	26	2246.555	-71.19
93	3	11	2246.552	-71.13

Stations A012 and A019

78	3	14	2186.211	-42.26
78	7	21	2186.128	-42.26
78	8	7	2186.158	-42.26
80	4	16	2186.140	-42.19
81	4	12	2186.114	-42.25
82	5	16	2186.203	-42.26
83	3	7	2186.162	-42.28
84	3	20	2186.188	-42.40
85	4	17	2186.251	-42.31
86	3	11	2186.208	-42.26
87	3	5	2186.195	-42.23
88	4	26	2186.194	-42.30
89	3	9	2186.189	-42.37
90	3	16	2186.198	-42.33
92	3	26	2186.192	-42.32
93	3	11	2186.199	-42.30

Stations A012 and A020

78	3	14	2285.824	-5.37
78	7	21	2285.852	-5.35
81	4	12	2285.742	-5.54
82	5	16	2285.678	-5.48
83	3	7	2285.660	-5.59
84	3	20	2285.715	-5.55

87	3	5	2285.639	-5.59
88	4	26	2285.641	-5.58
89	3	9	2285.646	-5.62
90	3	16	2285.647	-5.66
92	3	26	2285.649	-5.67
93	3	11	2285.658	-5.60

Stations A012 and A021

78	3	14	2512.064	33.43
78	7	21	2512.102	33.50
81	4	12	2511.938	33.26
82	5	16	2511.831	33.22
83	3	7	2511.839	33.14
84	3	20	2511.892	33.17
87	3	5	2511.790	33.13
88	4	26	2511.798	33.12
89	3	9	2511.803	33.21
90	3	16	2511.810	33.04
92	3	26	2511.816	33.19
93	3	11	2511.837	33.10

Stations A012 and A022

78	7	21	3470.877	-155.70
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Stations A012 and A023

78	7	21	3251.650	-104.14
80	4	16	3251.679	-104.03
83	4	20	3251.444	-104.06
87	3	5	3251.431	-104.05
88	4	26	3251.432	-104.00
89	3	9	3251.431	-104.02
90	3	16	3251.431	-104.17
92	3	26	3251.428	-104.08
93	3	11	3251.429	-103.84

Stations A012 and A024

78	3	14	3182.748	-34.29
78	7	21	3182.648	-34.23
78	8	7	3182.653	-34.37
79	5	24	3182.667	-34.23
80	4	16	3182.666	-34.21
81	4	12	3182.620	-34.29
82	5	16	3182.749	-34.25
83	3	7	3182.716	
87	3	5	3182.757	-34.26
88	4	26	3182.759	-34.40

89	3	9	3182.753	-34.38
90	3	16	3182.746	-34.54
92	3	26	3182.748	-34.28

Stations A012 and A030

78	3	14	4908.807	-137.01
79	2	26	4909.123	-137.96
84	3	20	4910.796	-137.62
89	3	9	4910.770	-137.98
90	3	16	4910.787	-137.88

Stations A012 and A031

78	3	14	5292.881	-165.79
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Stations A012 and NE77007

82	4	18	4773.675	-167.06
83	4	20	4773.703	-167.23
84	3	20	4773.721	-167.25

Stations A012 and NE77008

78	3	14	7359.782	-189.48
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Stations A012 and NE77012

82	4	18	5238.084	-133.80
83	3	7	5238.151	-134.00
84	3	20	5238.186	-134.12
84	9	29	5238.688	
85	3	12	5238.816	-133.99
86	3	11	5238.819	-134.08
87	3	5	5238.859	-134.07
88	4	26	5238.933	-133.85
89	3	9	5238.997	-134.24
90	3	16	5238.961	-133.84
93	3	11	2538.900	-133.58

Stations A012 and NE79077

82	2	22	4201.424	-121.71
84	3	20	4201.616	-121.82
84	9	29	4201.527	-122.16
85	3	12	4201.659	-121.88
85	4	17	4201.657	-121.78
86	3	11	4201.659	-121.93
87	3	5	4201.745	-121.88
88	4	26	4201.825	-121.70
89	3	9	4201.923	-121.63
90	3	16	4201.866	-121.76

92	3	26	4201.829	-121.84
93	3	11	4201.818	-121.65

Stations A012 and NE87001

88	4	26	5074.681	-163.07
89	3	9	5074.702	-162.98
90	3	16	5074.690	-162.77
93	3	11	5074.664	-162.71

Stations A013 and A004

86	3	11	3267.763	-75.93
88	4	26	3267.750	-75.49

Stations A013 and A006

85	3	12	2807.220	55.27
86	3	11	2807.195	55.25
88	4	26	2807.230	55.62

Stations A013 and A007

85	3	12	2158.084	102.35
86	3	11	2158.062	102.28
88	4	26	2158.101	102.42

Stations A013 and A009

85	3	12	1472.550	-48.96
86	3	11	1472.516	-49.06
88	4	26	1472.477	-48.96

Stations A013 and A014

77	2	28	443.669	-20.32
77	7	20	443.604	-20.29
77	11	27	443.617	-20.34
85	3	12	443.610	-20.20
86	3	11	443.598	-20.20
88	4	26	443.602	-20.20

Stations A013 and A017

85	3	12	2031.179	-72.00
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Stations A013 and A018

85	3	12	1678.755	-16.70
86	3	11	1678.718	-16.97
88	4	26	1678.724	-16.91

Stations A013 and A019

84	3	20	1798.021	11.90
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85	3	12	1798.078	12.07	Stations A016 and A018				
86	3	11	1798.050	11.97	78	3	14	1824.295	86.71
87	3	5	1798.036	11.80					
88	4	26	1798.039	11.96	Stations A016 and A022				
89	3	9	1798.032	11.73	77	2	28	1141.405	1.66
90	3	16	1798.033	11.81	77	11	27	1141.491	1.43
92	3	26	1798.032	11.91	78	3	14	1141.502	1.40
Stations A013 and A021					Stations A016 and A023				
86	3	11	2837.829	87.29	78	3	14	1881.664	53.92
Stations A013 and A023					Stations A017 and A018				
85	3	12	2632.578	-49.23	77	2	28	987.960	52.83
86	3	11	2632.564	-49.82	77	11	27	989.136	53.63
Stations A013 and A024					Stations A019 and A014				
78	3	14	2691.879	19.24	85	3	12	1740.454	-32.07
83	4	20	2691.848	19.86	87	3	5	1740.441	-32.06
85	3	12	2691.901	20.08	89	3	9	1740.436	-31.92
86	3	11	2691.891	19.81	90	3	16	1740.435	-32.05
88	4	26	2691.876	20.02	92	3	26	1740.438	-32.11
Stations A013 and NE77012					Stations A019 and A015				
86	3	11	4971.178	-79.96	89	3	9	1962.736	-94.13
88	4	26	4971.286	-79.66	90	3	16	1962.725	-94.27
93	3	11	4791.249	-79.66	92	3	26	1962.713	-94.43
Stations A014 and A015					Stations A019 and A016				
77	2	28	1024.752	-59.38	78	3	14	2430.192	-115.72
77	7	20	1025.226	-60.05					
77	11	27	1025.591	-60.30	Stations A019 and A018				
Stations A015 and A016					77	2	28	616.549	-29.09
77	2	28	710.235	-23.89	77	11	27	616.541	-29.07
77	7	20	710.590	-23.45	78	3	14	616.501	-29.03
77	11	27	710.945	-23.15	78	8	7	616.550	-29.07
78	3	14	710.882	-23.13	81	4	12	616.509	-28.98
Stations A016 and A014					83	4	20	616.508	-28.93
78	3	14	1733.747	83.38	84	3	20	616.496	-28.96
Stations A016 and A017					85	3	12	616.468	-28.88
77	2	28	943.905	33.81	86	3	11	616.444	-28.90
77	11	27	943.988	33.15	87	3	5	616.467	-28.86
78	3	14	943.950	33.13	88	4	26	616.457	-28.88
					89	3	9	616.466	-28.91
					90	3	16	616.452	-28.85
					92	3	26	616.458	-28.90

Stations A019 and A020

77	2	28	1825.436	36.96
77	11	27	1825.410	
78	3	14	1825.391	36.68
78	8	7	1825.394	36.81
81	4	12	1825.276	36.68
83	4	20	1825.243	36.78
84	3	20	1825.280	36.74
85	4	17	1825.176	36.60
86	3	11	1825.160	36.51
87	3	5	1825.180	36.68
88	4	26	1825.193	36.68
89	3	9	1825.219	36.72
90	3	16	1825.211	36.77
92	3	26	1825.206	36.67
93	3	11	1825.200	36.68

Stations A019 and A021

78	3	14	2308.009	75.84
78	8	7	2308.007	75.68
81	4	12	2307.848	75.49
83	4	20	2307.830	75.40
84	3	20	2307.857	75.39
85	4	17	2307.729	75.44
86	3	11	2307.719	75.45
87	3	5	2307.727	75.32
88	4	26	2307.763	75.40
89	3	9	2307.789	75.39
90	3	16	2307.773	75.40
92	3	26	2307.773	75.42
93	3	11	2307.763	75.50

Stations A019 and A023

81	4	12	1397.282	-61.63
84	3	20	1397.365	-61.73
85	3	12	1397.319	-61.66
86	3	11	1397.311	-61.74
87	3	5	1397.326	-61.66
88	4	26	1397.326	-61.76
89	3	9	1397.333	-61.66
90	3	16	1397.329	-61.68
92	3	26	1397.350	-61.68

Stations A019 and A024

78	3	14	1037.421	7.93
78	8	7	1037.351	7.91

80	4	16	1037.368	7.95
81	4	12	1037.317	7.94
83	4	20	1037.386	8.00
84	3	20	1037.387	7.95
85	3	12	1037.431	7.93
86	3	11	1037.408	7.92
87	3	5	1037.403	7.99
88	4	26	1037.406	7.96
89	3	9	1037.408	8.12
90	3	16	1037.405	7.95
92	3	26	1037.403	7.98
93	3	11	1037.406	7.95

Stations A019 and A025

78	3	14	1647.103	-75.96
78	8	7	1647.147	-76.04
81	4	12	1647.110	-76.13
83	4	20	1647.058	-76.12
84	3	20	1647.058	-76.13
86	3	11	1647.026	-76.16
87	3	5	1647.020	-76.14
88	4	26	1647.013	-76.16
89	3	9	1647.020	-76.11
90	3	16	1647.019	-76.10
92	3	26	1647.018	-76.19
93	3	11	1647.030	-76.06

Stations A019 and A026

78	3	14	2557.388	1.05
78	8	7	2557.446	1.09
81	4	12	2557.376	0.89
83	4	20	2557.446	0.81
84	3	20	2557.266	0.80
86	3	11	2557.162	0.76
87	3	5	2557.159	0.78
88	4	26	2557.165	0.73
89	3	9	2557.166	0.85
90	3	16	2557.163	0.69
92	3	26	2557.167	0.71

Stations A019 and A027

78	3	14	2202.352	-104.56
78	8	7	2202.421	-104.59
81	4	12	2202.400	-104.64
83	4	20	2202.325	-104.70
84	3	20	2202.321	-104.62

86	3	11	2202.309	-104.86
87	3	5	2202.300	-104.82
88	4	26	2202.300	-104.76
89	4	9	2202.306	-104.82
90	3	16	2202.291	-104.70
92	3	26	2202.293	-104.83

Stations A019 and A030

79	2	26	3154.553	-95.46
80	4	16	3155.609	-95.35
84	3	20	3156.959	-94.28
86	3	11	3156.824	-95.27
87	3	5	3156.843	-95.22
88	4	26	3156.856	-95.68
89	3	9	3156.852	-95.15
90	3	16	3156.879	-95.38
93	3	11	3156.858	-95.59

Stations A019 and A035

83	4	20	5053.704	-129.31
89	3	9	5053.974	-128.60
90	3	16	5053.979	-129.23

Stations A019 and A037

89	3	9	4315.227	-139.67
90	3	16	4315.238	-139.28
92	3	26	4315.216	-139.64

Stations A019 and A040

88	4	26	5367.146	-150.08
89	3	9	5367.127	-150.47
92	3	26	5367.117	-150.05
93	3	11	5367.110	-150.59

Stations A019 and NE77008

89	3	9	6087.407	-147.44
93	3	11	6087.378	-148.68

Stations A019 and NE87001

88	4	26	4897.929	-120.74
89	3	9	4897.948	-120.46
90	3	16	4897.926	-120.28
93	3	11	4897.923	-120.56

Stations A020 and A021

77	2	28	484.327	38.85
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Stations A022 and A023

77	2	28	1009.161	52.37
77	11	27	1009.729	52.44

Stations A024 and A011

83	4	20	4928.969	-106.14
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Stations A024 and A014

83	4	20	2512.332	-40.02
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Stations A024 and A015

83	4	20	2316.912	-102.33
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Stations A024 and A016

78	3	14	2509.326	-123.57
78	8	7	2509.488	-123.81

Stations A024 and A017

78	3	14	1565.933	-90.49
78	8	7	1566.076	-90.63
80	4	16	1567.035	-91.39
81	4	12	1567.881	-92.00
83	4	20	1568.202	-92.24

Stations A024 and A018

78	3	14	1040.181	-36.94
78	8	7	1040.186	-36.88
80	4	16	1040.165	-36.94
81	4	12	1040.283	-36.94
83	4	20	1040.216	-36.87

Stations A024 and A020

78	3	14	2622.282	29.03
78	8	7	2622.170	29.10
79	5	24	2622.252	29.12
80	4	16	2622.166	28.84
81	4	12	2622.025	28.85
83	4	20	2622.080	28.75

Stations A024 and A021

78	3	14	3094.858	67.88
78	8	7	3094.718	67.84
80	4	16	3094.702	67.76
81	4	12	3094.548	67.55
83	4	20	3094.585	67.48

Stations A024 and A022

78	3	14	1755.419	-122.19
78	8	7	1755.713	-122.30
80	4	16	1756.953	-122.66
81	4	12	1758.641	-122.76

Stations A024 and A023

77	2	28	750.147	-69.68
77	11	27	750.171	-69.82
78	3	14	750.182	-69.67
78	8	7	750.189	-69.69
80	4	16	750.235	-69.81
81	4	12	749.793	-69.64
83	4	20	749.842	-69.64

Stations A024 and A025

77	2	28	1336.630	-83.84
77	11	27	1336.602	-83.94
78	3	14	1336.618	-83.84
78	8	7	1336.615	-83.86
81	4	12	1336.528	-84.05
83	4	20	1336.441	-84.05
86	3	11	1336.332	-84.14
87	3	5	1336.342	-84.11
88	4	26	1336.360	-84.11
90	3	16	1336.357	-84.11
93	3	11	1136.365	-83.55

Stations A024 and A025

78	3	14	2345.357	-6.85
78	8	7	2345.353	-6.87
81	4	12	2345.181	-7.06

Stations A024 and A027

78	3	14	1631.431	-112.48
78	8	7	1631.475	-112.45
79	5	24	1631.498	-112.44
81	4	12	1631.404	-112.62
83	4	20	1631.260	-112.74

Stations A024 and A028

78	3	14	1182.020	-118.05
78	8	7	1181.974	-117.94
83	4	20	1182.001	-117.96

Stations A024 and A029

78	3	14	1094.405	-95.35
78	8	7	1094.307	-95.28

Stations A024 and A030

78	3	14	2288.080	-102.86
78	8	7	2288.651	-103.09
79	2	26	2288.740	-103.21
79	5	24	2288.731	-103.20
80	4	16	2289.925	-103.32
80	9	22	2290.181	-103.25
81	4	12	2290.900	-103.34
83	4	20	2291.538	-103.39
84	3	20	2291.506	-103.38
88	4	26	2291.332	-103.36
89	3	9	2291.355	-103.46
90	3	16	2291.343	-103.43
93	3	11	2291.330	-103.41

Stations A024 and A031

78	3	14	3164.572	-132.09
78	8	7	3165.262	-132.20
80	4	16	3166.674	-132.34
81	4	12	3168.449	-132.42
83	4	20	3169.139	-132.66

Stations A024 and A034

78	4	17	4030.987	-133.89
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Stations A024 and A035

78	4	17	4067.794	-136.85
78	8	7	4068.441	-136.54
79	2	26	4068.492	-136.77
79	5	24	4068.539	-136.64
80	4	16	4069.501	-136.73
80	9	22	4070.239	-136.77
81	4	12	4070.993	
83	4	20	4071.148	-136.91
84	3	20	4071.133	-136.89
85	4	17	4071.488	-136.98
86	3	11	4071.454	-137.18
87	3	5	4071.429	-137.09
90	3	16	4071.463	-136.95
93	3	11	4071.413	-137.19

Stations A024 and A037

78	4	17	3294.114	-147.07
81	4	12	3294.158	-146.90
82	5	16	3294.178	-147.11
83	4	20	3294.144	-147.06
84	3	20	3294.152	-146.96
85	4	17	3294.227	-147.08
86	3	11	3294.215	-147.26
87	3	5	3294.202	-147.14
88	4	26	3294.197	-147.07
89	3	9	3294.184	-147.40
90	3	16	3294.189	-147.21
93	3	11	3294.176	-147.35

Stations A024 and A040

78	4	17	4381.855	-157.72
81	4	12	4381.931	-157.76
82	5	16	4381.887	-157.76
83	4	20	4381.859	-158.00
85	4	17	4381.894	-158.04
87	3	5	4381.867	-158.19
89	3	9	4381.838	-158.62
90	3	16	4381.844	-158.05
93	3	11	4381.828	-158.30

Stations A024 and A042

78	4	17	6584.078	-156.78
78	8	7	6584.508	-156.44
83	4	20	6586.295	-157.06

Stations A024 and NE77006

78	4	17	7451.948	-198.70
83	4	20	7455.461	-199.91
87	3	5	7455.908	-200.56

Stations A024 and NE77007

78	3	14	4496.700	-132.28
79	5	24	4497.110	-132.52
81	4	12	4499.883	-132.80
83	4	20	4500.713	-132.35
84	3	20	4500.706	-132.86

Stations A024 and NE77008

78	3	14	5367.974	-154.84
81	4	12	5371.668	-156.03
83	4	20	5372.249	-155.89

84	3	20	5372.252	-155.79
87	3	5	5372.931	-156.26
93	3	11	2572.929	-156.07

Stations A024 and NE77013

86	3	11	11490.228	-103.51
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Stations A024 and NE87001

88	4	26	4802.667	-128.70
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Stations A025 and A020

77	2	28	2159.126	112.89
86	3	11	2159.253	112.77
87	3	5	2159.258	112.77
90	3	16	2159.264	112.90
93	3	11	2159.268	112.80

Stations A025 and A021

86	3	11	2531.983	151.68
93	3	11	2532.006	151.56

Stations A025 and A026

77	2	28	1017.539	77.07
77	11	27	1017.504	76.73
86	3	11	1017.412	77.02
87	3	5	1017.407	76.89
90	3	16	1017.422	76.90
93	3	11	1017.424	76.87

Stations A025 and A028

86	3	11	1734.607	-33.90
87	3	5	1734.614	-33.85
90	3	16	1734.637	-33.88
93	3	11	1734.641	-33.90

Stations A025 and A030

80	4	16	3342.858	-19.32
86	3	11	3344.097	-18.98
87	3	5	3344.114	-19.19
88	4	26	3344.134	-19.51
89	3	9	3344.152	-19.40
90	3	16	3344.166	-19.32
93	3	11	3344.143	-19.34

Stations A025 and A035

93	3	11	4767.606	-53.29
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Stations A025 and A037

84	3	20	3370.322	-62.95
86	3	11	3370.194	-63.28
87	3	5	3370.203	-62.98
88	4	26	3370.203	-63.05
90	3	16	3370.197	-63.07
93	3	11	3370.197	-63.06

Stations A026 and A027

77	2	28	986.441	-105.67
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Stations A027 and A028

77	2	28	1550.618	-5.53
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Stations A028 and A029

77	2	28	349.720	22.68
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Stations A028 and A032

77	2	28	1119.364	-30.39
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Stations A030 and A016

78	3	14	2632.695	-20.79
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Stations A030 and A017

79	2	26	2215.046	10.87
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Stations A030 and A018

79	2	26	2754.995	66.31
80	4	16	2755.957	66.35

Stations A030 and A022

78	8	7	1557.575	-19.20
79	2	26	1557.543	-19.12
80	4	16	1557.469	-19.29

Stations A030 and A023

78	8	7	1762.606	33.51
79	2	26	1762.630	33.48
80	4	16	1763.707	33.49

Stations A030 and A026

80	4	16	4206.934	99.58
88	4	26	4207.110	96.28
89	3	9	4207.123	96.30
93	3	11	4207.122	96.25

Stations A030 and A027

79	2	26	3240.386	-9.00
79	5	24	3240.393	-9.15
80	4	16	3241.604	-9.26
83	4	20	3243.149	-9.47
88	4	26	3242.803	-9.32
89	3	9	3242.819	-9.32
90	3	16	3242.821	-9.42
93	3	11	3242.804	-9.23

Stations A030 and A028

79	2	26	1691.561	-14.74
79	5	24	1691.542	-14.74
80	4	16	1692.855	-14.64
80	9	22	1693.249	-14.49
83	4	20	1694.668	-14.63
84	3	20	1694.648	-15.26
88	4	26	1694.391	-14.66
89	3	9	1694.397	-14.61
90	3	16	1694.398	-14.58
93	3	11	1694.383	-14.54

Stations A030 and A029

77	2	28	1427.286	7.46
78	8	7	1428.214	7.86
79	2	26	1428.234	7.90
80	4	16	1429.545	8.00
80	9	22	1429.894	8.15

Stations A030 and A031

77	2	28	1090.163	-29.33
78	3	14	1090.175	
78	8	7	1090.363	-29.05
79	2	26	1090.372	-28.93
80	4	16	1090.415	-29.02
80	9	22	1090.879	-29.01
83	4	20	1091.149	-29.07
84	3	20	1091.134	-28.86

Stations A030 and A032

80	4	16	1043.122	
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Stations A030 and A035

78	3	14	2049.086	
78	8	7	2049.097	-33.42
79	2	26	2049.099	-33.41

79	5	24	2049.097	-33.49
80	4	16	2049.102	-33.40
80	9	22	2049.307	-33.15

Stations A030 and A037

79	2	26	2574.613	-43.76
79	5	24	2574.593	-43.67
80	4	16	2575.244	
83	4	20	2576.052	-43.76
84	3	20	2576.064	-43.89
86	3	11	2576.101	-43.70
87	3	5	2576.098	-43.83
88	4	26	2576.077	-43.77
89	3	9	2576.078	-43.54
90	3	16	2576.071	-43.76
93	3	11	2576.053	-43.68

Stations A030 and A038

89	3	9	2982.467	-58.93
90	3	16	2982.462	-59.06

Stations A030 and A040

79	2	26	3794.800	-54.28
83	4	20	3796.069	-54.64
84	3	20	3796.087	-54.62
88	4	26	3795.685	-54.70
89	3	9	3795.685	-54.56
90	3	16	3795.680	-54.60
93	3	11	3795.664	-54.88

Stations A030 and A042

78	3	14	4898.466	
78	8	7	4898.560	-53.38
80	4	16	4898.570	-53.55
83	4	20	4898.619	-53.98
84	3	20	4898.616	-53.91

Stations A030 and NE77007

78	8	7	3585.229	-29.33
79	2	26	3585.280	-28.53
80	4	16	3585.323	-29.17
81	4	12	3585.729	-29.30
84	3	20	3585.775	-29.44

Stations A030 and NE77008

78	8	7	3145.119	-52.35
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79	2	26	3145.230	-51.44
79	5	24	3145.238	-51.76
80	4	16	3145.155	-52.07
80	9	22	3145.675	-52.41
81	4	12	3145.864	-52.33
83	4	20	3145.709	-52.44
84	3	20	3145.721	-52.47
87	3	5	3146.695	-52.98
88	4	26	3146.694	-53.39
89	3	9	3146.704	-51.88
93	3	11	3146.688	-52.83

Stations A030 and NE87001

88	4	26	3799.122	-25.50
89	3	9	3799.134	-24.87
90	3	16	3799.127	-25.27
93	3	11	3799.124	-25.40

Stations A032 and A033

77	2	28	1336.678	26.18
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Stations A035 and A028

78	3	14	3059.854	18.66
78	8	7	3060.657	18.48
79	5	24	3060.728	18.82
80	9	22	3062.875	18.73
83	4	20	3063.804	18.80
85	4	17	3064.162	19.03
90	3	16	3064.118	19.31
93	3	11	3064.108	19.13

Stations A035 and A029

78	3	14	2995.672	41.39
78	8	7	2996.415	41.20

Stations A035 and A033

78	3	14	994.091	14.36
78	8	7	994.075	14.40
80	4	16	994.056	14.41
80	9	22	994.046	14.35
81	4	12	994.031	14.38
87	3	5	993.980	14.54
89	3	9	993.988	14.56
90	3	16	993.996	14.52
93	3	11	993.993	14.49

Stations A035 and A034

77	2	28	1020.120	3.23
78	8	7	1020.100	3.23
79	2	26	1020.110	3.34
80	4	16	1020.102	3.17
80	9	22	1020.050	3.23
81	4	12	1020.074	3.13
87	3	5	1020.163	3.29
88	4	26	1020.161	3.22
89	3	9	1020.160	3.46
90	3	16	1020.159	3.57
93	3	11	1020.160	3.28

Stations A035 and A036

77	2	28	1274.086	-27.66
78	8	7	1275.210	-27.74

Stations A035 and A037

78	8	7	2162.441	-10.32
80	9	22	2165.372	-10.08
81	4	12	2165.939	-10.20
82	5	16	2166.014	-10.10
83	4	20	2165.983	-10.02
84	3	20	2166.003	-10.12
85	4	17	2166.841	-10.05
86	3	11	2166.805	-10.09
87	3	5	2166.800	-10.19
88	4	26	2166.803	-10.13
89	3	9	2166.797	-10.18
90	3	16	2166.788	-9.98
93	3	11	2166.772	-10.06

Stations A035 and A038

77	2	28	1248.909	-23.85
78	8	7	1249.129	-24.38
80	4	16	1249.433	-24.91
80	9	22	1249.468	-25.10
87	3	5	1249.714	-25.29
90	3	16	1249.721	-25.26
93	3	11	1249.713	-25.28

Stations A035 and A040

78	8	7	2962.485	-21.10
79	2	26	2962.512	-21.04
79	5	24	2962.581	-20.94
80	4	16	2963.886	-21.04

80	9	22	2965.153	-20.90
81	4	12	2965.560	-21.01
82	5	16	2965.620	-20.93
83	4	20	2965.600	-20.83
84	3	20	2965.629	-20.88
85	4	17	2965.827	-21.00
86	3	11	2965.780	-20.96
87	3	5	2965.793	-20.92
88	4	26	2965.800	-20.85
89	3	9	2965.799	-21.12
90	3	16	2965.791	-20.83
93	3	11	2965.784	-20.95

Stations A035 and A042

78	3	14	2905.801	-20.08
78	8	7	2905.789	-20.11
79	5	24	2905.720	-19.94
80	4	16	2905.783	-20.21
80	9	22	2905.809	-19.99
81	4	12	2905.709	-20.41
83	4	20	2905.735	-20.04
84	3	20	2905.725	-20.36
85	4	17	2905.751	-20.31
86	3	11	2905.725	-20.04
87	3	5	2905.720	-20.22
88	4	26	2905.729	-20.32
89	3	9	2905.712	-20.14
90	3	16	2905.711	-20.05
93	3	11	2905.713	-20.14

Stations A035 and NE77006

78	8	7	3529.649	-62.53
79	5	24	3529.917	-62.23
80	4	16	3529.707	-62.53
80	9	22	3529.526	-62.62
81	4	12	3529.349	-62.62
83	4	20	3529.430	-62.53
84	3	20	3529.488	-62.68
85	4	17	3529.514	-62.76
86	3	11	3529.495	-62.62
87	3	5	3529.506	-63.03
88	4	26	3529.511	-62.75
89	3	9	3529.529	-62.77
90	3	16	3529.521	-62.47
93	3	11	3529.533	-63.07

Stations A035 and NE77008

78	8	7	2714.634	-18.87
79	2	26	2714.734	-18.06
79	5	24	2714.780	-18.62
80	4	16	2714.658	-18.88
80	9	22	2714.461	-18.87
81	4	12	2714.399	-18.92
83	4	20	2714.558	-18.83
84	3	20	2714.614	-18.93
85	4	17	2714.720	-18.92
86	3	11	2714.702	-18.80
87	3	5	2714.706	-19.02
88	4	26	2714.716	-19.21
89	3	9	2714.720	-18.60
90	3	16	2714.719	-18.29
93	3	11	2714.717	-19.04

Stations A035 and NE77013

85	4	17	7659.295	31.55
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Stations A037 and A026

84	3	20	3666.301	139.78
85	4	17	3666.064	139.85
86	3	11	3666.045	139.94
87	3	5	3666.064	139.89
88	4	26	3666.077	139.97
89	3	9	3666.075	140.13
90	3	16	3666.082	139.90
93	3	11	3666.079	139.91

Stations A037 and A027

84	3	20	2834.380	34.33
86	3	11	2834.176	34.37
87	3	5	2834.185	34.55
88	4	26	2834.190	34.24
90	3	16	2834.190	34.43
93	3	11	2834.183	34.47

Stations A037 and A028

84	3	20	2123.047	29.04
86	3	11	2123.085	29.13
87	3	5	2123.073	29.36
88	4	26	2123.072	29.08
89	3	9	2123.064	29.23
90	3	16	2123.065	29.21
93	3	11	2123.058	29.34

Stations A037 and A038

87	3	5	1719.213	-15.12
88	4	26	1719.205	-15.29
89	3	9	1719.196	-15.23
93	3	11	1719.163	-15.09

Stations A037 and A040

82	5	16	1235.141	-10.79
83	4	20	1235.118	-10.81
84	3	20	1235.127	-10.83
85	4	17	1234.777	-10.90
86	3	11	1234.776	-10.90
87	3	5	1234.779	-10.82
88	4	26	1234.786	-10.85
89	3	9	1234.784	-10.97
93	3	11	1234.786	-10.85

Stations A037 and A042

78	4	17	3533.638	-9.77
78	8	7	3534.330	-9.65
79	5	24	3534.546	-9.69
80	4	16	3535.518	-9.89
81	4	12	3536.797	
82	5	16	3536.810	-10.55
83	4	20	3536.772	-10.13
84	3	20	3536.774	-10.05
85	4	17	3537.140	-10.30
86	3	11	3537.141	-10.24
87	3	5	3537.125	-9.90
88	4	26	3537.124	-10.24
89	3	9	3537.114	-10.04
90	3	16	3537.110	-10.09
93	3	11	3537.100	-9.82

Stations A040 and A026

83	4	20	4216.684	150.47
85	4	17	4216.824	150.88
87	3	5	4216.796	151.21
88	4	26	4216.812	150.80
93	3	11	4216.785	(151.99)

Stations A040 and A027

83	4	20	3575.214	45.20
87	3	5	3575.317	45.39
88	4	26	3575.308	45.19
93	3	11	3575.279	45.33

Stations A040 and A028

83	4	20	3252.037	39.85
88	4	26	3251.977	39.99
89	3	9	3251.964	40.75
93	3	11	3251.957	40.28

Stations A040 and A038

87	3	5	2001.674	-4.30
88	4	26	2001.672	-4.35
89	3	9	2001.671	-4.31
93	3	11	2001.645	-4.35

Stations A040 and A042

78	4	17	3182.949	0.82
78	8	7	3183.900	1.11
79	5	11	3183.962	0.92
79	5	24	3184.360	0.99
80	4	16	3185.547	0.67
80	9	22	3187.090	0.95
81	4	12	3187.191	0.92
82	5	16	3187.196	0.67
83	4	20	3187.174	0.67
84	3	20	3187.159	0.72
85	4	17	3187.233	0.76
86	3	11	3187.223	0.69
87	3	5	3187.233	0.83
88	4	26	3187.240	0.67
89	3	9	3187.225	0.77
90	3	16	3187.223	0.94
93	3	11	3187.197	0.87

Stations A040 and NE77013

87	3	5	7742.825	51.96
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Stations A042 and A033

78	4	17	3892.635	34.52
78	8	7	3892.605	34.43
80	4	16	3892.512	34.56

Stations A042 and A034

78	4	17	3729.787	23.56
78	8	7	3729.731	23.39
80	4	16	3729.673	23.34
80	9	22	3729.742	23.25
81	4	12	3729.682	23.35

Stations A042 and A036

78	4	17	3024.642	-7.66
78	8	7	3025.086	-7.73

Stations A042 and A038

78	4	17	2008.001	-3.70
78	8	7	2008.173	-4.32
80	4	16	2008.394	-4.74

Stations A042 and NE77005

79	5	11	7658.177	-83.30
79	5	24	7658.448	
84	3	20	7658.538	-83.62
85	4	17	7658.805	-84.26

Stations A042 and NE77006

78	4	17	3336.567	-42.15
78	8	7	3336.287	-42.37
79	5	11	3336.460	-42.14
79	5	24	3336.346	-42.34
80	4	16	3336.256	-42.41
80	9	22	3335.932	-42.59
81	4	12	3335.957	-42.46
83	4	20	3336.083	-42.27
84	3	20	3336.110	-42.43
86	3	11	3336.146	-42.52
87	3	5	3336.158	-42.61
88	4	26	3336.179	-42.60
89	3	9	3336.180	-42.51
93	3	11	3336.190	-42.71

Stations A042 and NE77008

78	4	17	4773.363	1.54
78	8	7	4773.225	1.27
80	9	22	4773.039	1.12
88	4	26	4773.190	1.06
89	3	9	4773.208	1.30
93	3	11	4773.198	0.99

Stations A042 and NE77009

79	5	11	6089.454	-37.42
79	5	24	6090.337	-37.26
80	4	16	6090.499	-37.67
80	9	22	6091.086	-37.85
81	4	12	6091.114	
83	4	20	6091.153	-37.34

84	3	20	6091.128	-37.69
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88	4	26	6252.408	159.31
93	3	11	6252.409	159.43

Stations A042 and NE77013

79	5	11	4905.655	51.82
79	5	24	4905.972	51.87
80	3	14	4905.909	51.87
80	9	22	4905.389	51.36
81	4	12	4905.368	51.50
83	4	20	4905.418	51.34
84	3	20	4905.400	51.21
85	4	17	4905.446	51.44
86	3	11	4905.429	51.16
87	3	5	4905.434	51.40
88	4	26	4905.439	51.31
93	3	11	4905.444	51.36

Stations NE77005 and NE77013

79	5	11	5601.665	134.90
79	5	24	5602.349	134.85
80	3	14	5602.343	135.07
81	4	12	5602.504	135.00
82	4	18	5602.535	135.13
83	4	20	5602.526	134.98
84	3	20	5602.514	134.82
85	4	17	5602.574	135.08
86	3	11	5602.567	134.75
87	3	5	5602.586	134.87
88	4	26	5602.583	135.02
93	3	11	5602.575	134.90

Stations NE77005 and NE77009

78	4	17	2470.790	
79	5	24	2470.690	45.99
83	4	20	2470.679	45.77
85	4	17	2470.697	45.79
87	3	5	2470.684	45.77
88	4	26	2470.690	45.88
93	3	11	2470.679	45.84

Stations NE77006 and A034

81	4	12	3442.070	65.70
87	3	5	3441.963	66.25
93	3	11	3441.974	66.92

Stations NE77006 and NE77008

81	4	12	2957.265	43.64
84	3	20	2957.626	43.85
85	4	17	2957.215	43.82
86	3	11	2957.197	43.46
87	3	5	2957.188	43.72
88	4	26	2957.183	43.61
89	3	9	2957.192	43.63
93	3	11	2957.183	43.46

Stations NE77007 and NE77010

78	4	17	5204.235	
79	5	24	5204.559	-79.70
83	4	20	5204.632	-82.28
87	3	5	5204.664	-82.42
88	4	26	5204.668	-82.44
93	3	11	204.632	-81.34

Stations NE77006 and NE77013

79	5	11	5842.001	94.37
79	5	24	5842.195	94.06
81	4	12	5842.199	94.77
83	4	20	5842.216	93.77
84	3	20	5842.181	93.59
85	4	17	5842.202	93.96
86	3	11	5842.183	94.02
87	3	5	5842.182	93.62
88	4	26	5842.190	93.97
93	3	11	5842.168	93.79

Stations NE77005 and NE77011

78	4	17	6249.132	159.45
78	7	11	6249.112	
79	5	11	6251.655	159.45
79	5	24	6252.150	159.30
80	3	14	6252.170	159.43
81	4	12	6252.298	160.09
82	4	18	6252.332	159.97
83	4	20	6252.336	159.25
84	3	20	6252.330	158.47
85	4	17	6252.389	159.60
86	3	11	6252.398	159.84
87	3	5	6252.393	159.70

Stations NE77007 and A011

84	3	20	2362.416	26.56
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Stations NE77007 and A016

78 3 14 2154.469 8.53

Stations NE77007 and A022

81 4 12 2781.948 9.88

Stations NE77007 and A031

81 4 12 2816.000 0.13

Stations NE77007 and NE77012

78 4 17 3739.246 32.28

79 2 26 3739.205 33.02

80 3 14 3739.201 32.97

80 3 17 3739.192 33.12

81 4 12 3739.246 33.11

82 4 18 3739.356 33.18

83 4 20 3739.379 33.45

84 3 20 3739.377 33.50

Stations NE77008 and A33

89 3 9 2582.707 33.44

93 3 11 2582.721 33.86

Station NE77008 and A034

81 4 12 1810.319 22.14

87 3 5 1810.421 22.16

88 4 26 1810.426 22.20

89 3 9 1810.444 22.08

93 3 11 1810.433 22.19

Stations NE77011 and NE77009

78 4 17 7522.776 -113.95

78 7 11 7522.776

79 5 11 7525.166 -114.01

79 5 24 7526.226 -113.49

80 3 14 7526.244 -113.78

81 4 12 7526.482 -114.05

82 4 18 7526.470 -113.61

83 4 20 7526.494 -113.29

84 3 20 7526.474 -112.62

86 3 11 7526.539 -113.59

87 3 5 7526.532 -113.47

88 4 26 7526.556 -113.86

93 3 11 7526.558 -113.37

Stations NE77011 and NE77010

78 4 17 10172.986 -241.78

79 5 24 10175.895 -241.71

80 3 14 10175.903 -243.16

82 4 18 10176.020 -242.19

83 4 20 10176.040 -241.51

86 3 11 10176.056 -242.02

87 3 5 10176.075 -241.87

88 4 26 10176.093 -242.11

Stations NE77011 and NE77013

79 5 11 3034.139 -24.54

79 5 24 3033.994 -24.33

80 3 14 3033.978 -24.39

81 4 12 3033.871 -24.30

82 4 18 3033.900 -24.37

83 4 20 3033.897 -24.31

84 3 20 3033.901 -24.07

85 4 17 3033.932 -24.39

86 3 11 3033.903 -24.45

87 3 5 3033.906 -24.34

88 4 26 3033.919 -24.34

93 3 11 3033.910 -24.39

Stations NE77012 and A001

78 4 17 2138.860

79 2 26 2139.010 -3.66

80 3 13 2139.095 -3.50

80 3 17 2138.798 -3.78

81 2 8 2138.870 -3.68

81 4 12 2138.984 -3.53

82 4 18 2139.282 -3.59

83 3 7 2139.241 -3.57

84 3 20 2139.276 -3.56

85 3 12 2139.317 -3.64

86 3 11 2139.306 -3.69

87 3 5 2139.371 -3.64

88 4 26 2139.429 -3.58

89 3 9 2139.485 -3.52

90 3 16 2139.449 -3.55

93 3 11 2139.410 -3.66

Stations NE77012 and A009

82 4 18 3951.286 30.52

83 4 20 3951.357 30.61

84 3 20 3951.410 30.80

85	3	12	3952.103	30.49
86	3	11	3952.075	30.81
87	3	5	3952.145	30.88
88	4	26	3952.216	30.75
89	3	9	3952.283	30.86
90	3	16	3952.230	30.85
93	3	11	3952.171	30.81

Stations NE77012 and A011

78	4	17	2028.304	-6.83
79	2	26	2028.413	-7.15
80	3	14	2028.441	-6.87
80	3	17	2028.256	-6.87
81	4	12	2028.351	-6.80
82	4	18	2028.393	-6.80
83	4	20	2028.406	-6.98
84	3	20	2028.421	-6.82
86	3	11	2028.341	-6.81
87	3	5	2028.381	-6.64
88	4	26	2028.408	-6.74
89	3	9	2028.436	-6.74
90	3	16	2028.419	-6.76
93	3	11	2028.393	-6.81

Stations NE77012 and NE80048

81	2	8	4607.577	-9.12
81	4	12	4607.771	-9.13
82	4	18	4607.970	-9.41
83	3	7	4608.032	-9.12
84	3	20	4608.116	-9.31
85	3	12	4607.982	-9.52
86	3	11	4607.945	-9.39
87	3	5	4608.053	-9.45
88	4	26	4608.128	-9.35
89	3	9	4608.204	-9.52
90	3	16	4608.161	-9.77
93	3	11	4608.085	-9.50

Stations NE77012 and NE80049

81	2	8	2313.782	26.37
81	4	12	2313.886	26.34
82	4	18	2313.907	26.21
83	3	7	2313.908	26.28
83	4	20	2313.984	26.11
84	3	20	2313.983	26.14
85	3	12	2313.855	26.18

86	3	11	2313.824	26.07
87	3	5	2313.886	26.12
88	4	26	2313.923	26.24
89	3	9	2313.965	26.20
90	3	16	2313.940	26.22
93	3	11	2313.902	26.13

Stations NE77012 and NE87001

88	4	26	3724.600	-28.46
89	3	9	3724.602	-29.09
90	3	16	3724.615	-28.88
93	3	11	3724.604	-29.03
93	3	11	3033.910	-24.39

Stations NE77013 and NE77009

79	5	11	5829.792	-89.07
79	5	24	5831.248	-89.25
80	3	14	5831.239	-89.37
81	4	12	5831.560	-88.85
82	4	18	5831.629	-89.42
83	4	20	5831.613	-89.30
84	3	20	5831.610	-88.96
85	4	17	5831.666	-89.24
86	3	11	5831.652	-89.86
87	3	5	5831.664	-89.25
88	4	26	5831.676	-89.41
93	3	11	5831.685	-89.11

Stations NE77013 and NE77010

79	5	24	10531.351	-217.62
80	3	14	10531.391	-217.53
82	4	18	10531.478	-217.88
86	3	11	10531.492	-216.76
93	3	11	10531.475	-216.40

Stations NE79077 and A001

79	8	4	2060.257	
79	8	24	2060.281	-15.76
79	10	6	2060.335	-15.67
79	11	21	2060.367	-15.62
80	3	17	2061.558	-15.40
80	4	16	2061.707	-15.47
80	9	22	2061.803	-15.65
80	10	21	2062.783	-15.42
80	11	28	2062.791	
80	12	7	2062.810	

81	4	12	2062.849	-15.68
81	7	10	2062.878	-15.84
82	2	22	2063.372	-15.68
82	4	18	2063.399	-15.70
83	3	7	2063.431	-15.66
84	3	20	2063.502	-15.75
84	9	29	2063.506	-15.68
85	3	12	2063.643	-15.70
85	4	17	2063.636	-15.77
86	3	11	2063.617	-15.69
87	3	5	2063.696	-15.71
88	4	26	2063.737	-15.62
89	3	9	2063.795	-16.30
90	3	16	2063.754	-15.68
92	3	26	2063.734	-15.67
93	3	11	2063.718	-15.66

Stations NE79077 and A006

79	8	4	2677.844	123.11
79	8	24	2677.864	123.04
79	10	6	2677.938	122.93
79	11	21	2677.962	122.94
80	3	17	2677.586	123.24
80	9	22	2677.864	122.97
80	10	21	2677.758	123.29
82	2	22	2678.166	123.03
83	3	7	2678.289	122.92
84	3	20	2678.364	
84	9	29	2678.235	123.24
85	3	12	2678.356	123.14
86	3	11	2678.342	123.13
88	4	26	2678.506	122.98
89	3	9	2678.591	122.88
90	3	16	2678.540	122.96
92	3	26	2678.504	123.03
93	3	11	2678.477	123.02

Stations NE79077 and NE79078

79	8	4	1819.734	-63.35
79	8	24	1819.654	-63.34
79	10	6	1819.687	
79	11	21	1819.716	-63.48
80	3	17	1819.472	-63.19
80	4	16	1819.576	-63.22
80	9	22	1819.648	-63.41
81	4	12	1819.631	-63.61

81	7	10	1819.630	-63.62
82	2	22	1819.627	-63.67
82	4	18	1819.619	-63.74
83	3	7	1819.658	-63.79
84	3	20	1819.671	
85	3	12	1819.564	-63.80
86	3	11	1819.538	-63.78
87	3	5	1819.589	-63.88
88	4	26	1819.629	-64.03
89	3	9	1819.657	-63.97
90	3	16	1819.631	-63.88
93	3	11	1819.586	-63.79

Stations NE79077 and NE80049

82	2	22	4352.168	14.04
82	4	18	4352.186	14.06
83	3	7	4352.263	14.09
84	3	20	4352.330	13.98
85	3	12	4352.474	14.32
86	4	26	4352.562	14.11
93	3	11	4352.561	14.22

Stations NE79077 and NE80050

81	4	12	2216.062	63.42
81	7	10	2216.056	63.37
82	2	22	2215.978	63.19
82	4	18	2215.965	63.18
83	3	7	2215.974	63.15
84	3	20	2216.006	63.16
85	3	12	2215.917	63.26
87	3	5	2215.925	63.15
88	4	26	2215.939	63.07
89	3	9	2215.956	63.27
90	3	16	2215.938	63.05
93	3	11	2215.897	63.16

Stations NE79077 and NE80051

81	4	12	2048.920	-5.45
81	7	10	2048.932	-5.49
82	2	22	2048.815	-5.59
82	4	18	2048.834	-5.62
84	3	20	2048.865	-5.60
85	3	12	2048.749	-5.66
87	3	5	2048.756	-5.78
88	4	26	2048.774	-5.81
89	3	9	2048.792	-5.79

89	3	9	2048.792	-5.79
90	3	16	2048.770	-5.78
93	3	11	2048.726	-5.72

Stations NE79077 and NE80052

81	2	8	3247.375	-42.06
81	4	12	3247.470	-42.29
81	7	10	3247.480	-42.31
82	2	22	3247.464	-42.46
82	4	18	3247.468	-42.53
83	3	7	3247.477	-42.55
84	3	20	3247.510	-42.34
85	3	12	3247.413	-42.54
86	3	11	3247.390	-42.55
87	3	5	3247.434	-42.63
88	4	26	3247.435	-42.68
89	3	9	3247.453	-42.85
90	3	16	3247.436	-42.84
93	3	11	3247.406	(-40.54)

Stations NE79077 and NE9301

93	3	11	2153.938	-106.18
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Stations NE80052 and A001

81	2	8	3616.423	26.48
81	4	12	3616.558	26.51
81	7	10	3616.543	26.64
82	4	18	3616.646	26.75
83	3	7	3616.685	26.85
84	3	20	3616.720	26.91
85	3	12	3616.662	26.87
87	3	5	3616.687	26.86
88	4	26	3616.727	27.10
89	3	9	3616.766	27.12
90	3	16	3616.744	26.96
93	3	11	3616.697	26.91

Stations NE80052 and NE79078

81	4	12	1490.380	-21.31
81	7	10	1490.360	-21.32
82	4	18	1490.394	-21.49
83	3	7	1490.453	-21.23
84	3	20	1490.352	-21.16
87	3	5	1490.318	-21.21
88	4	26	1490.307	-21.18
89	3	9	1490.293	-21.18

90	3	16	1490.303	-21.19
93	3	11	1490.309	-21.20

Stations NE80052 and NE80048

81	2	8	2333.626	21.12
81	4	12	2333.700	21.05
81	7	10	2333.727	21.06
82	4	18	2333.798	20.99
83	3	7	2333.834	21.07
84	3	20	2333.886	20.98
85	3	12	2333.841	20.97
87	3	5	2333.864	21.07
88	4	26	2333.880	21.08
89	3	9	2333.912	21.03
90	3	16	2333.898	21.01
93	3	11	2333.868	(22.99)

Stations NE80052 and NE80049

81	2	8	4762.395	56.90
81	4	12	4762.560	56.52
81	7	10	4762.591	56.28
82	4	18	4762.734	56.45
83	3	7	4762.796	56.48
84	3	20	4762.882	56.63
85	3	12	4762.842	56.74
87	3	5	4762.908	56.63
88	4	26	4762.967	57.21
89	3	9	4763.021	56.94
90	3	16	4762.993	56.64
93	3	11	4762.949	56.57

Stations NE80052 and NE80050

81	2	8	2860.530	105.59
81	4	12	2860.634	
81	7	10	2860.664	105.62
82	4	18	2860.768	105.67
83	3	7	2860.809	105.64
84	3	20	2860.834	105.75
85	3	12	2860.797	105.75
87	3	5	2860.823	105.75
88	4	26	2860.852	105.57
89	3	9	2860.896	105.75
90	3	16	2860.871	105.75
93	3	11	2860.832	105.70

APPENDIX

This appendix contains illustrations showing change of line length with time of lines in the Krafla area, North Iceland. The lines are identified by the station identification and also shown on schematic maps. The map on Fig 1 shows all the stations used in the distance measurements of the Nordic Volcanological Institute in the Krafla-Gjástykki area. The presented distances are bench mark to bench mark distances, frequently called slope distances.

Lines which have been measured nine or more times are included. Distance measurements in the Krafla area were initiated in early 1977. Some distance measurements have been made each year. The last measurements included in these illustrations were made in March 1993. Three different length scales are used in these illustrations. Lines which cross the Krafla fissure zone have changed in length more than other lines. The distance scale is 50 cm per division. Most other illustrations have distance scale of 5 cm per division, but a few lines near the center of deformation at Krafla have length scale of 10 cm per division.

The bottom part of each illustration shows the calculated elevation difference of the bench marks, calculated from the distance and the vertical angle, reduced to the bench marks. The height scale is either 20 cm per division or 50 cm per division, depending on the magnitude of variation of the elevation difference.

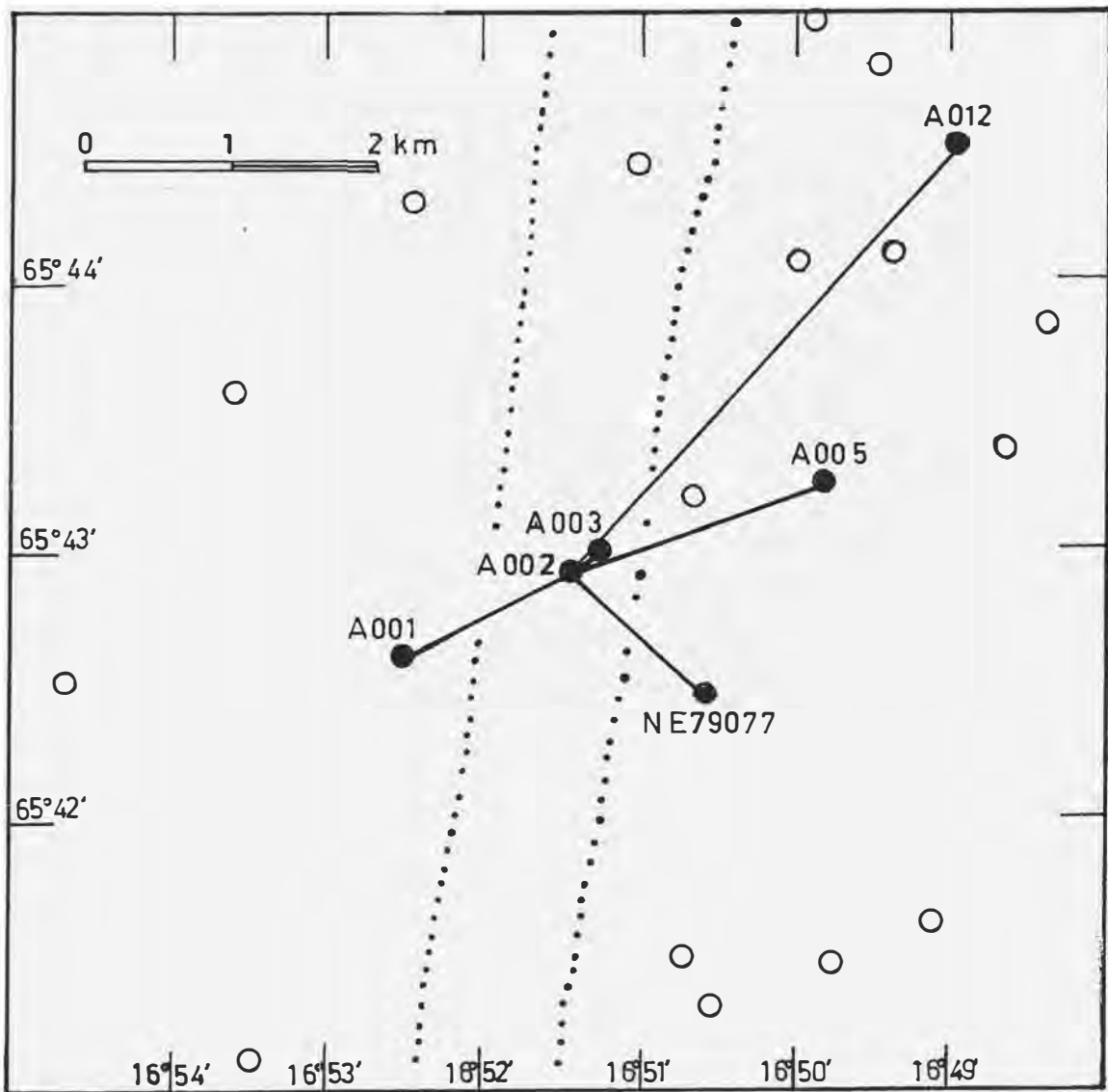


Fig. 2

A map showing lines from station A002 which have been measured at least 9 times from 1977 to 1993. Dotted lines mark the zone of rifting during the 1977-1984 period of intense volcanic and tectonic activity. Figs. 2a to 2e present the length of the lines between bench marks (slope distances) at times of measurements, and also the elevation difference of A002 and the other stations. The height difference is positive if the far station is higher than station A002. The stations defining these lines are shown as filled circles, marked by their identifications. Stations with no or fewer than nine measurements from A002 are shown as open circles. See Fig. 1 for clarification.

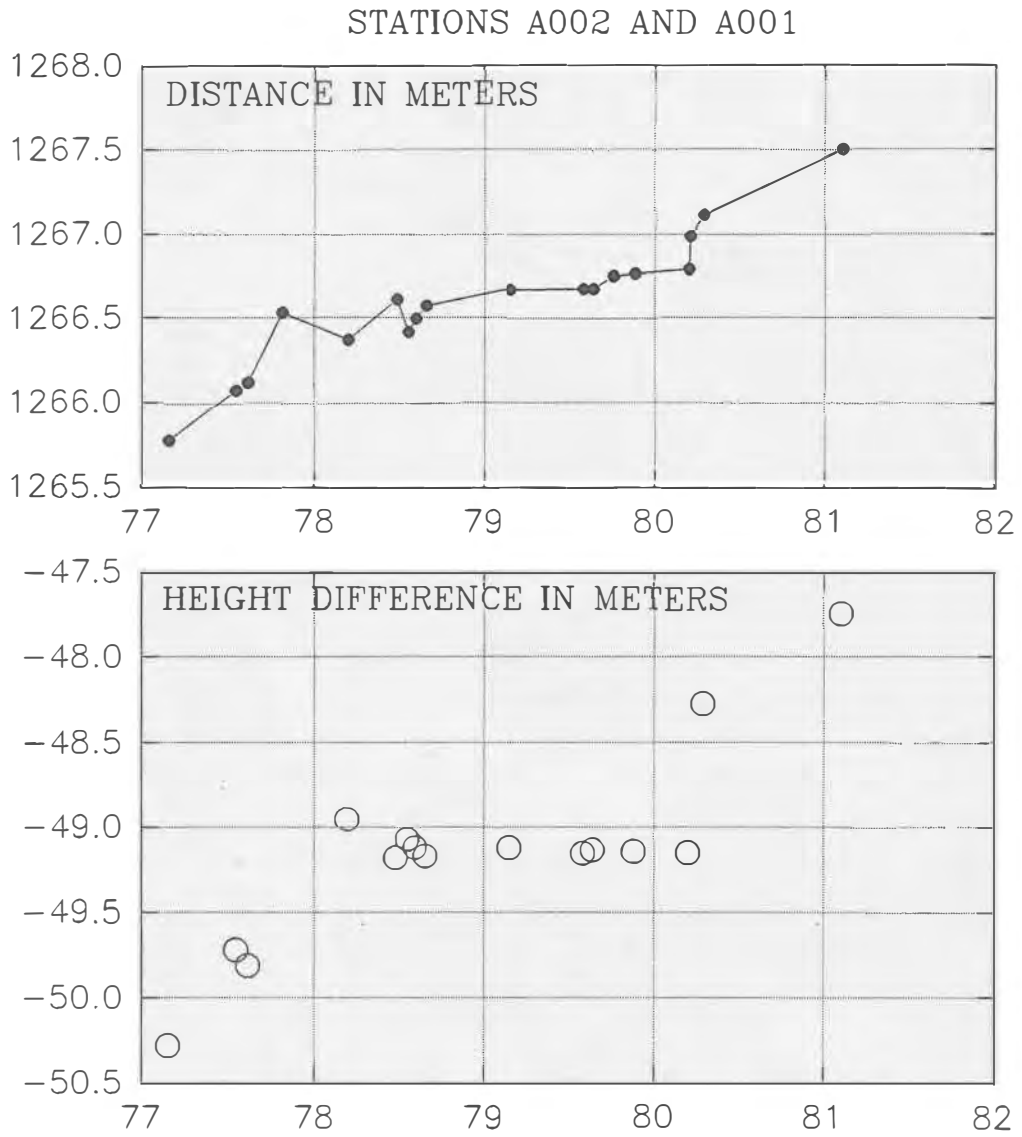


Fig. 2a

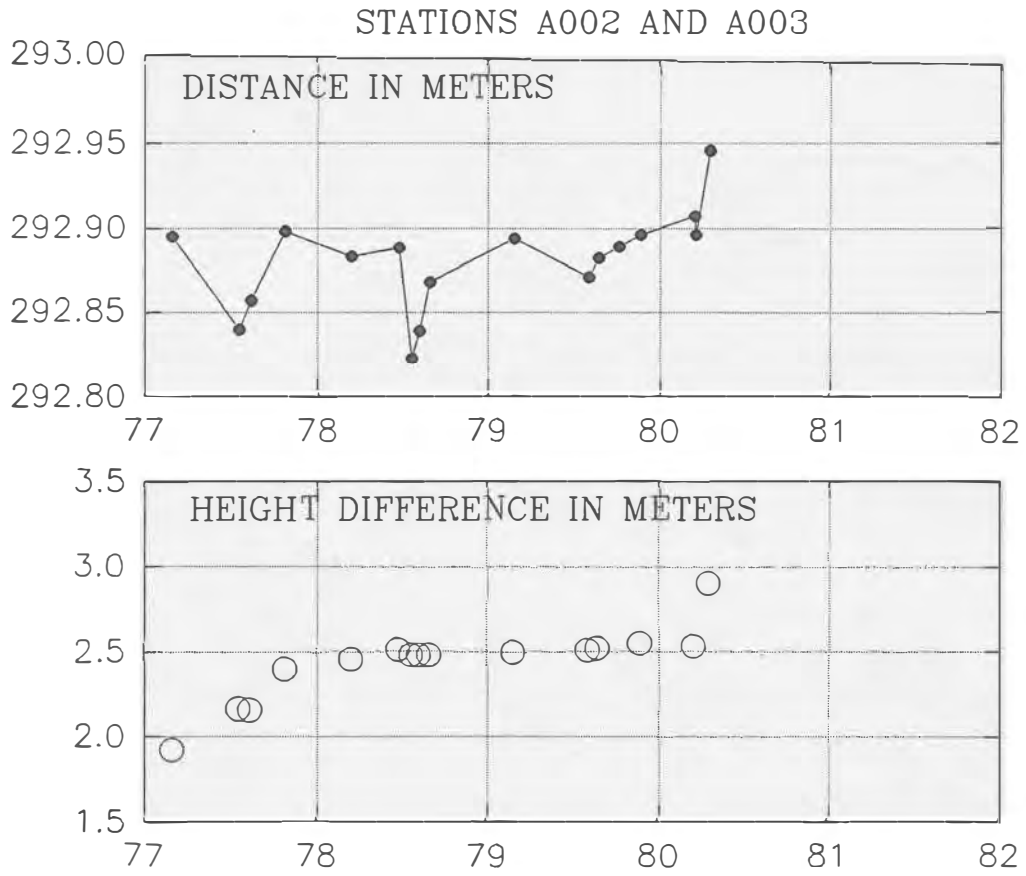


Fig. 2b

STATIONS A002 AND A005

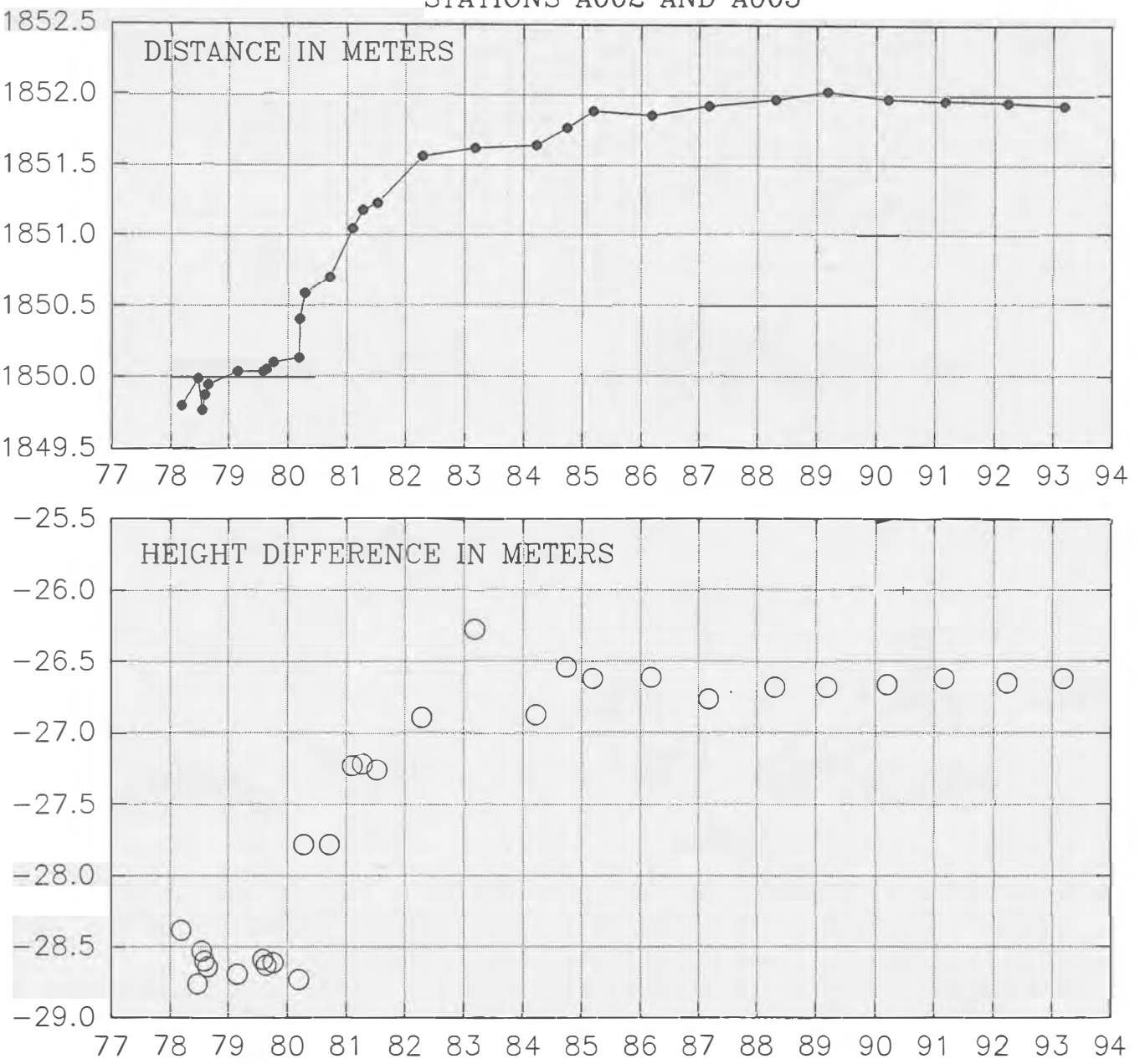


Fig. 2c

STATIONS A002 AND A012

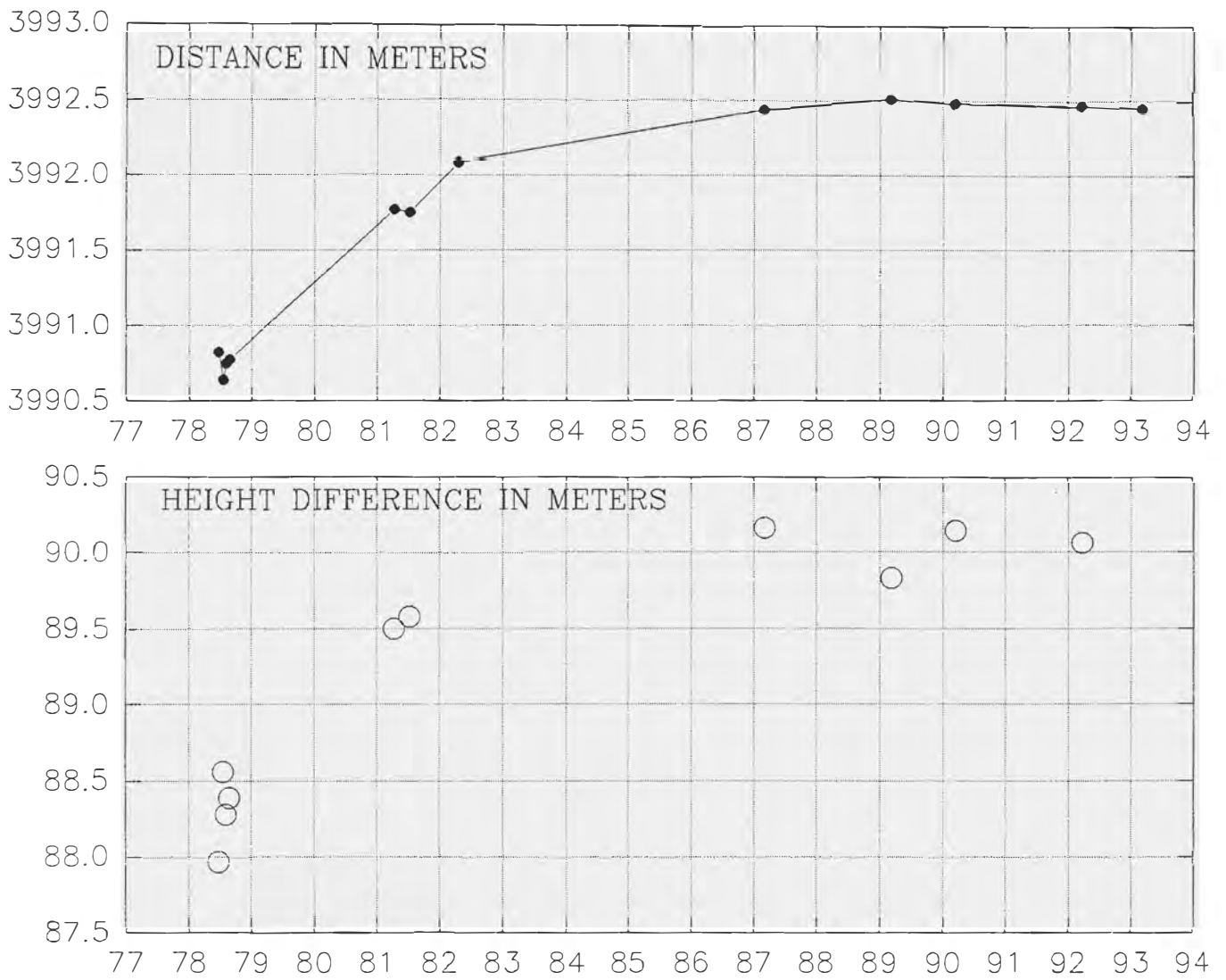


Fig. 2d

STATIONS A002 AND NE79077

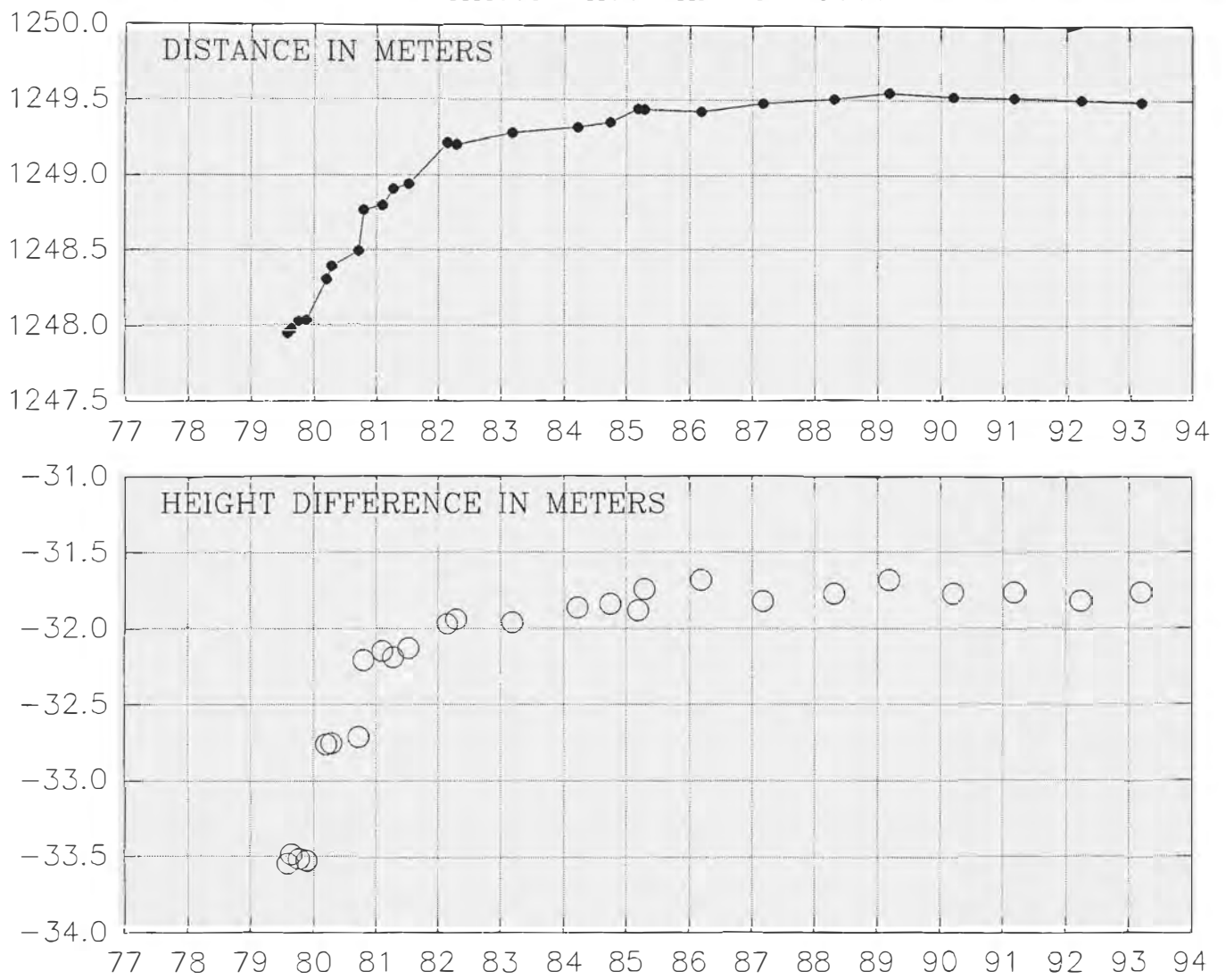


Fig. 2e

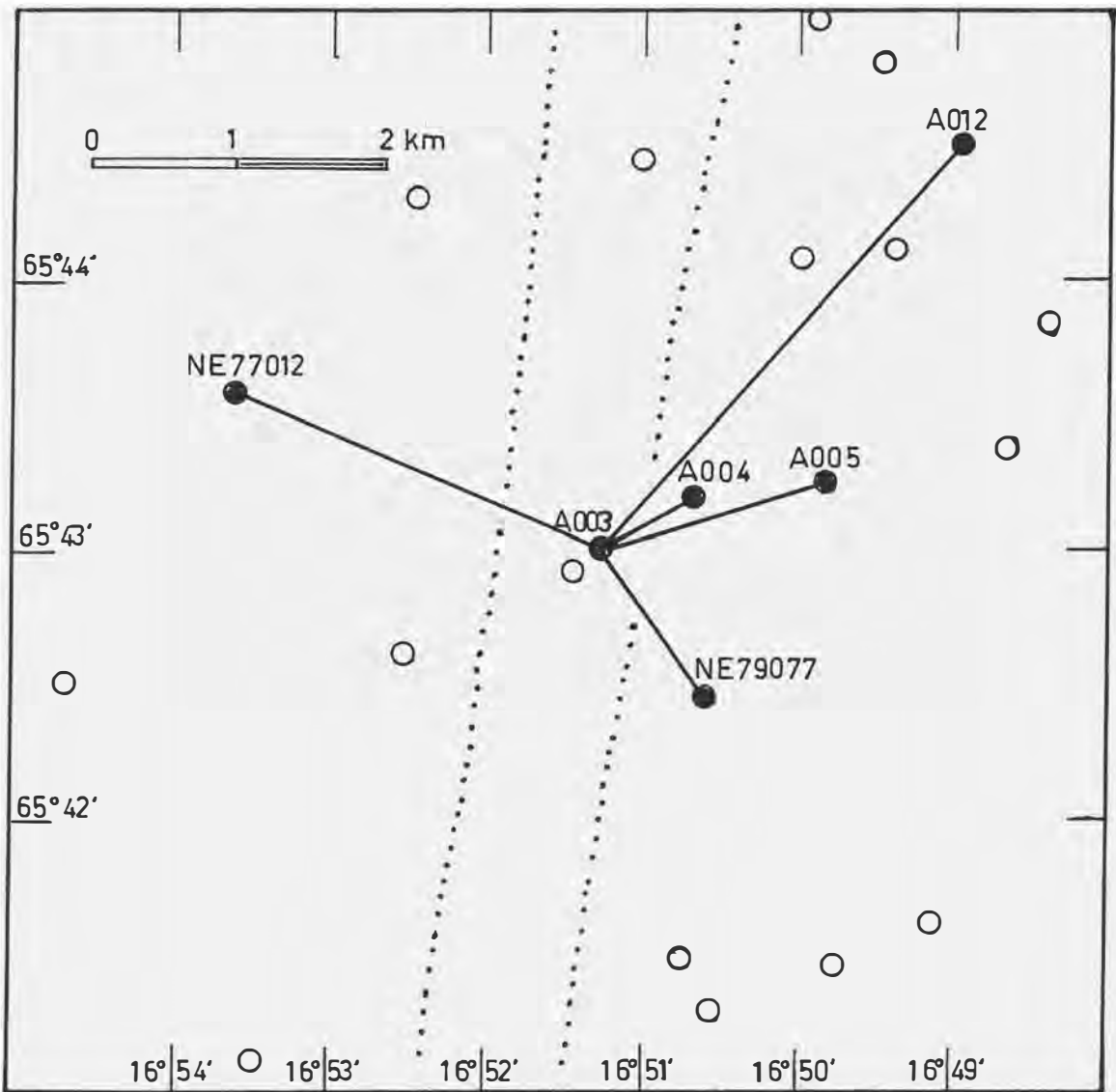


Fig. 3

Lines from station A003 which have been measured at least nine times from 1977 to 1993. Figs. 3a to 3e present measured slope distances at time of measurements and the calculated elevation differences. See Fig. 2 for further explanations.

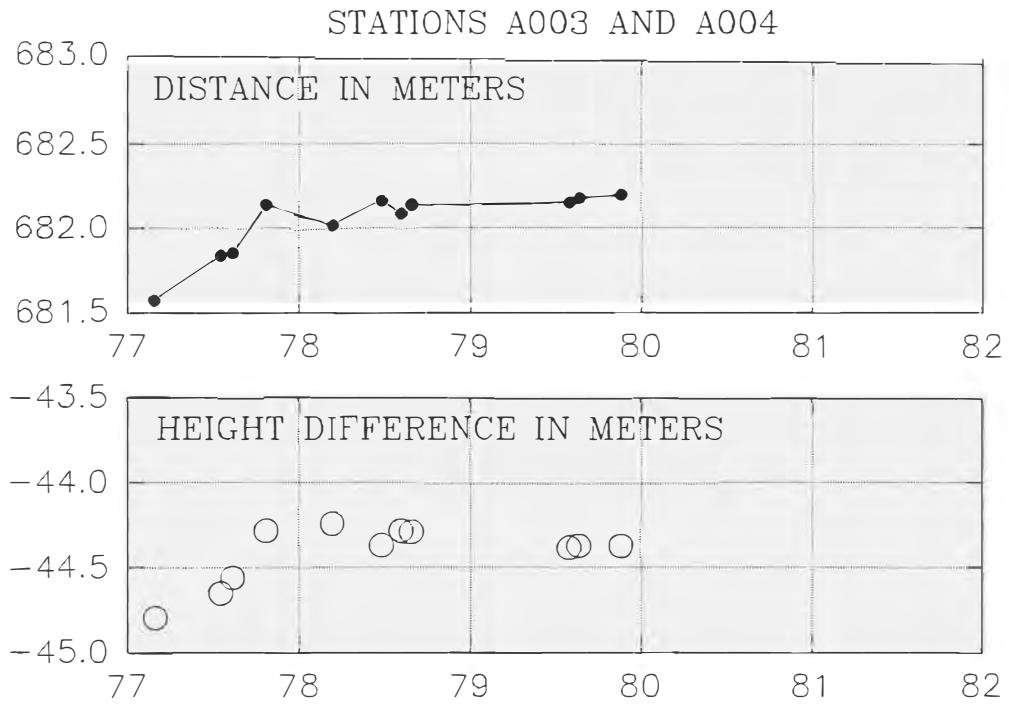


Fig. 3a

STATIONS A003 AND A005

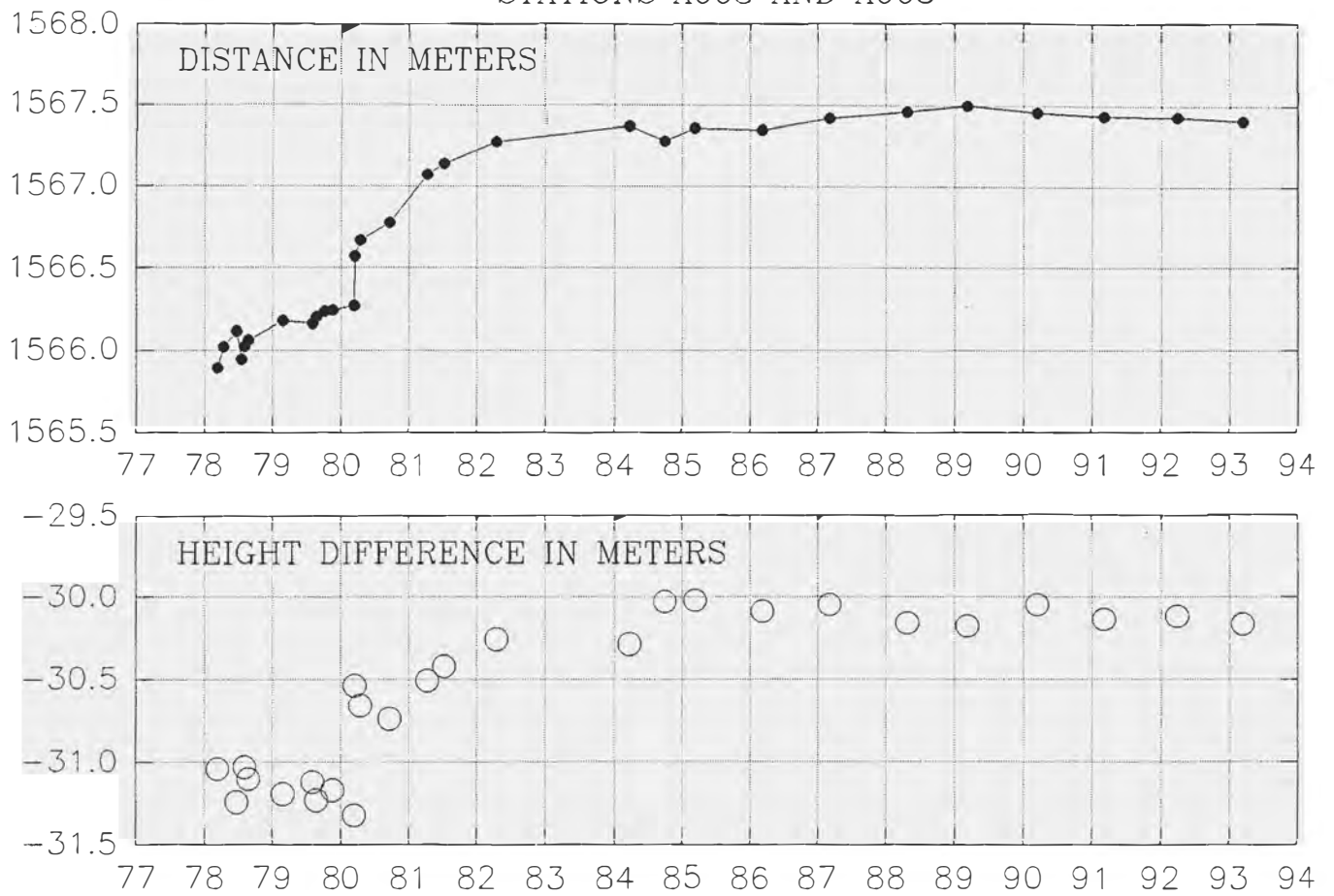


Fig. 3b

STATIONS A003 AND A012

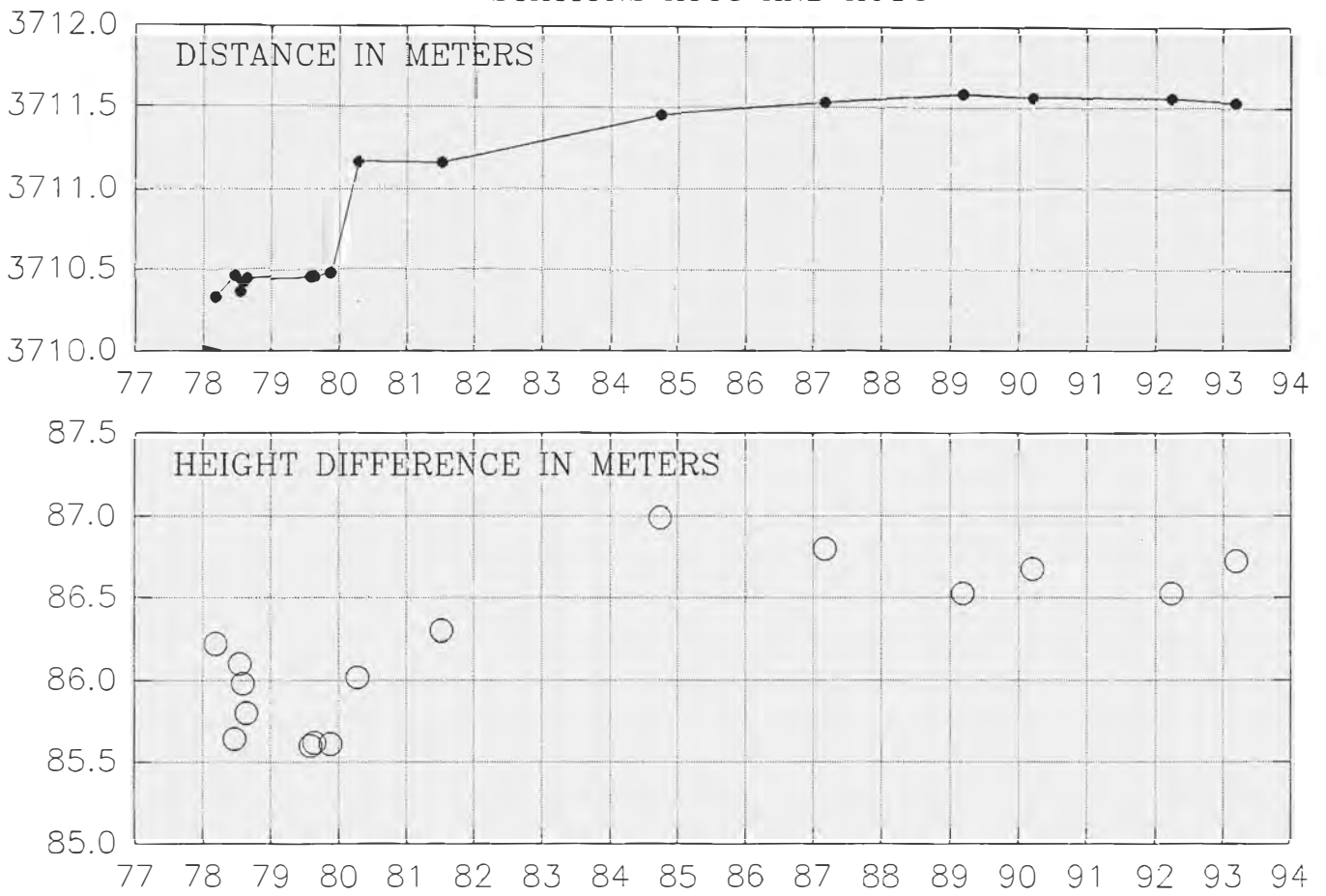


Fig. 3c

STATIONS A003 AND NE77012

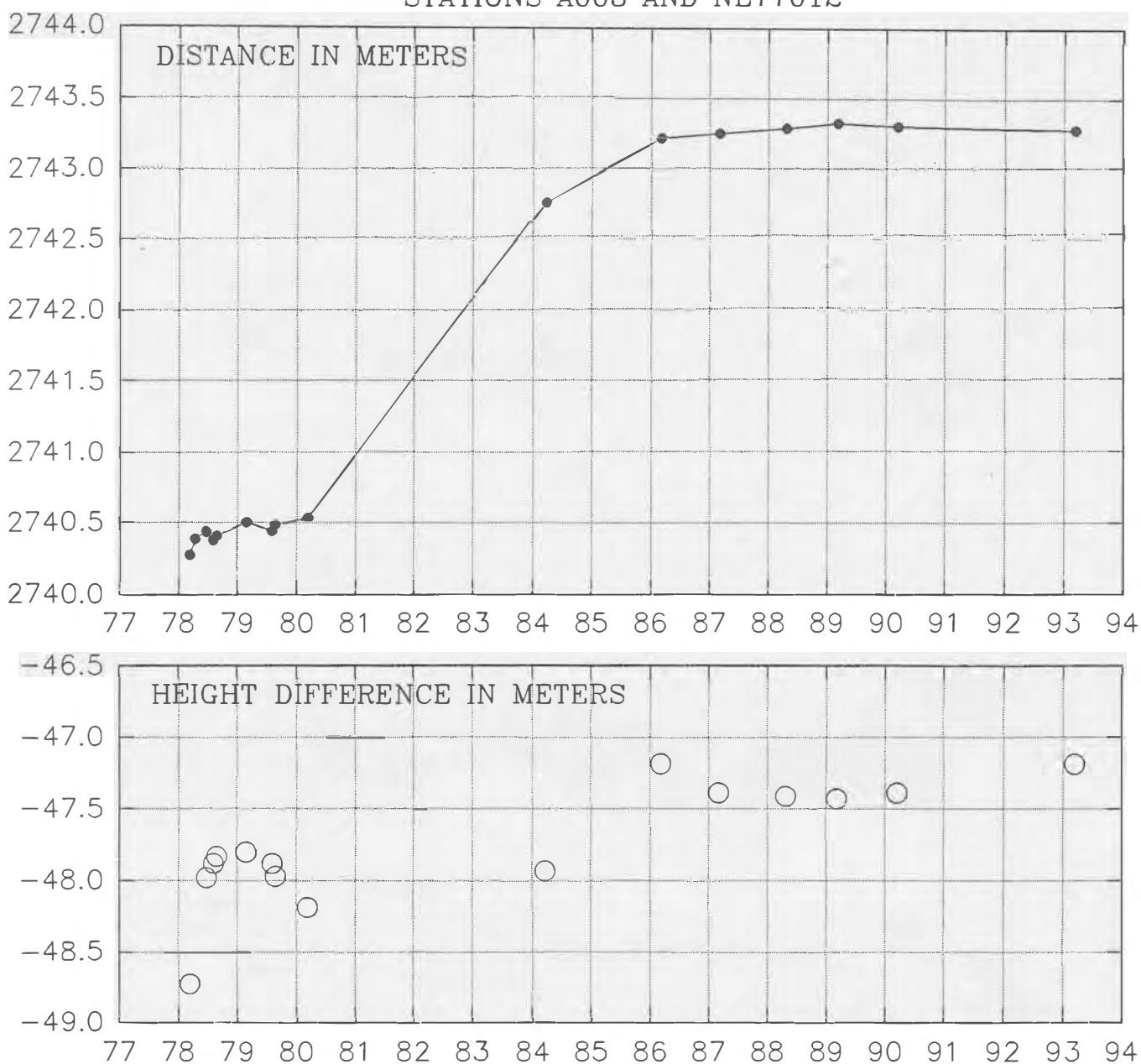


Fig. 3d

STATIONS A003 AND NE79077

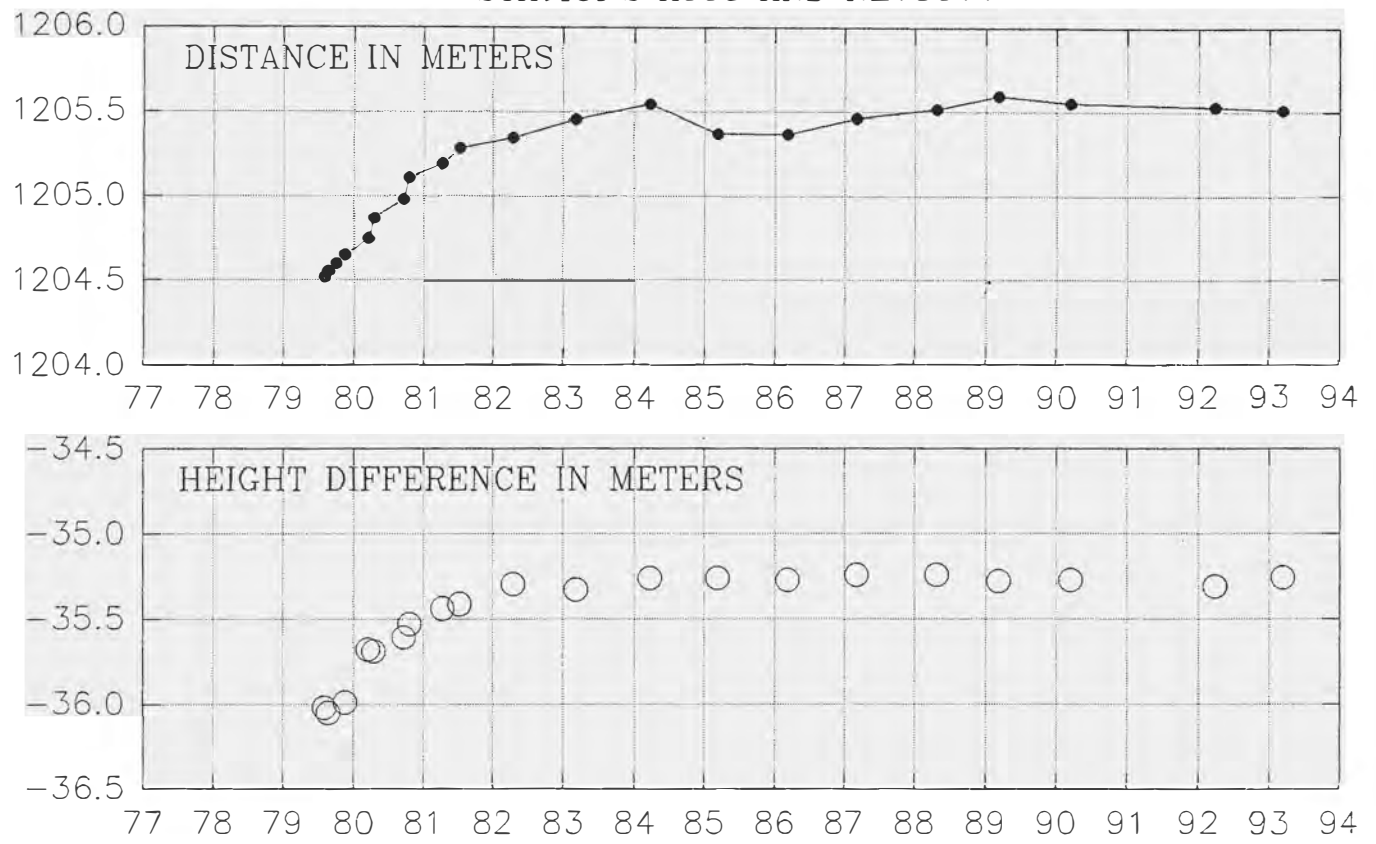


Fig. 3e

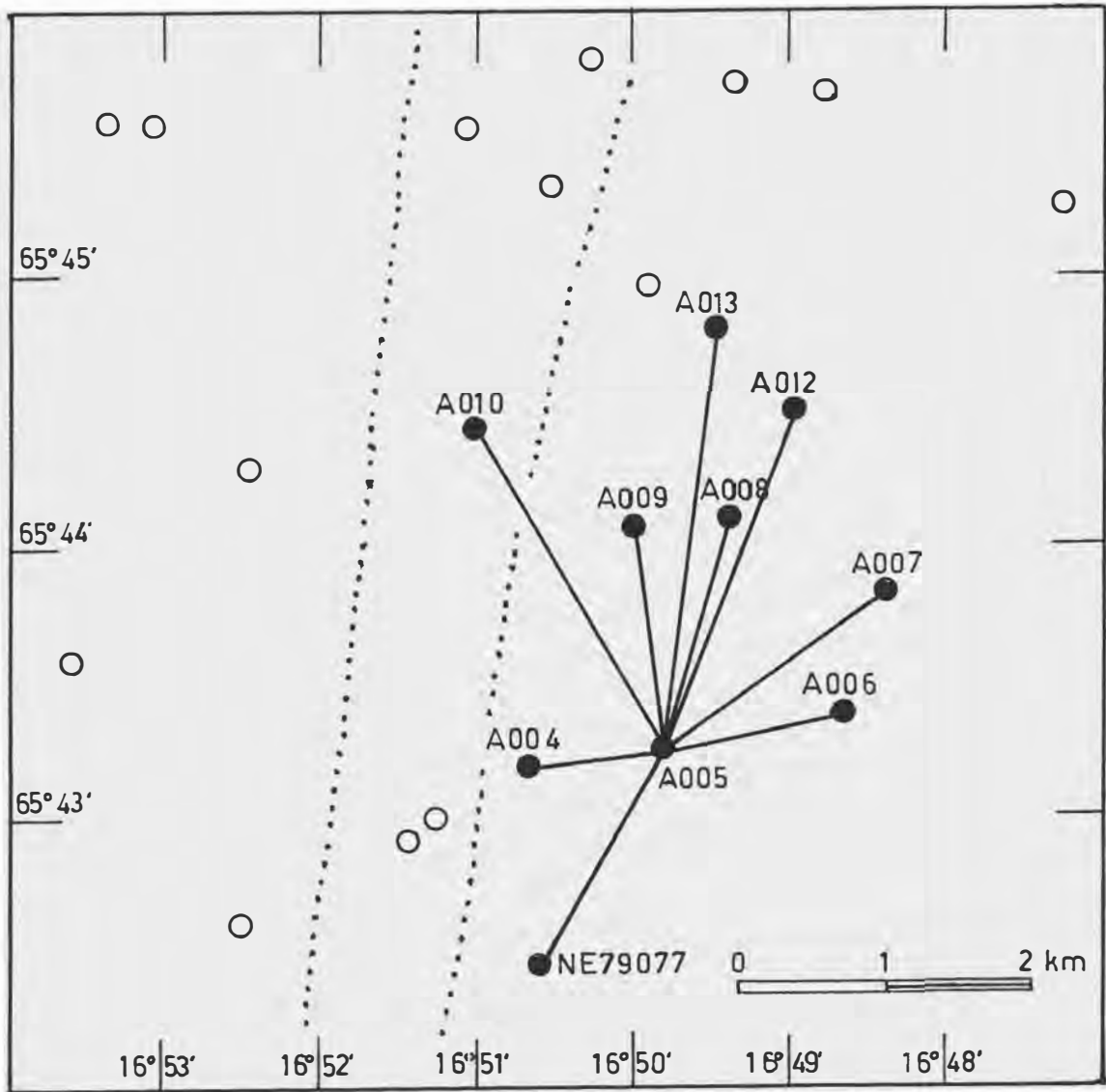


Fig. 4

Lines from station A005 which have been measured at least nine times from 1977 to 1993. Other lines from A005 are included in figures 2 and 3. Figs. 4a to 4i show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS A005 AND A004

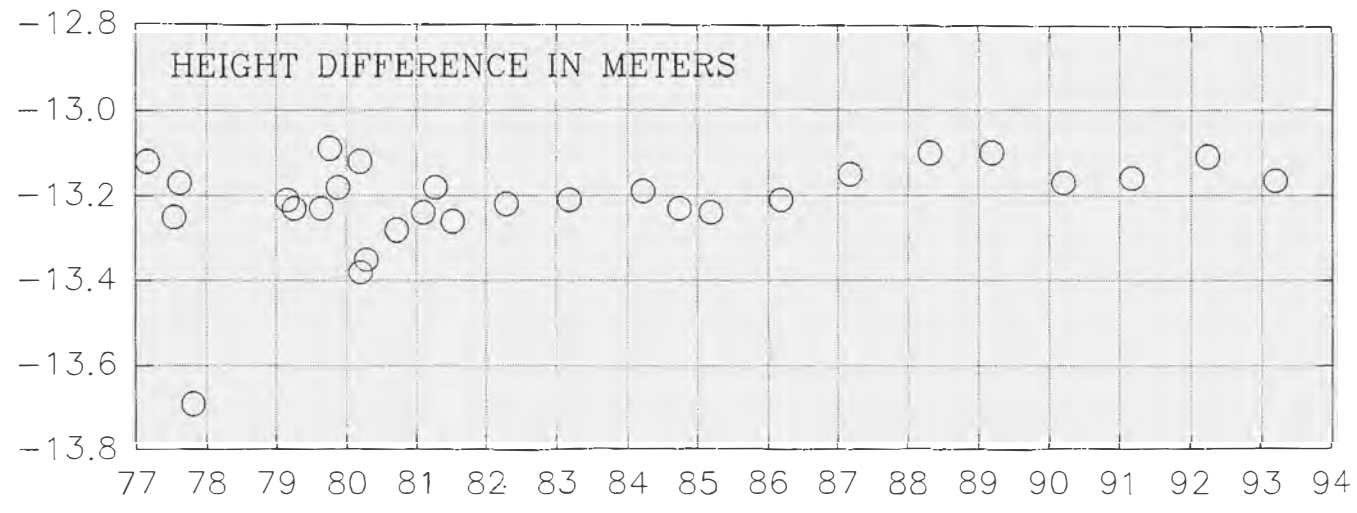
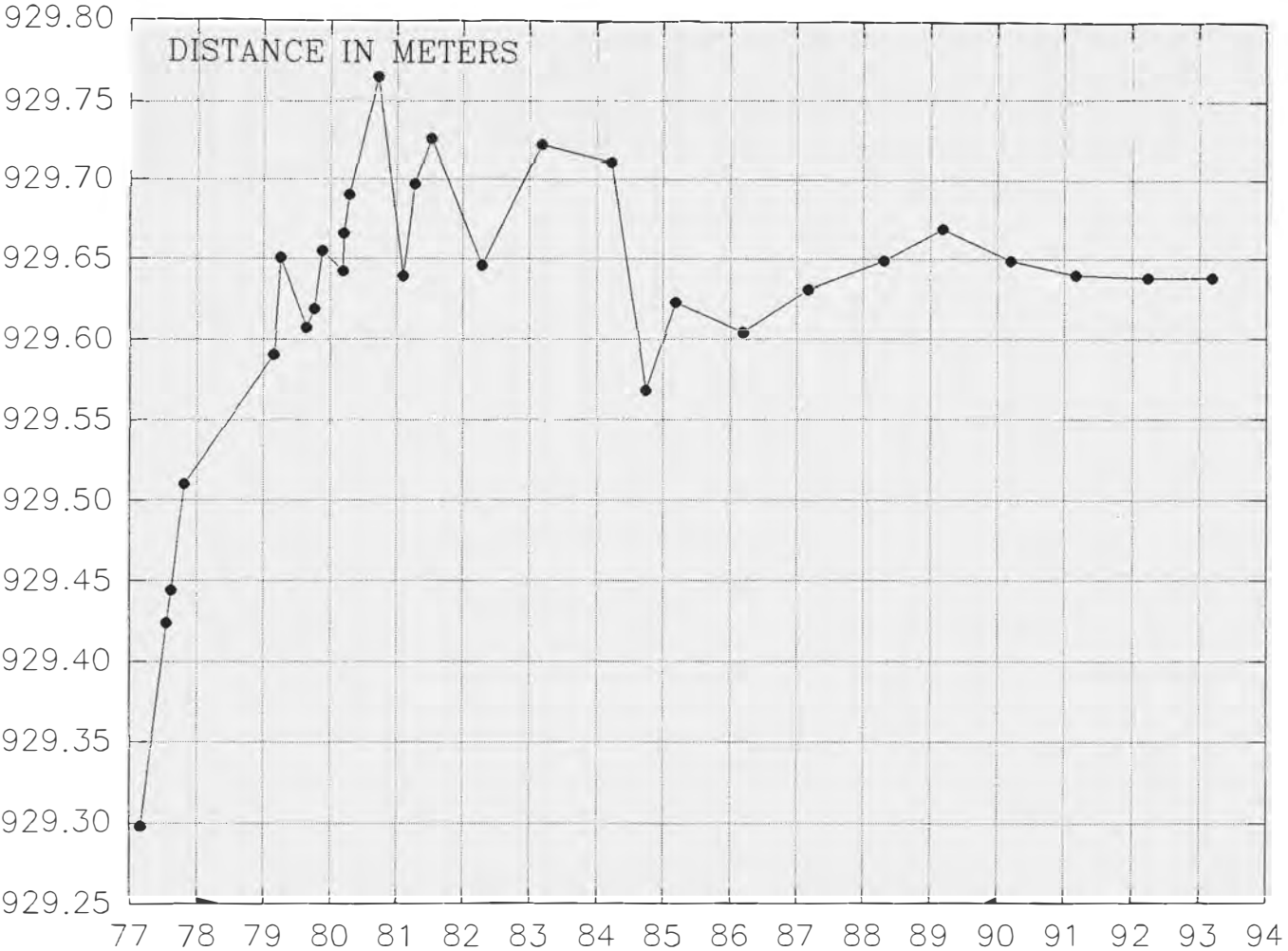


Fig. 4a

STATONS A005 AND A006

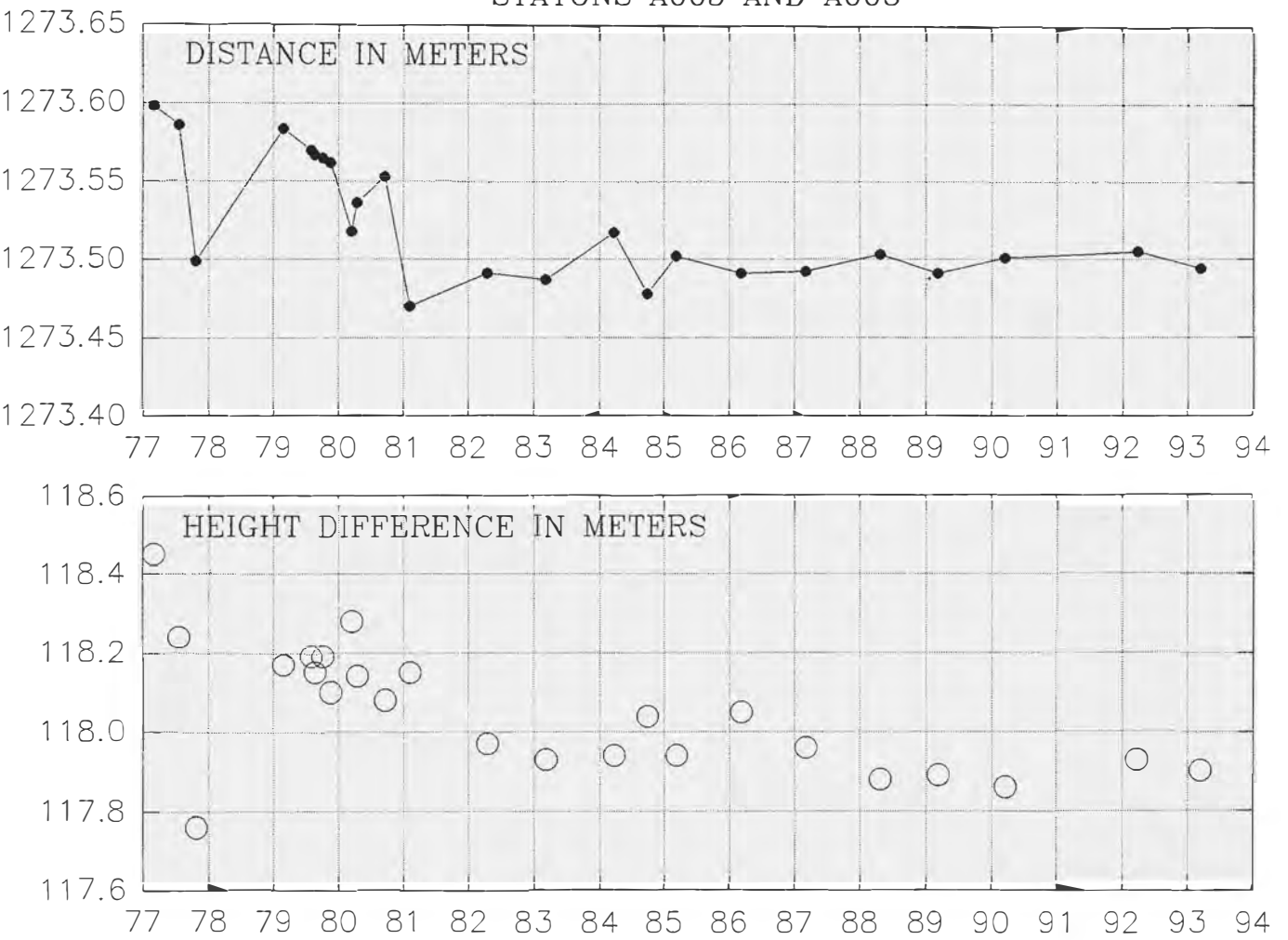


Fig. 4b

STATIONS A005 AND A007

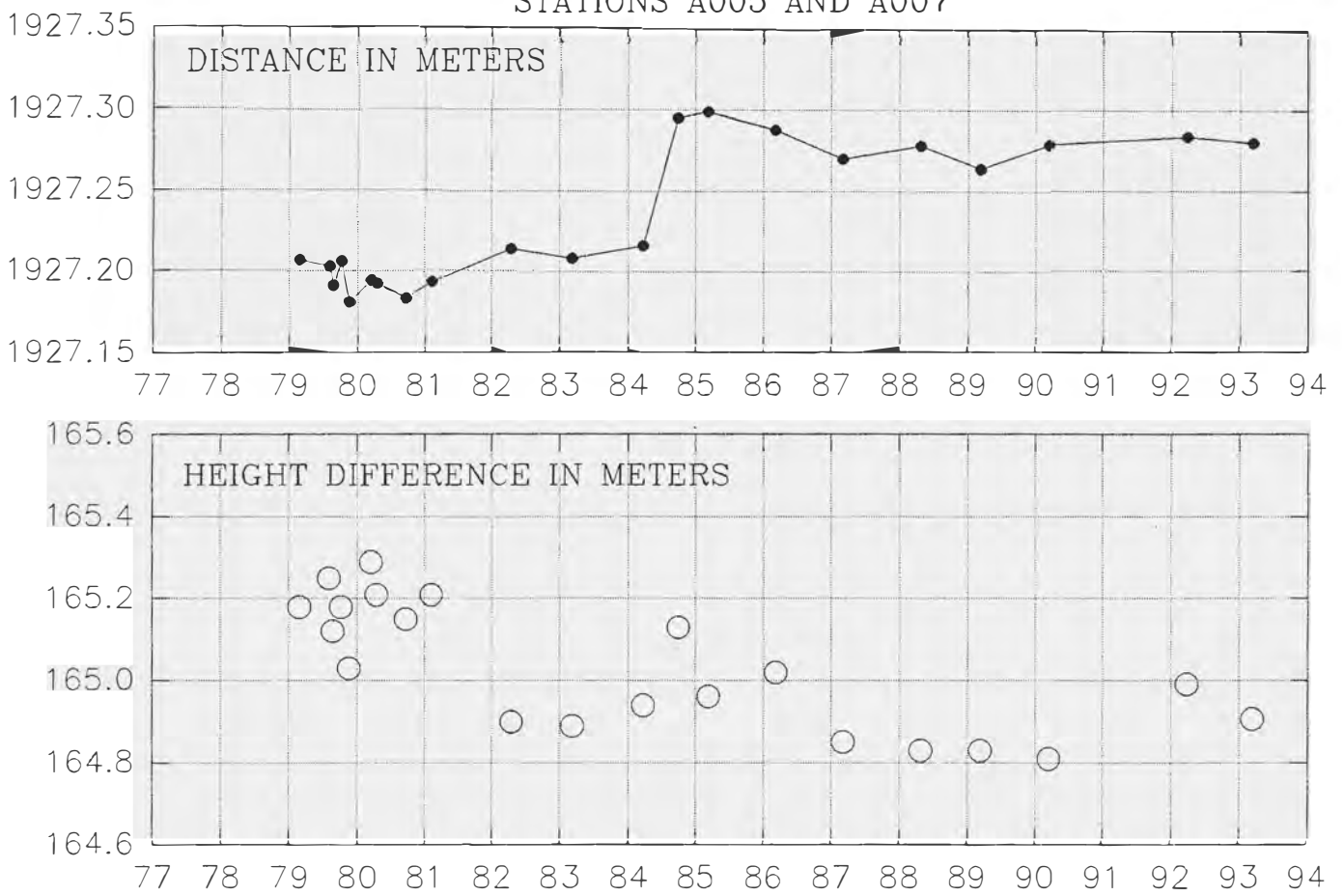


Fig. 4c

STATIONS A005 AND A008

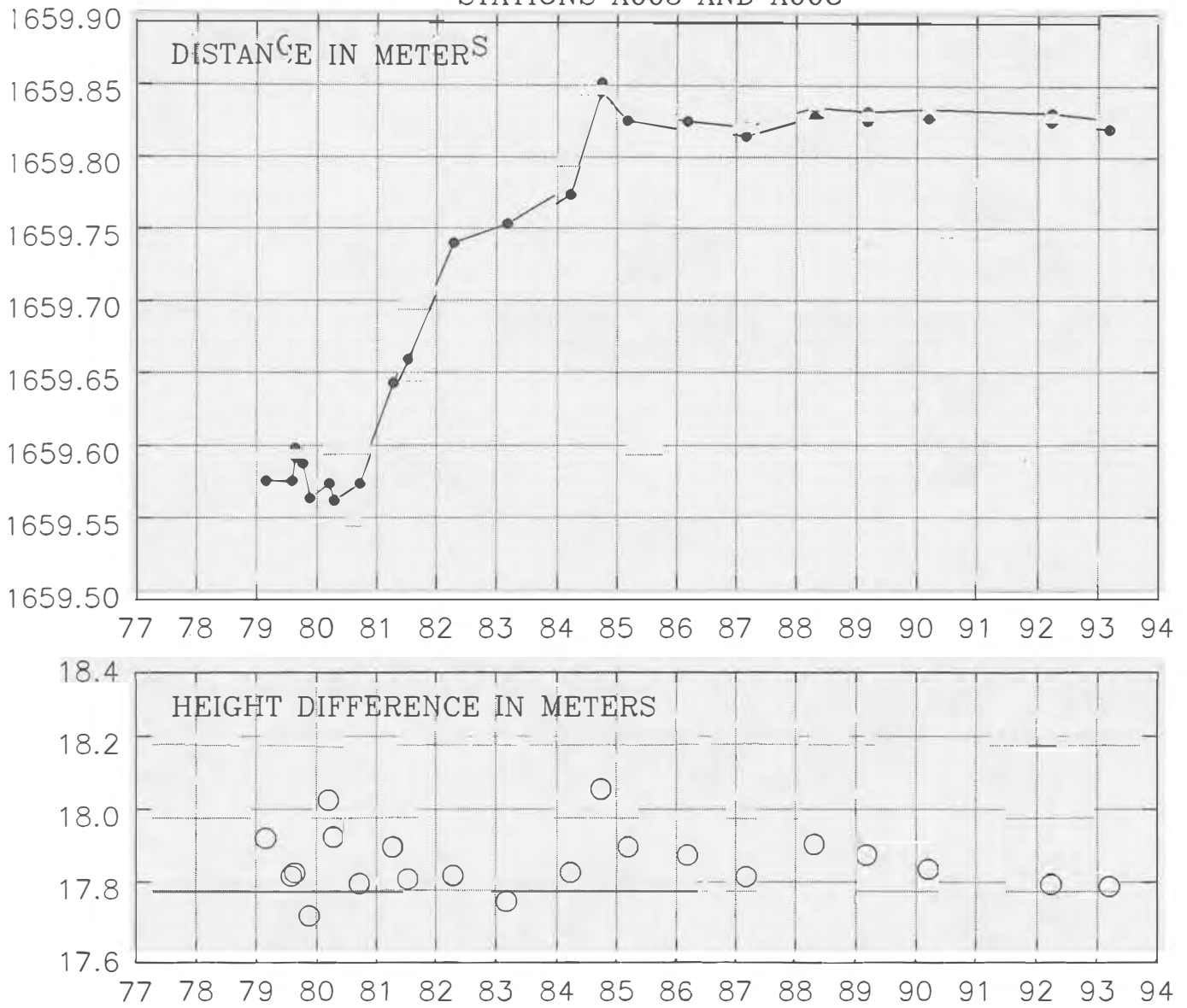


Fig. 4d

STATIONS A005 AND A009

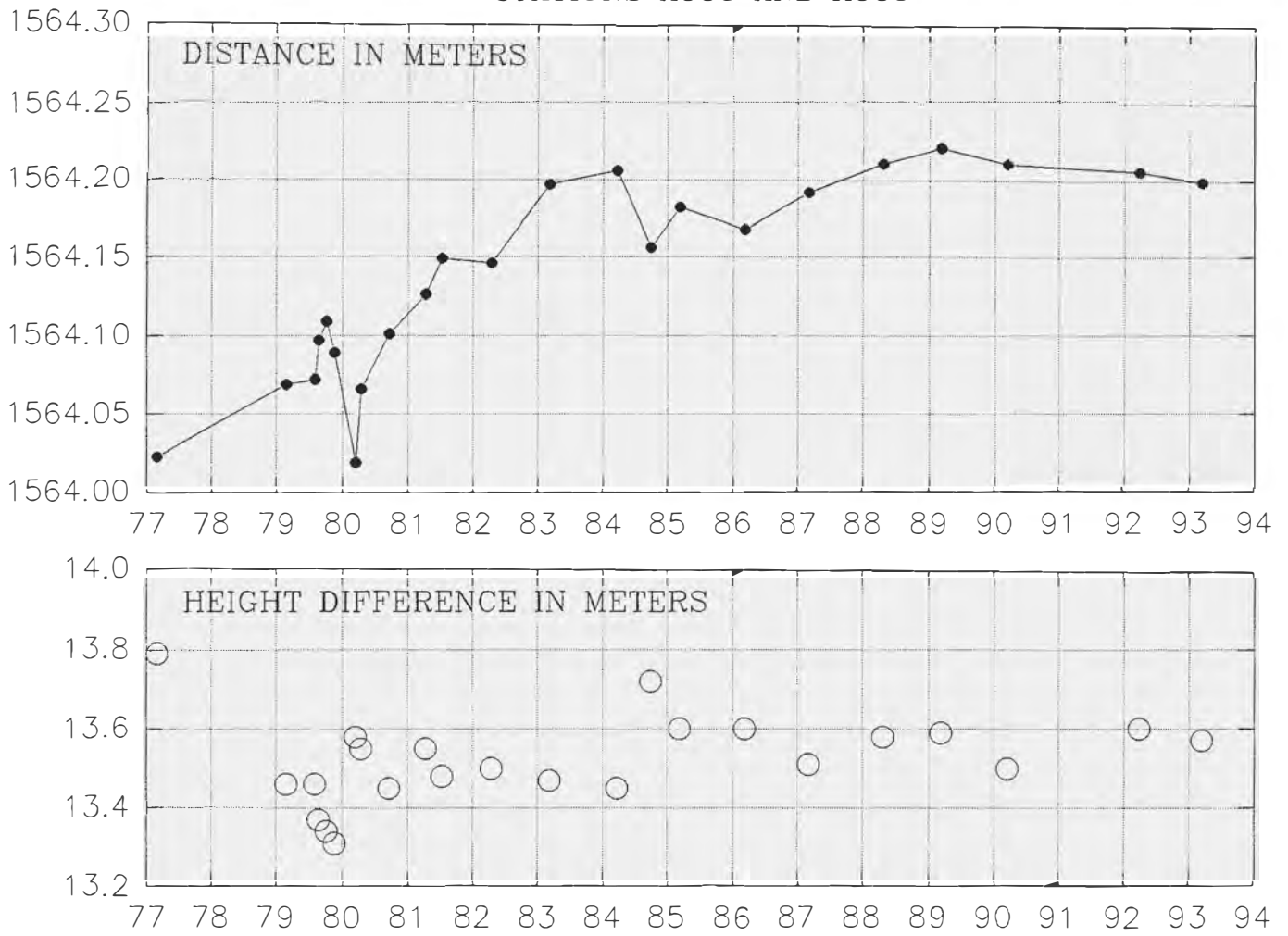


Fig. 4e

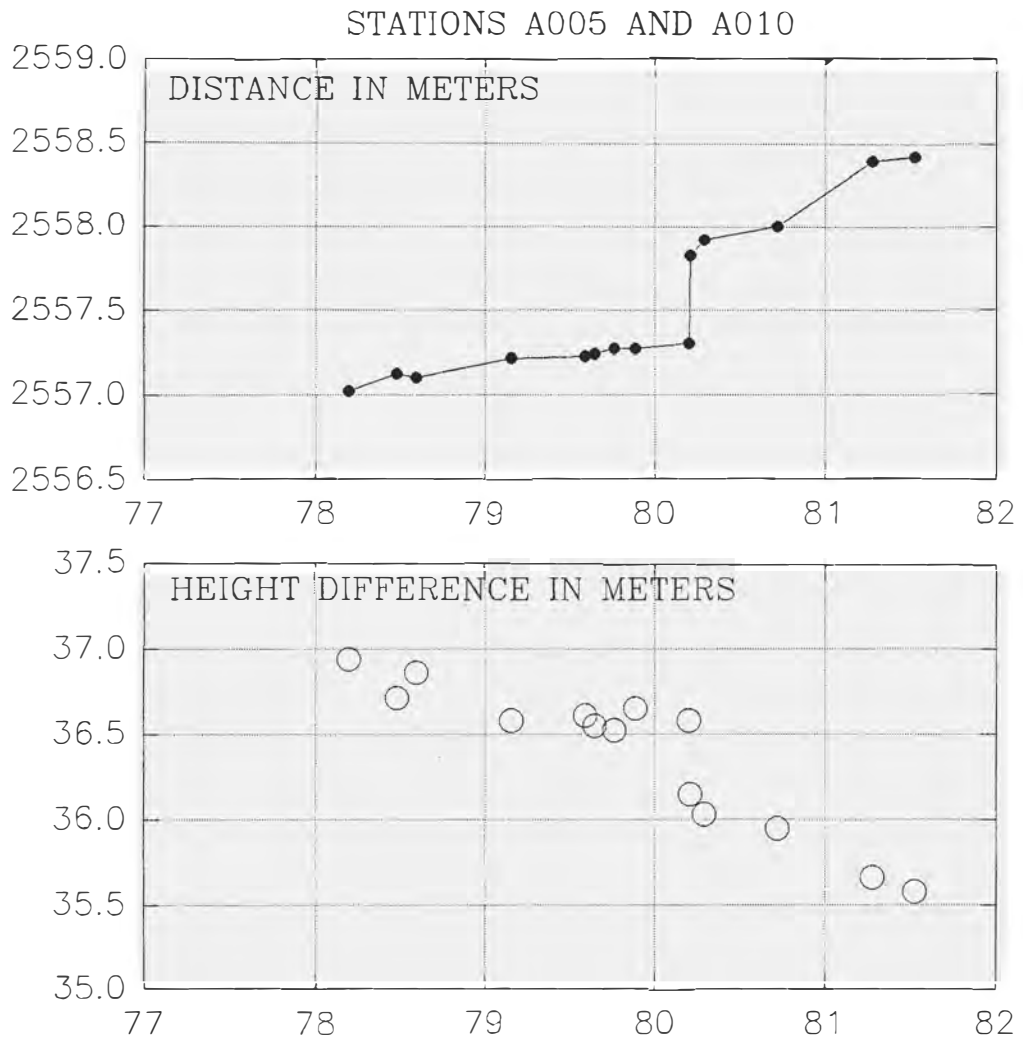


Fig. 4f

STATIONS A005 AND A012

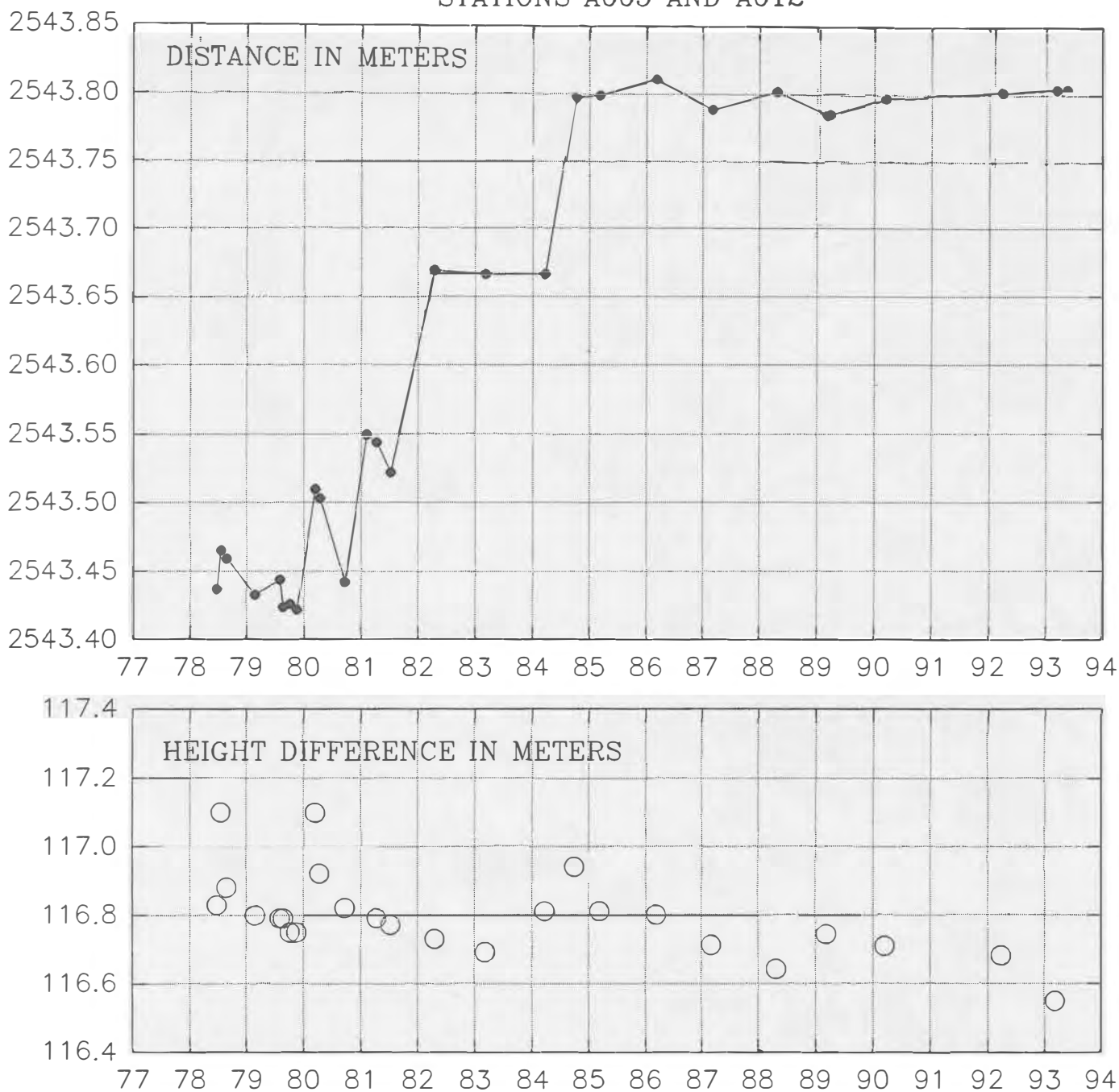


Fig. 4g

STATIONS A005 AND A013

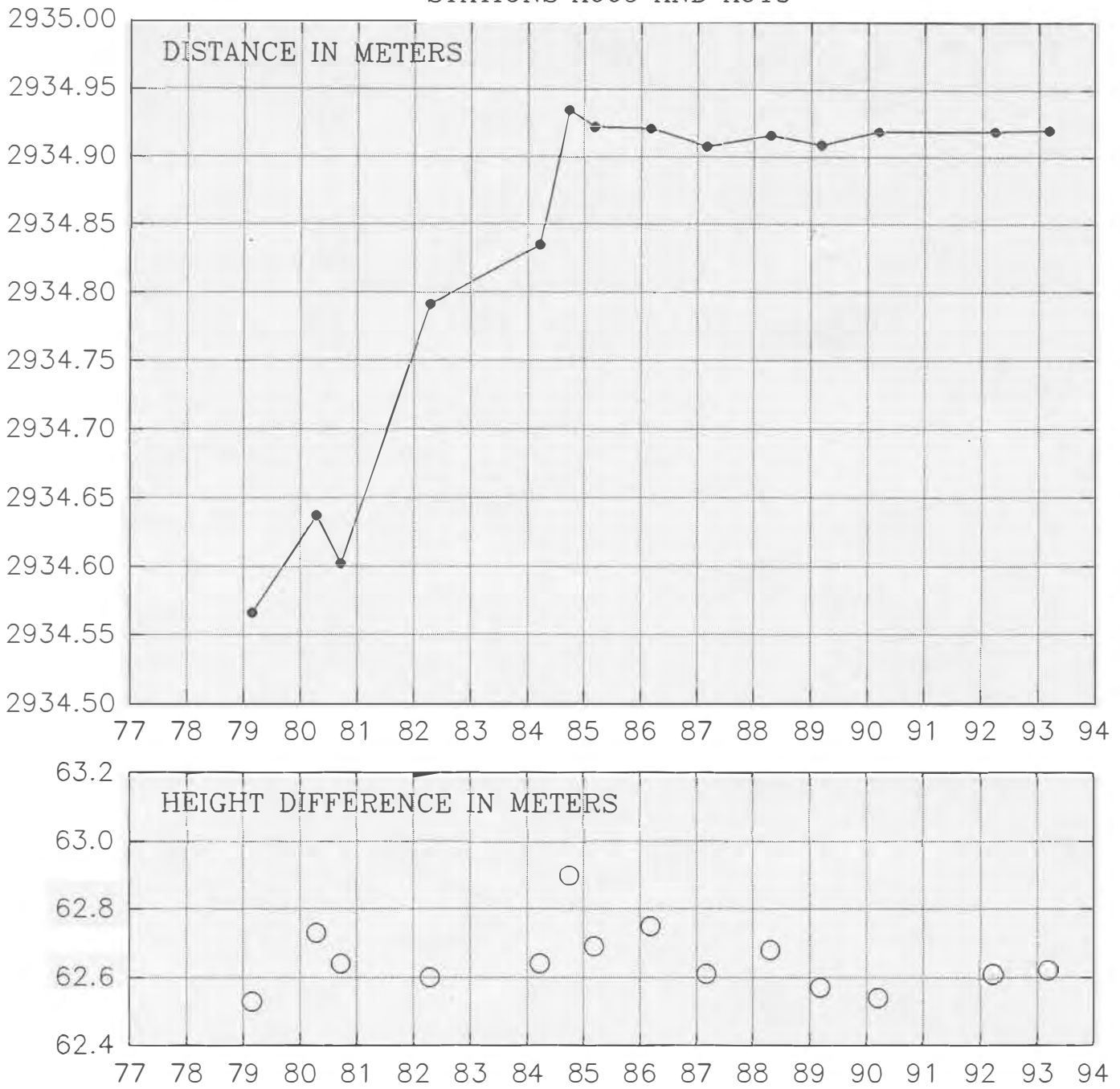


Fig. 4h

STATIONS A005 AND NE79077

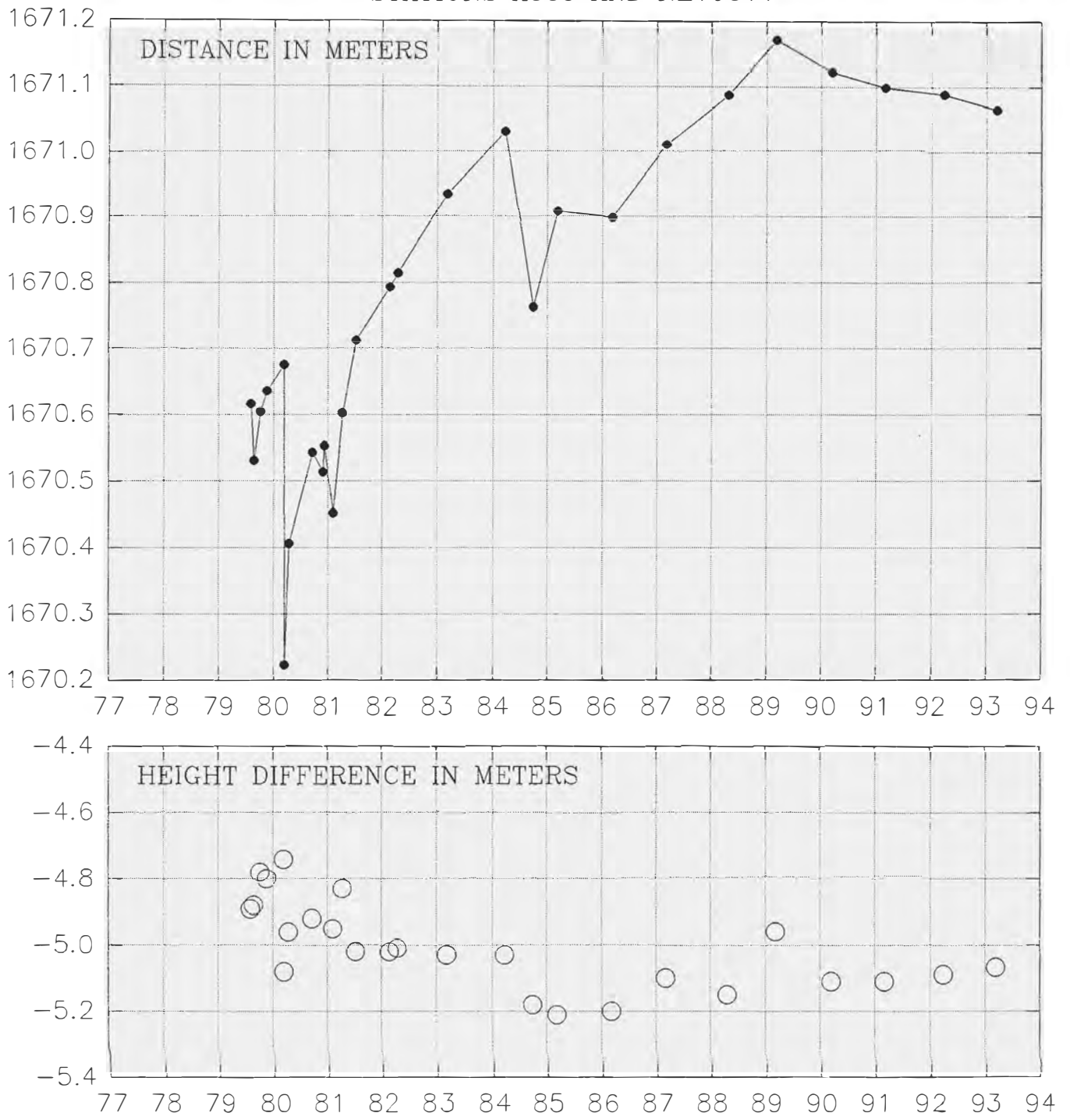


Fig. 4i

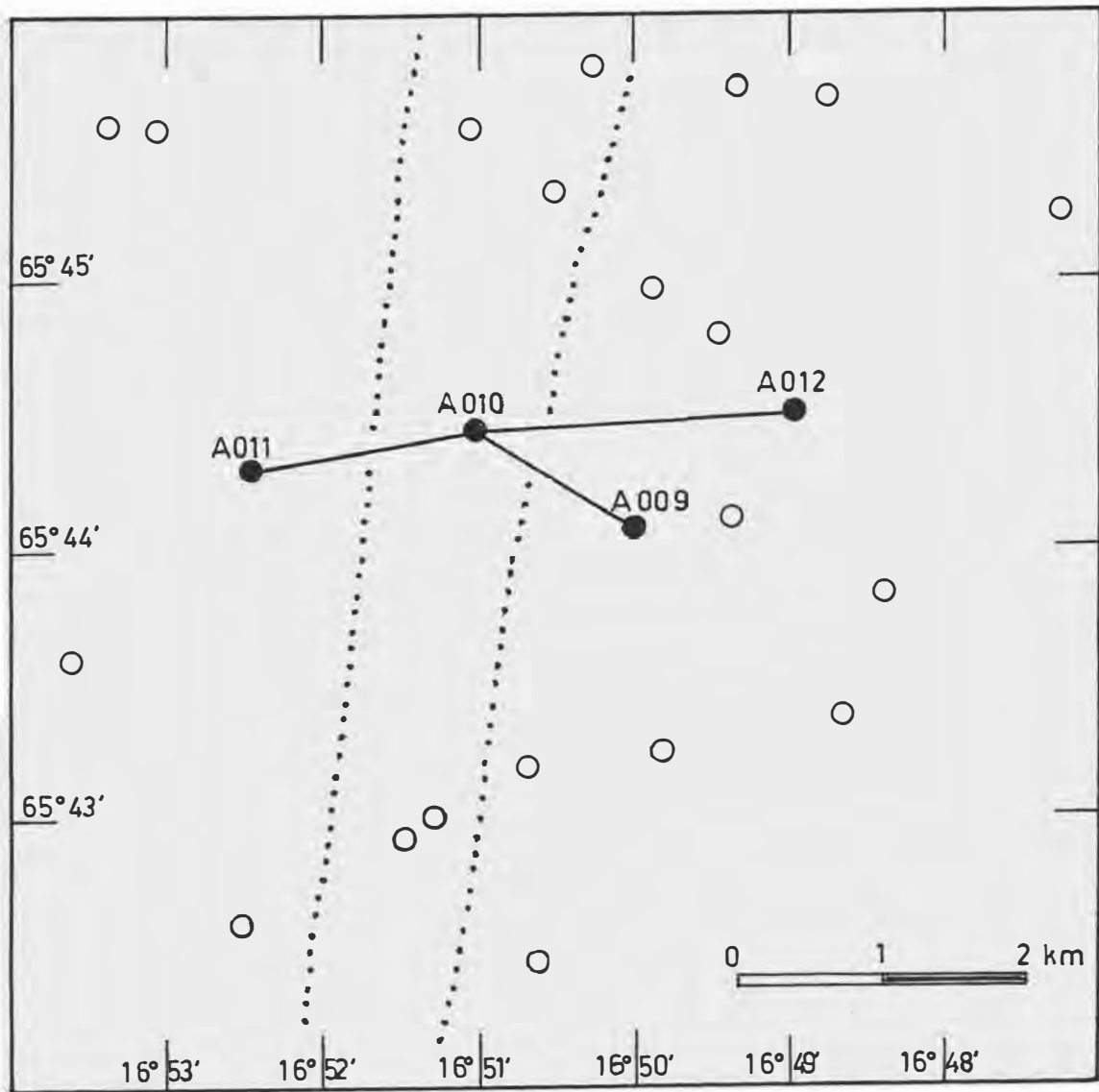


Fig. 5

Lines from station A010 which have been measured at least nine times from 1977 to 1981. Other lines from A010 may be included in previous figures. Figs. 5a to 5c show measured slope distances and elevation differences at times of measurements. The station A010 was destroyed in an eruption of November 1981. See Fig. 2 for further explanation.

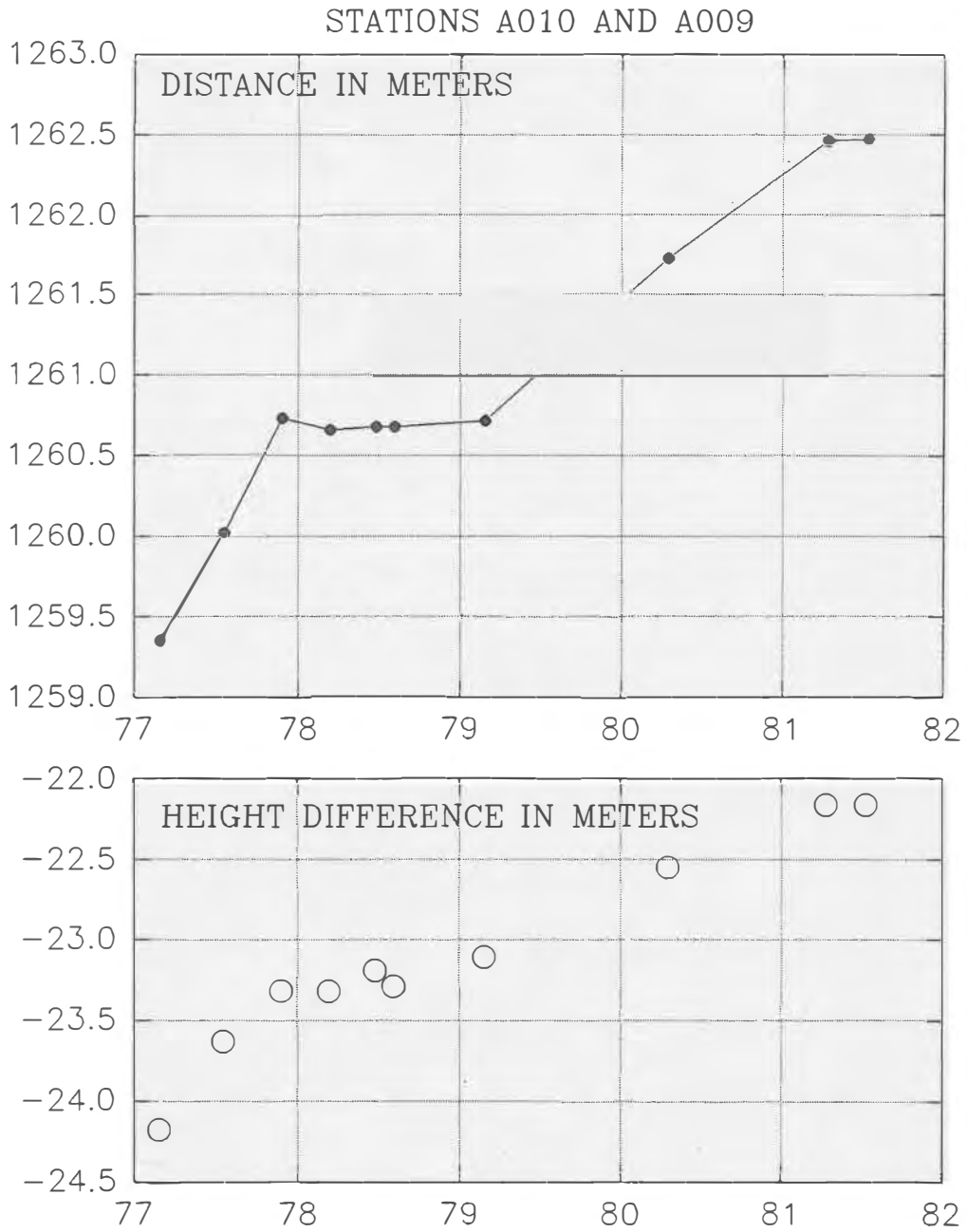


Fig. 5a

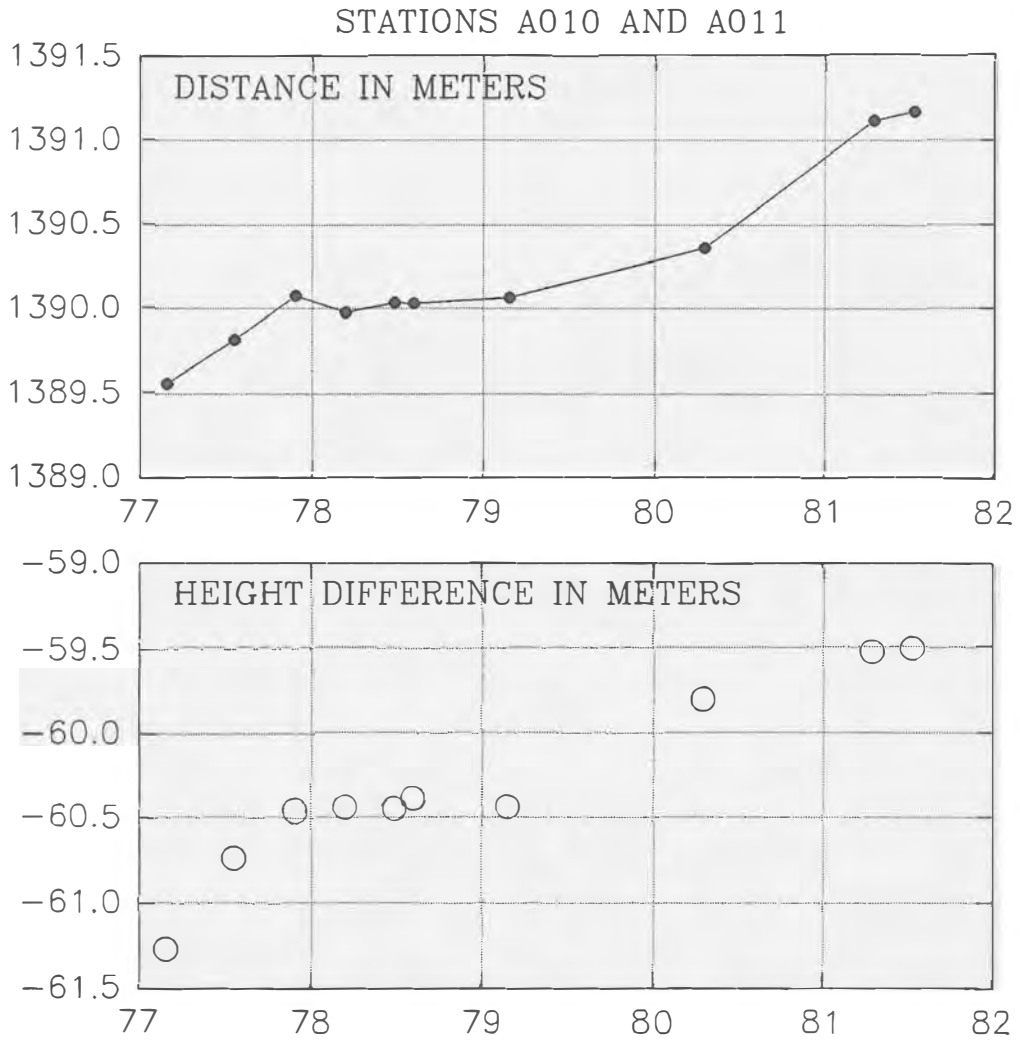


Fig. 5b

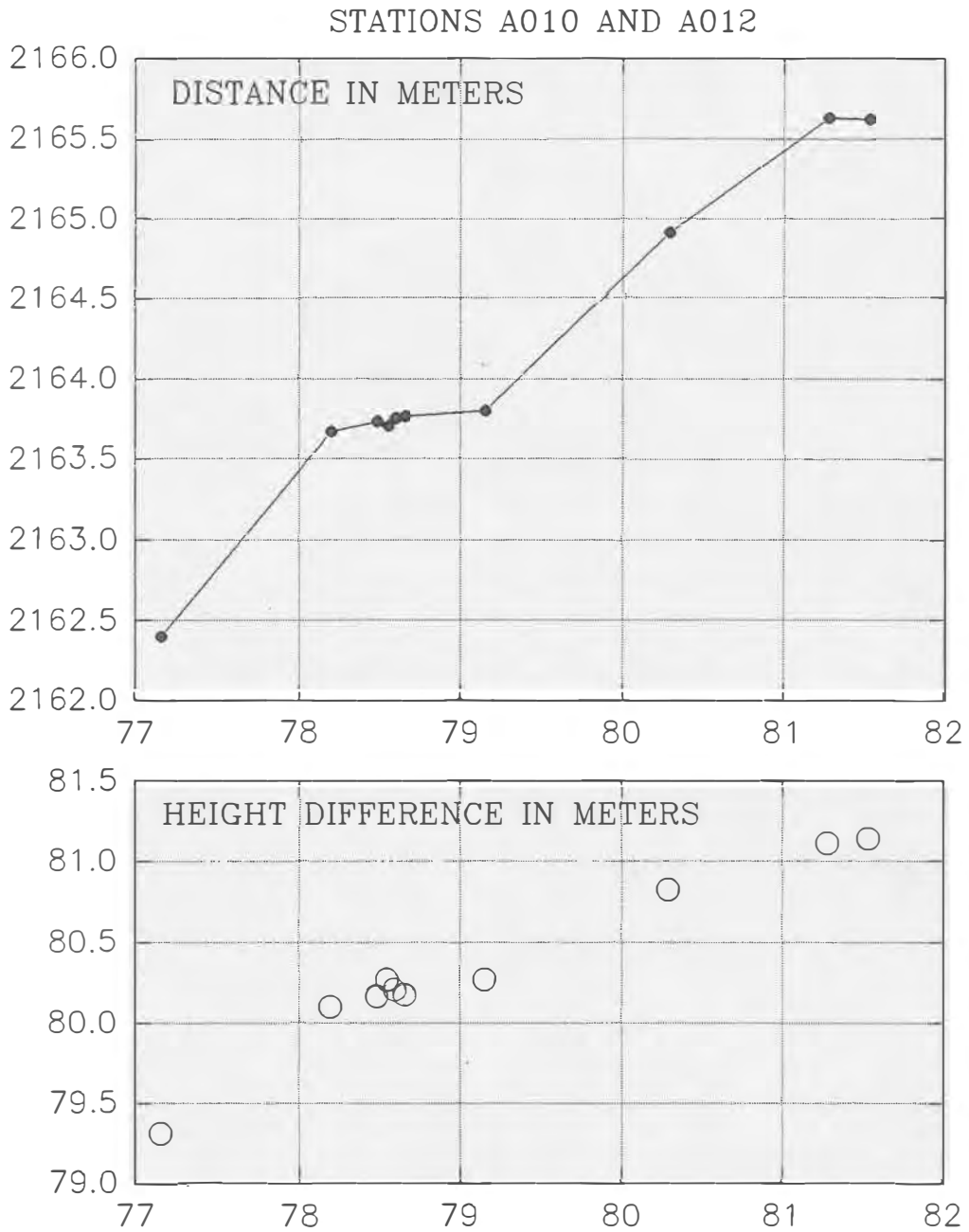


Fig. 5c

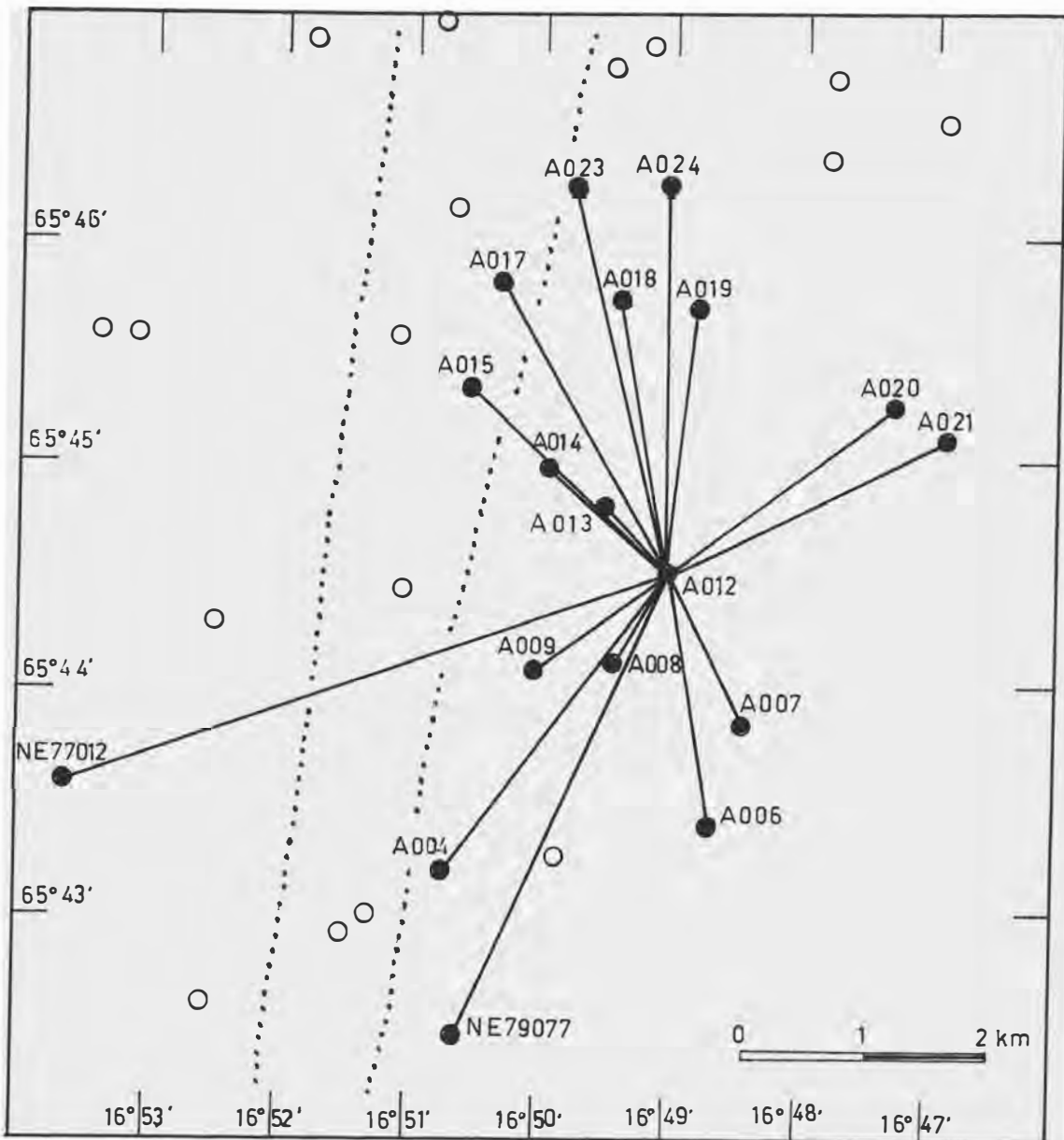


Fig. 6

Lines from station A012 which have been measured at least nine times from 1977 to 1993. Other lines from A012 may be included in earlier figures. Figs. 6a to 6q show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

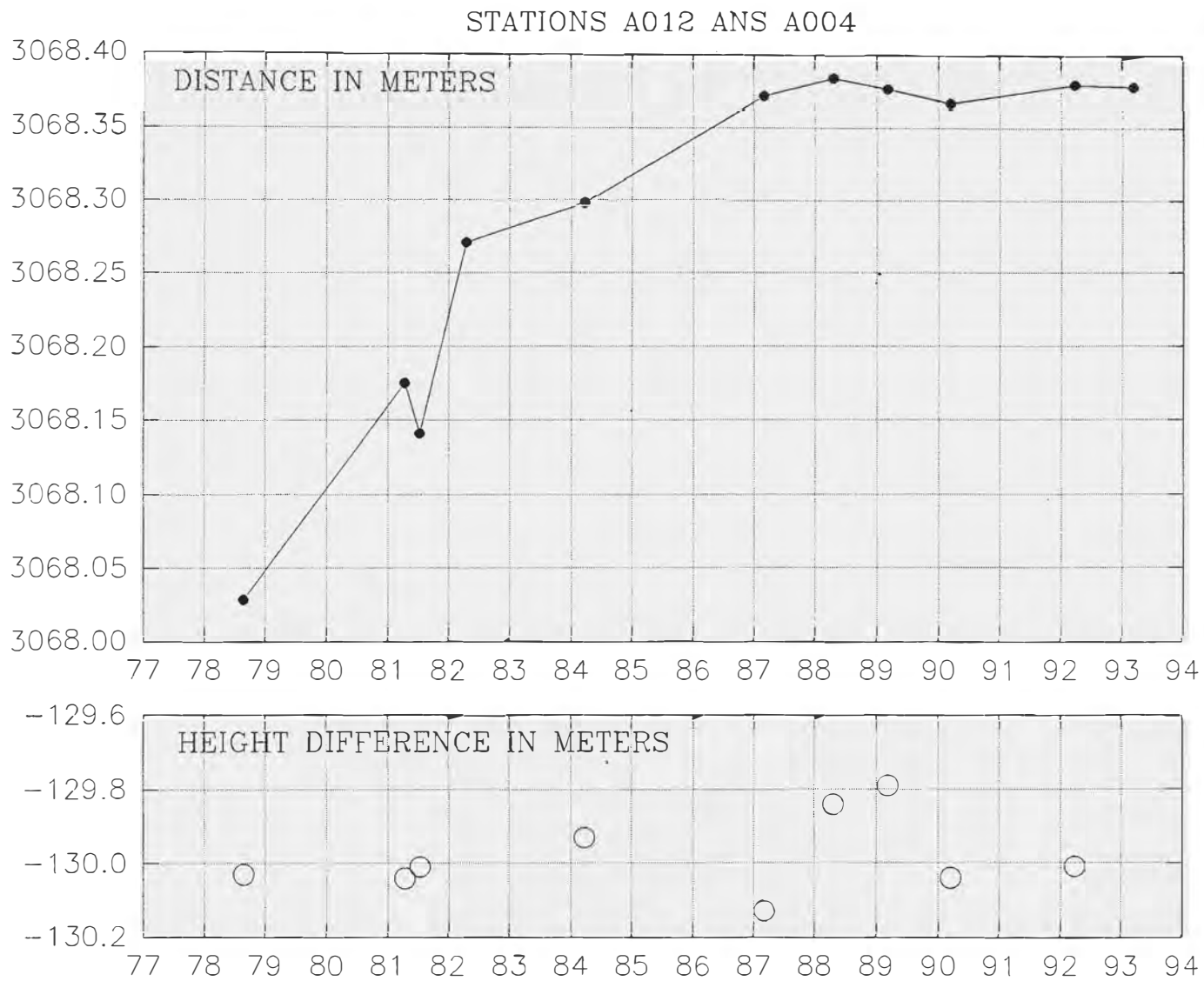


Fig. 6a

STATIONS A012 AND A006

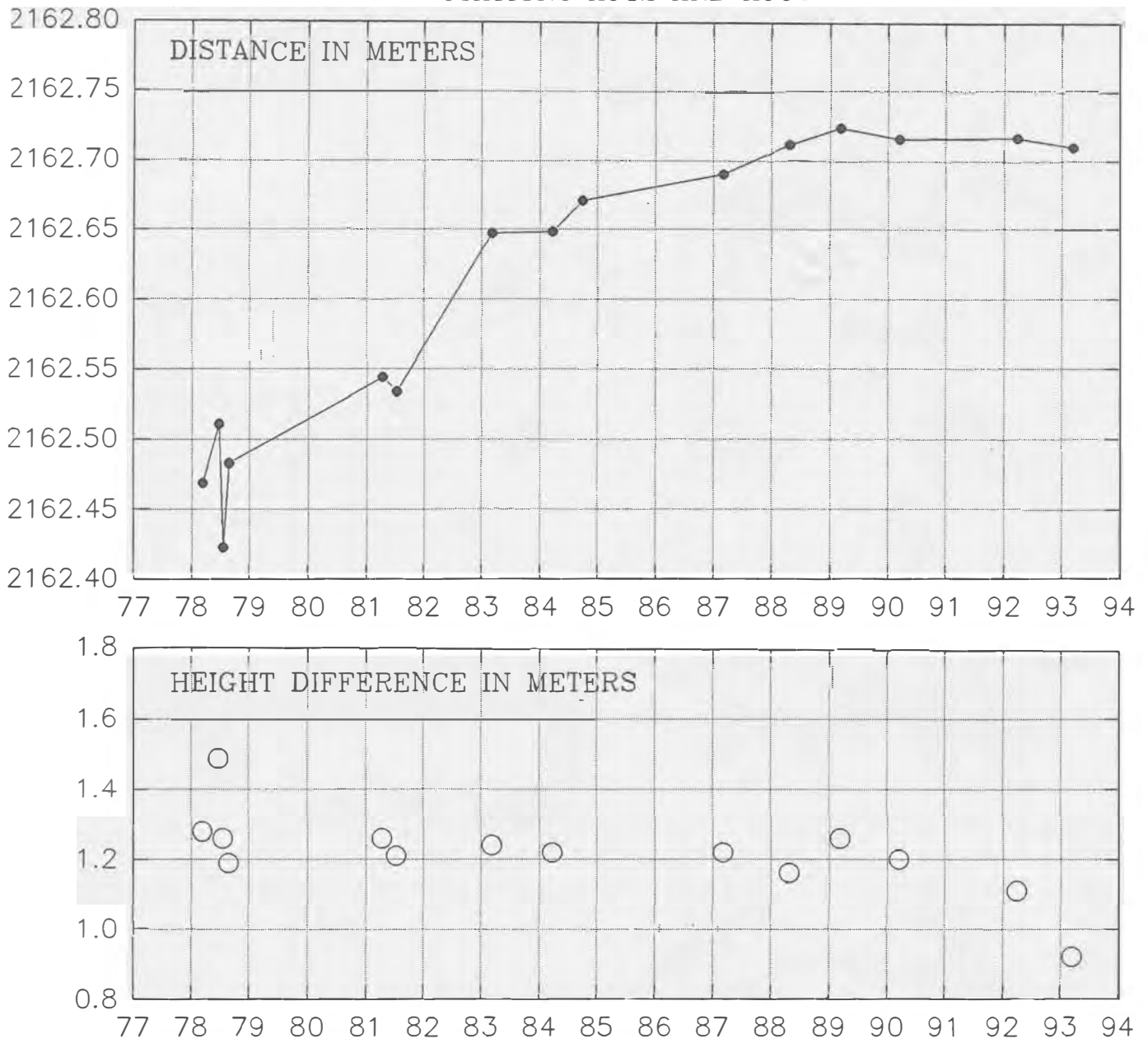


Fig. 6b

STATIONS A012 AND A007

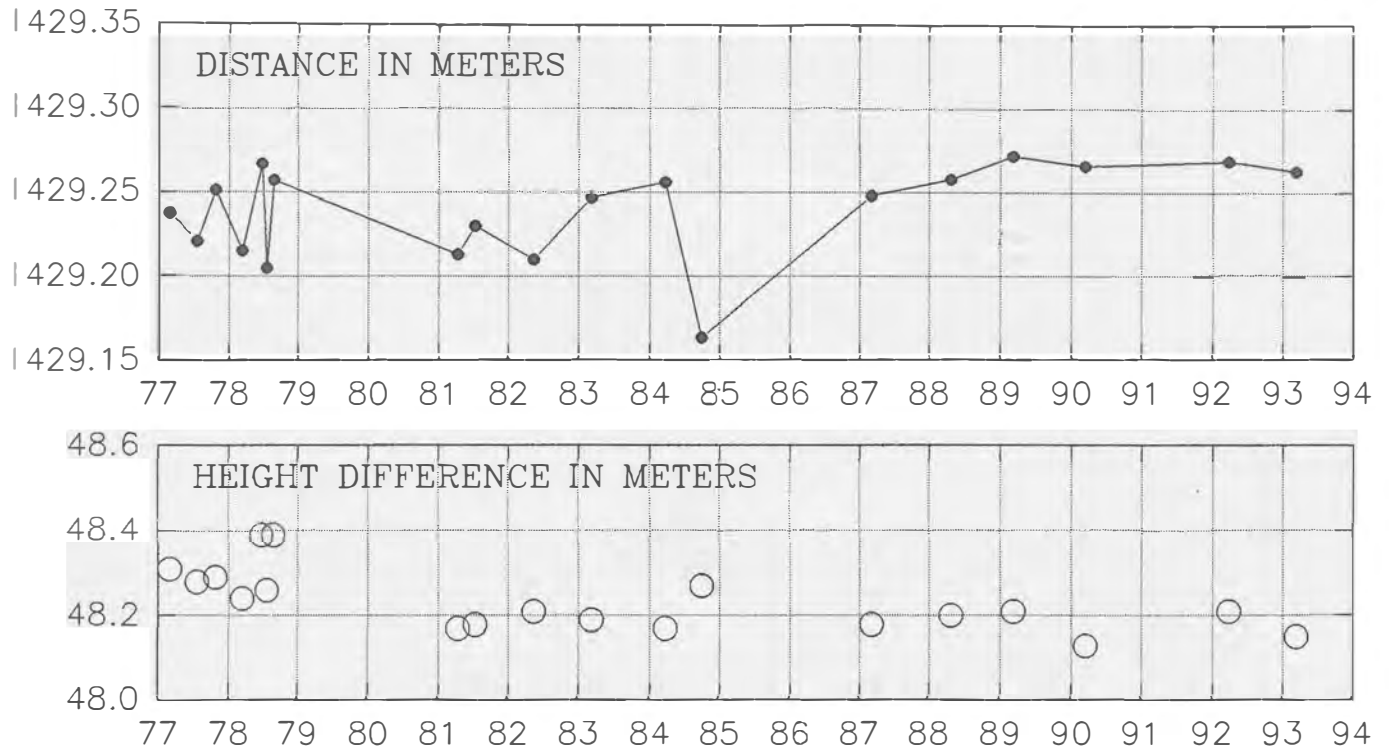


Fig. 6c

STATIONS A012 AND A008

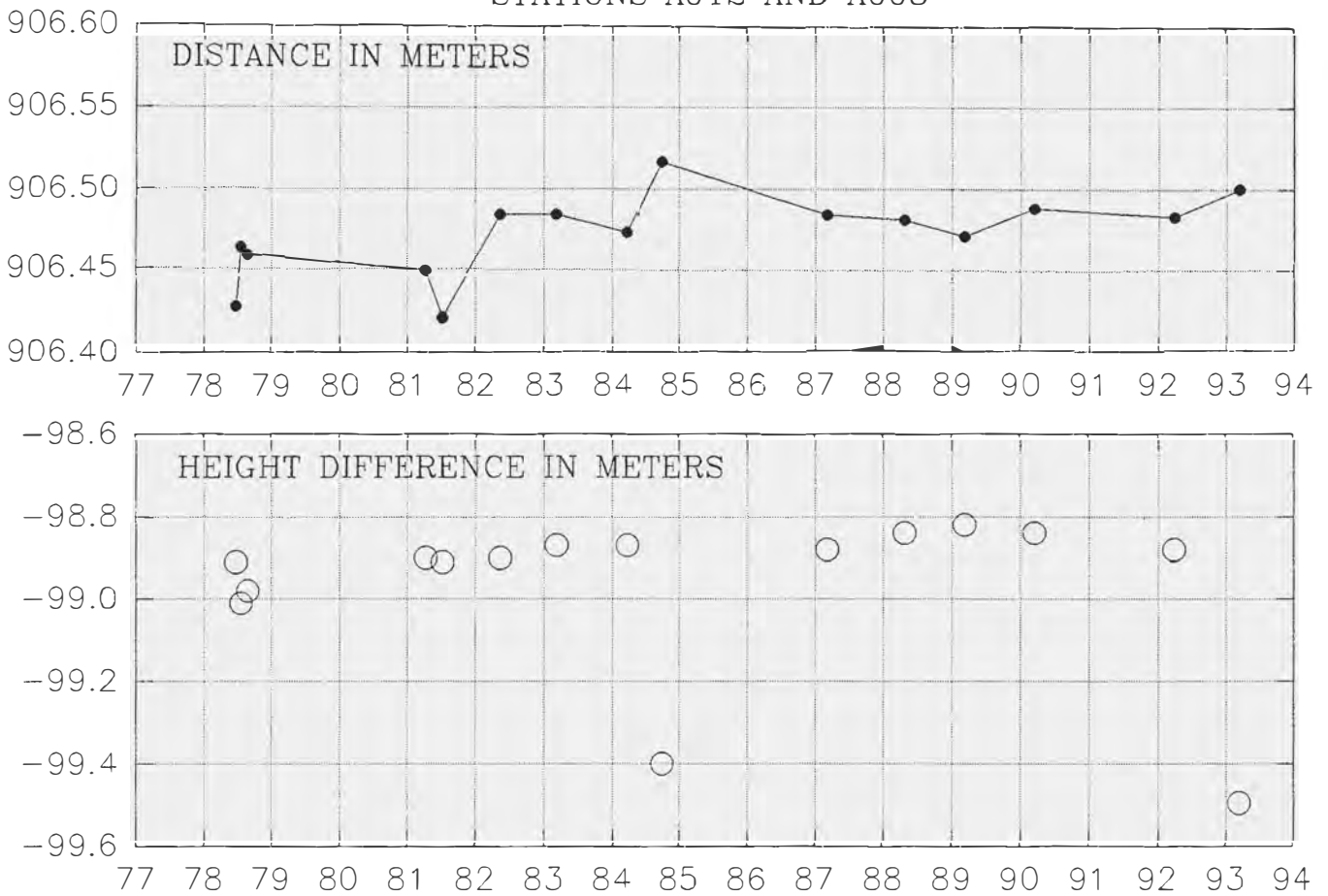


Fig. 6d

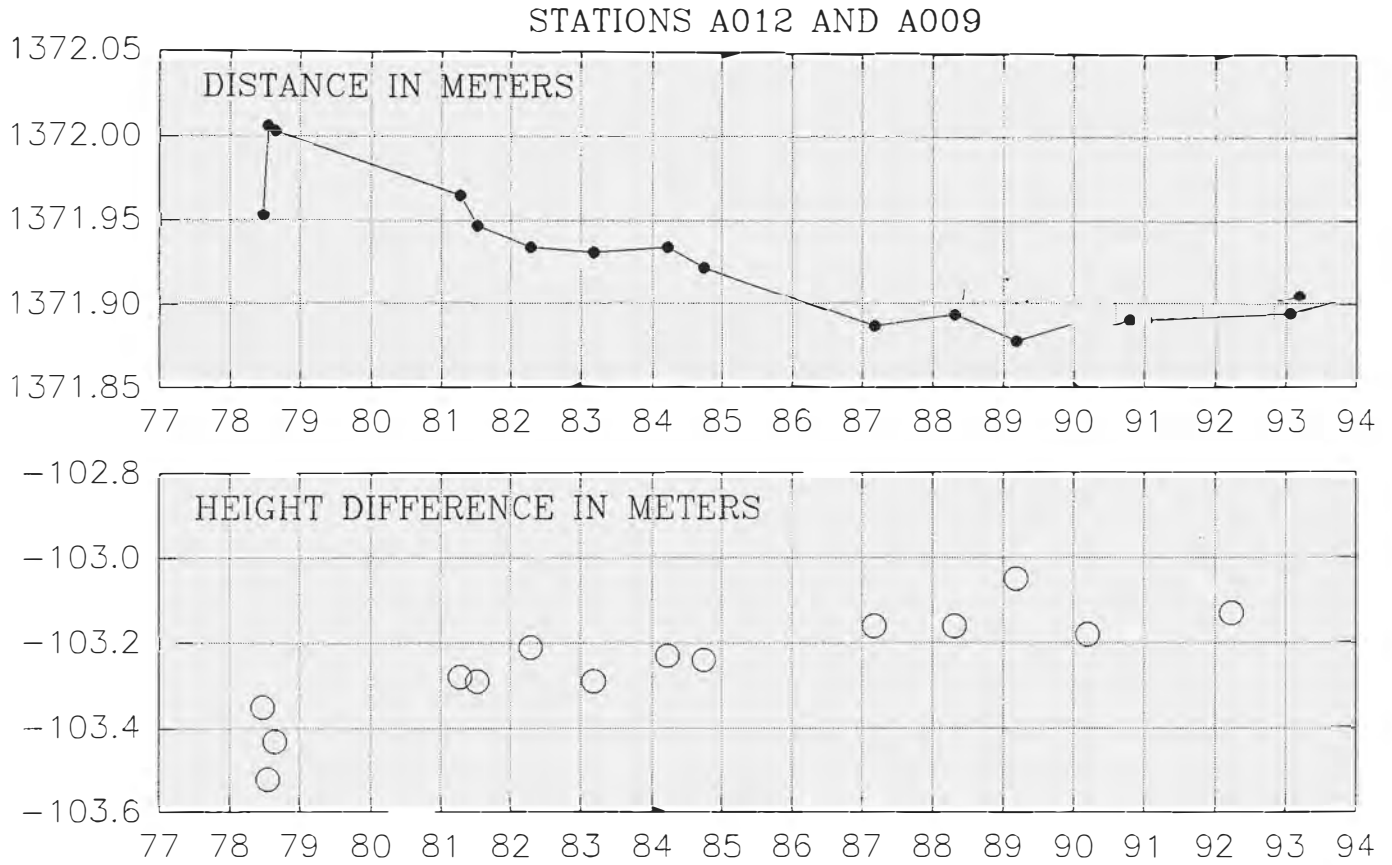


Fig. 6e

STATIONS A012 AND A013

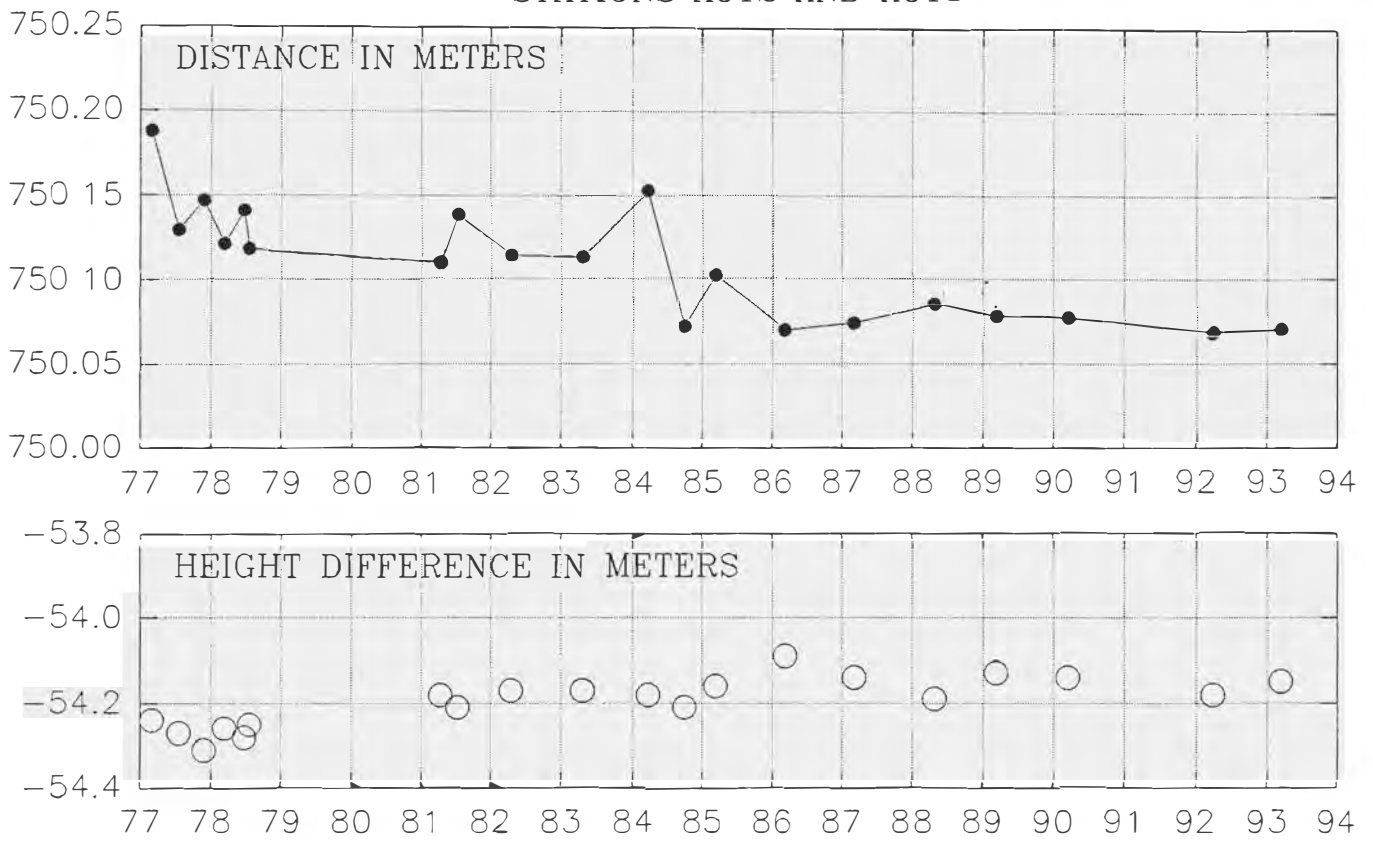


Fig. 6f

STATIONS A012 AND A014

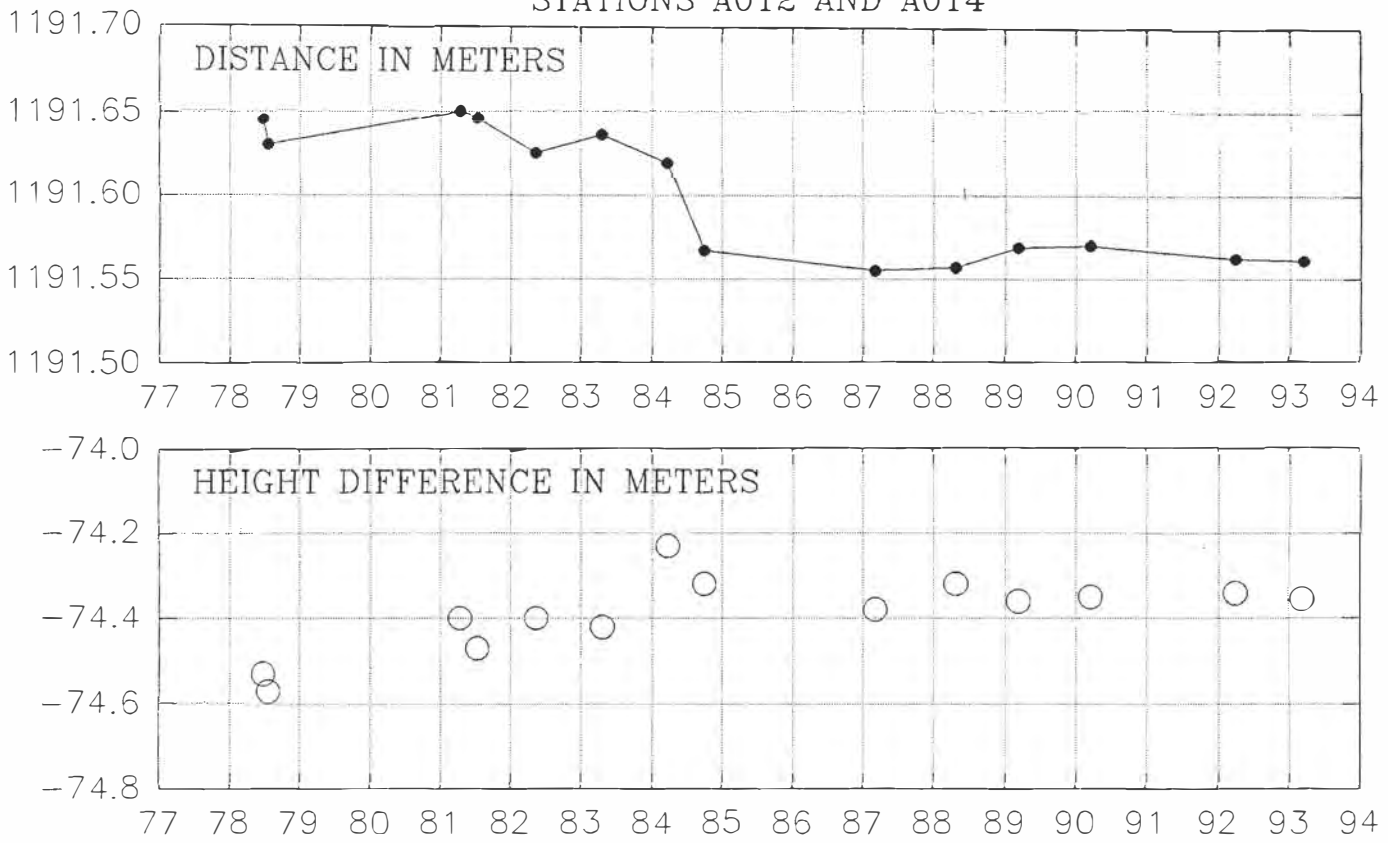


Fig. 6g

STATIONS A012 AND A015

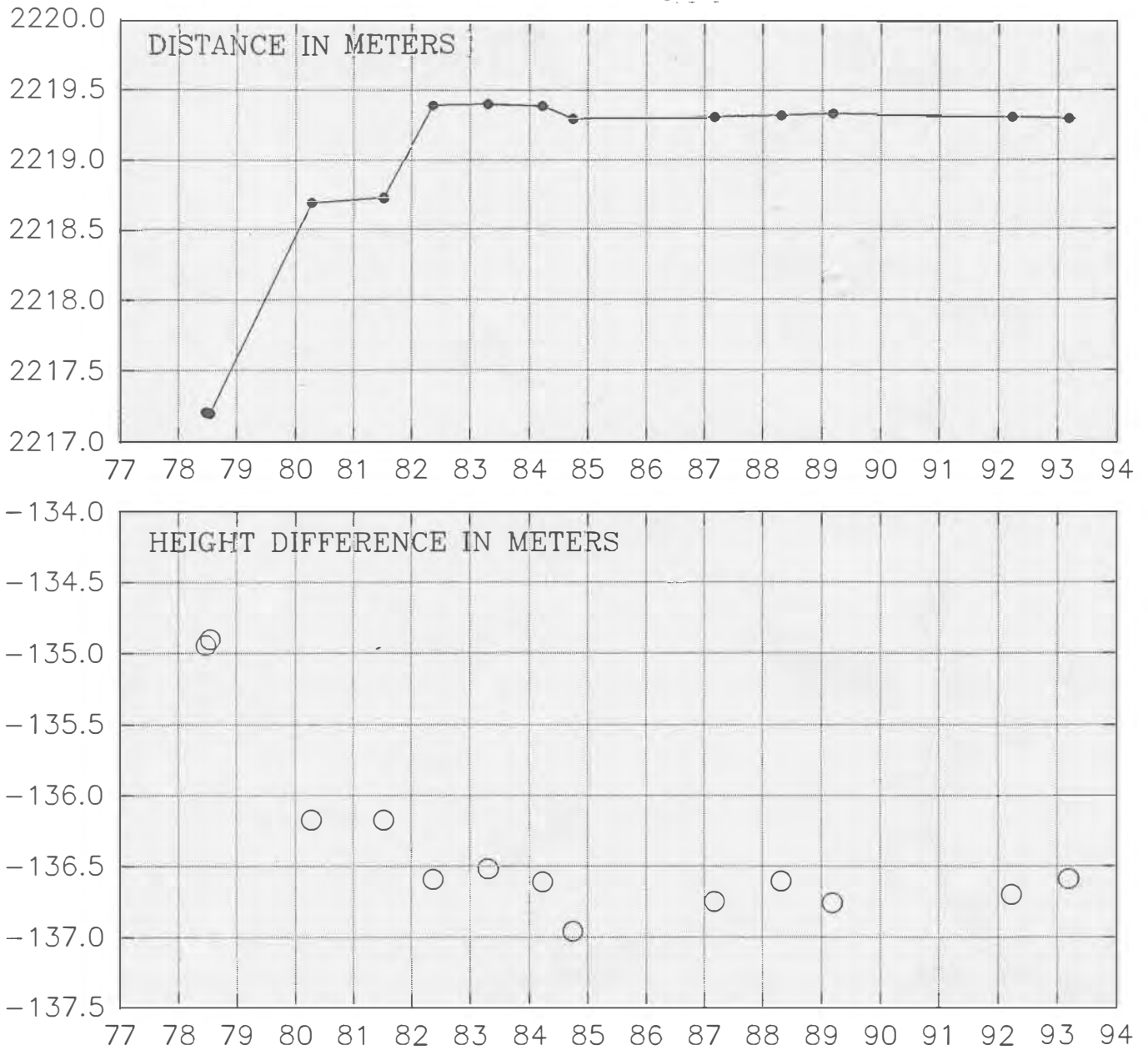


Fig. 6h

STATIONS A012 AND A017

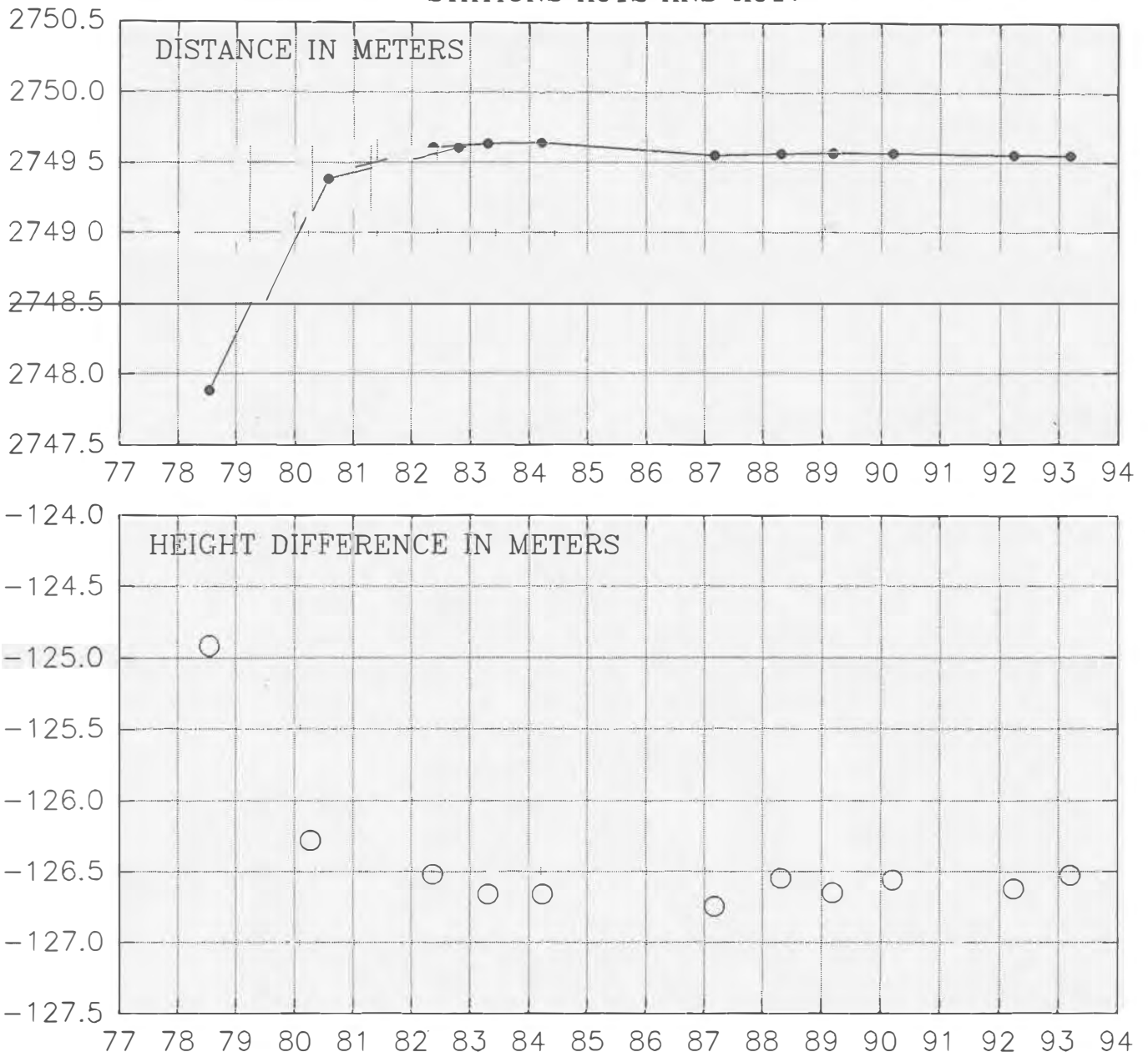


Fig. 6i

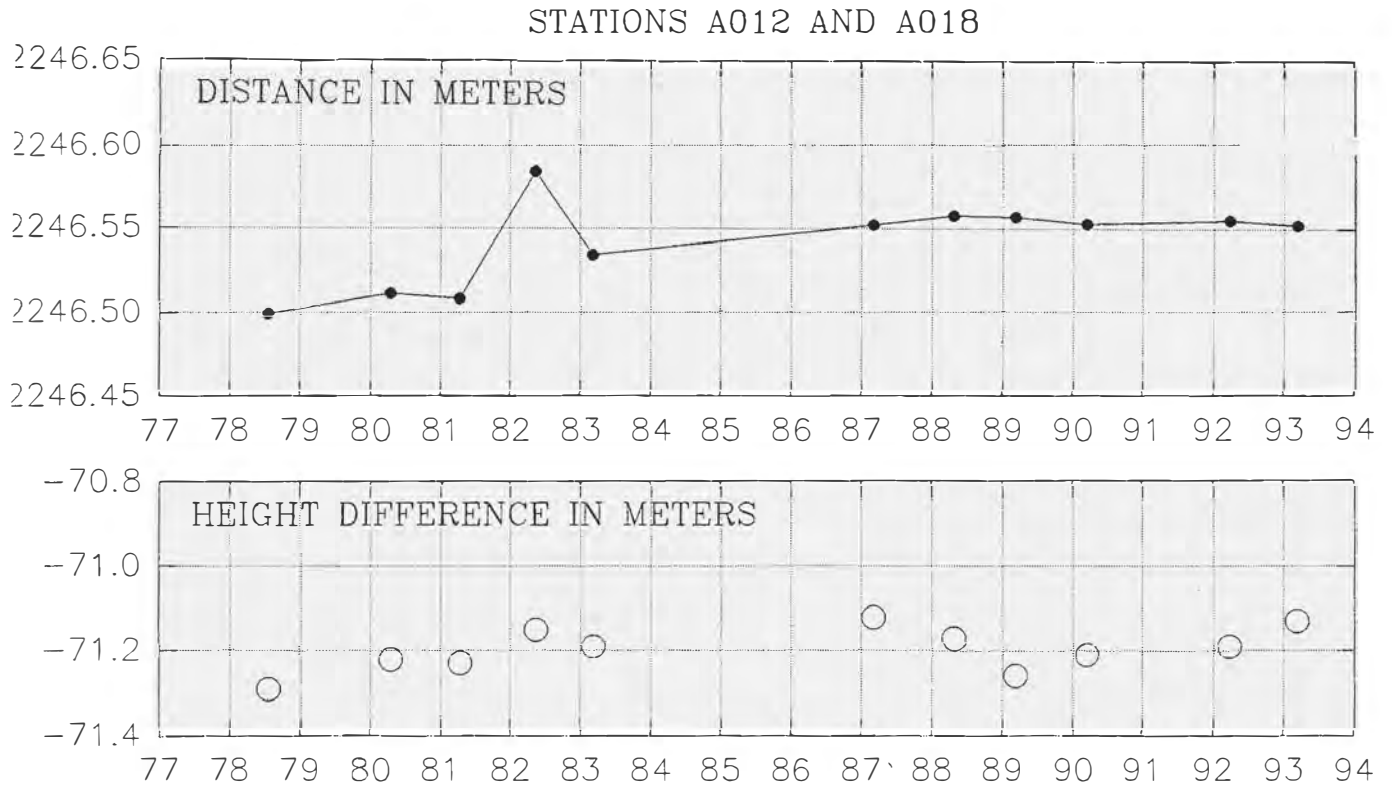


Fig. 6j

STATIONS A012 AND A019

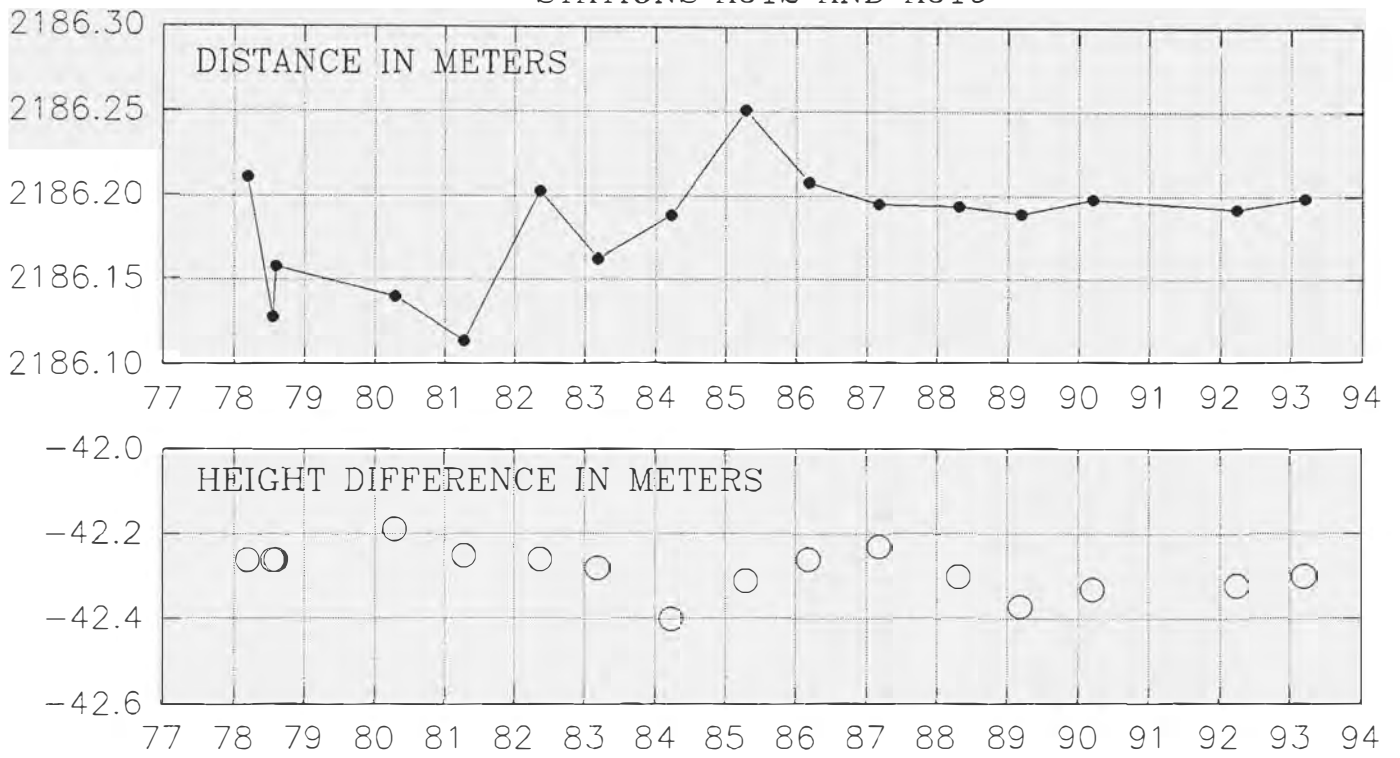


Fig. 6k

STATIONS A012 AND A020

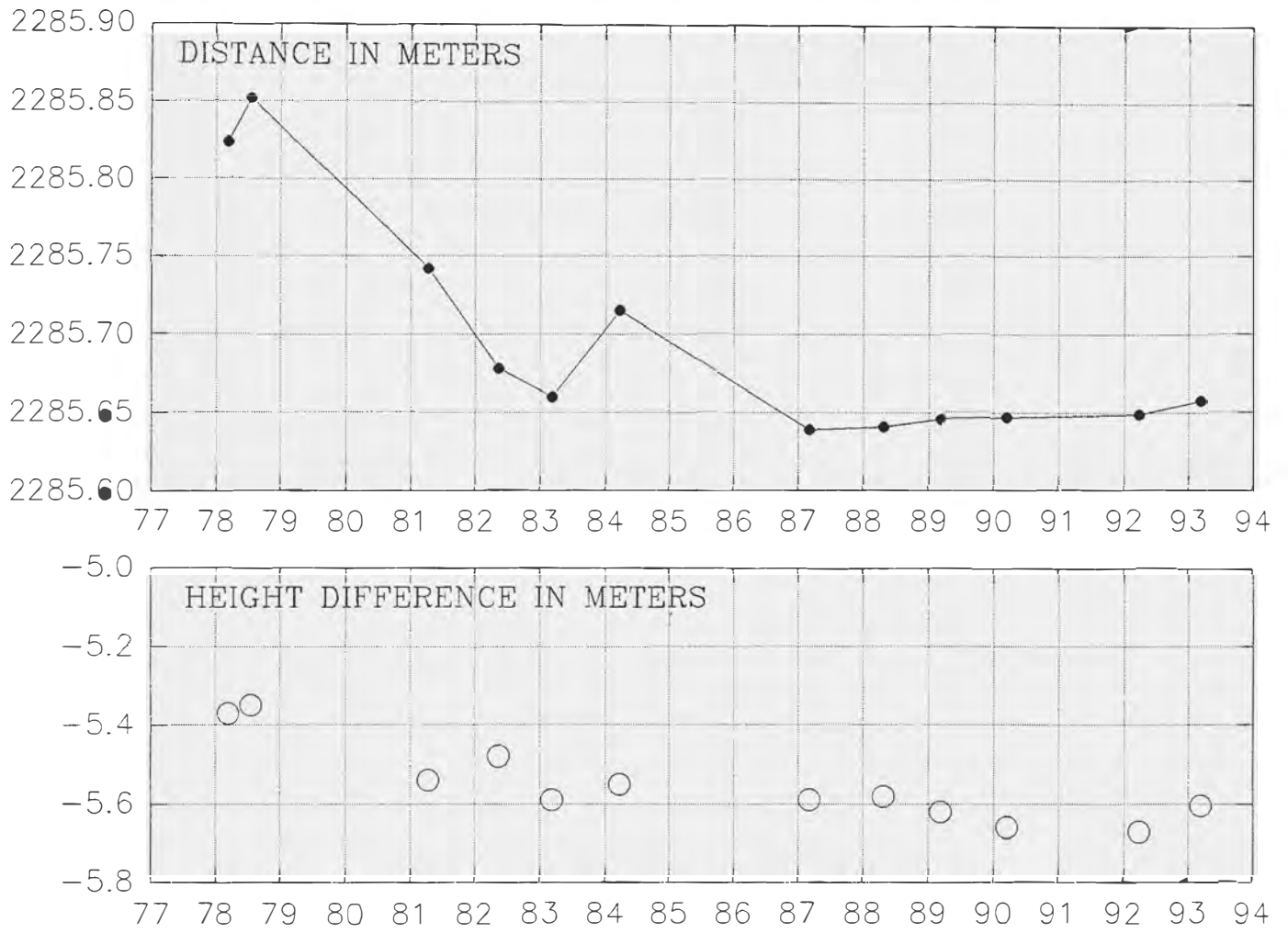


Fig. 61

STATIONS A012 AND A021

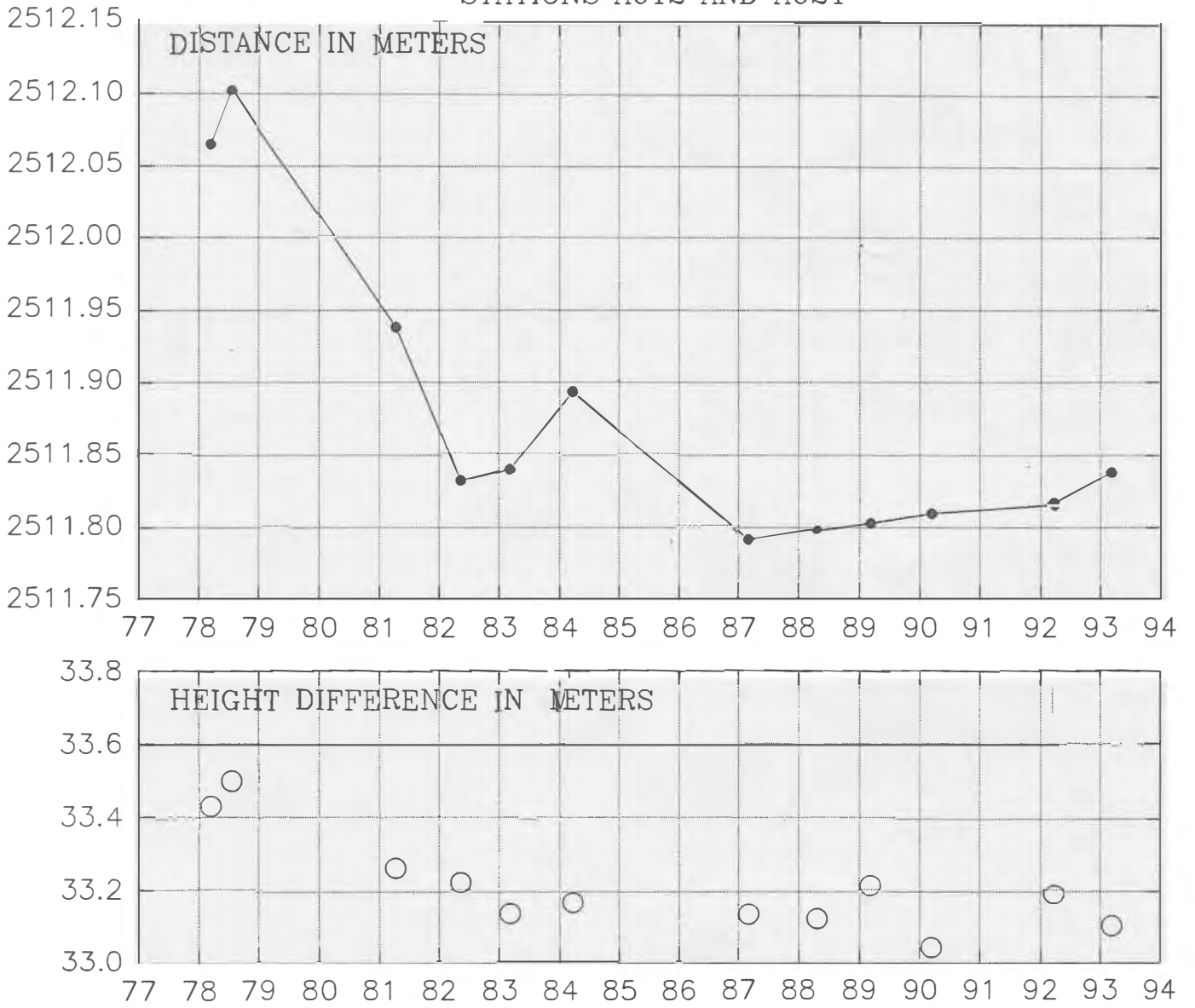


Fig. 6m

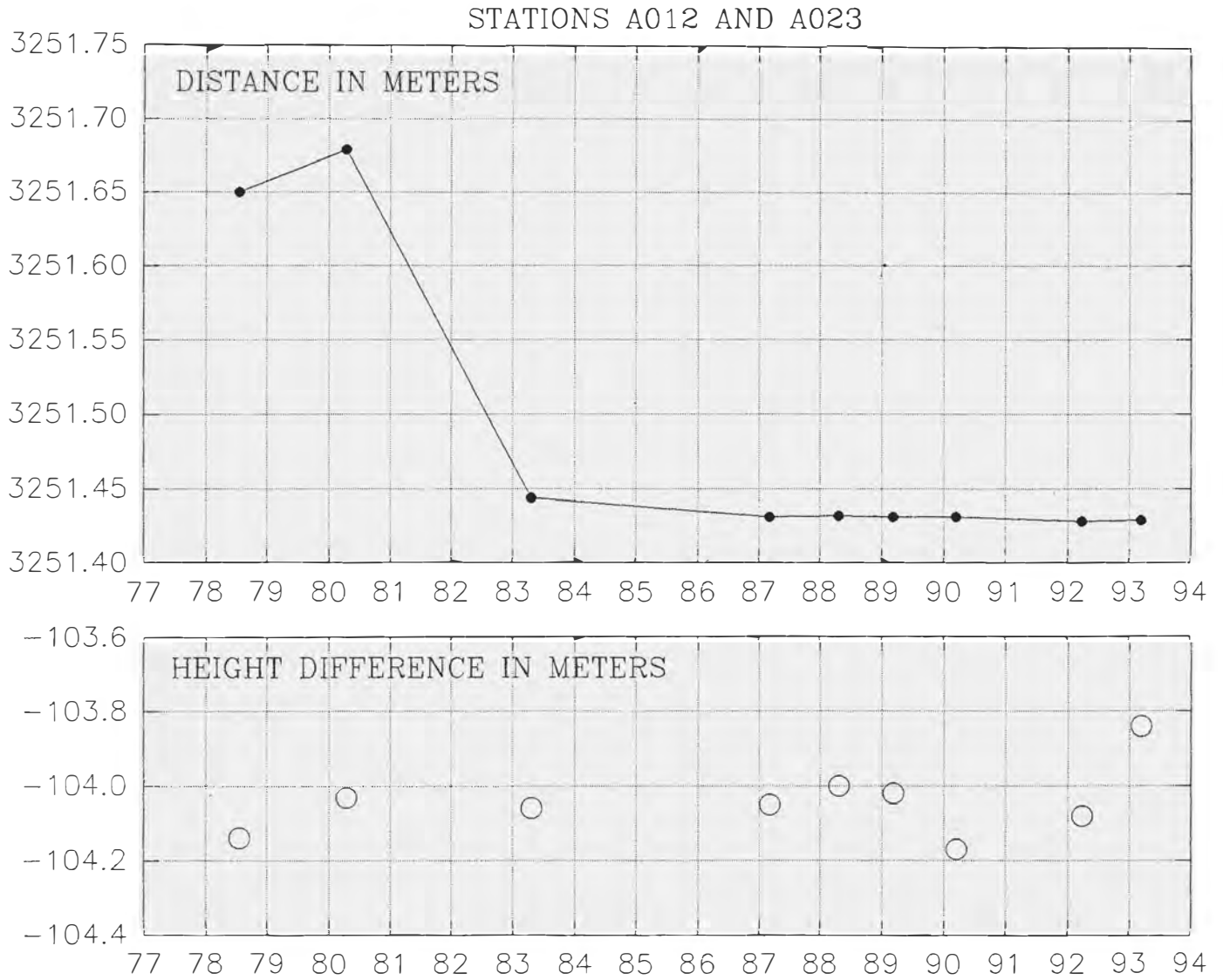


Fig. 6n

STATIONS A012 AND A024

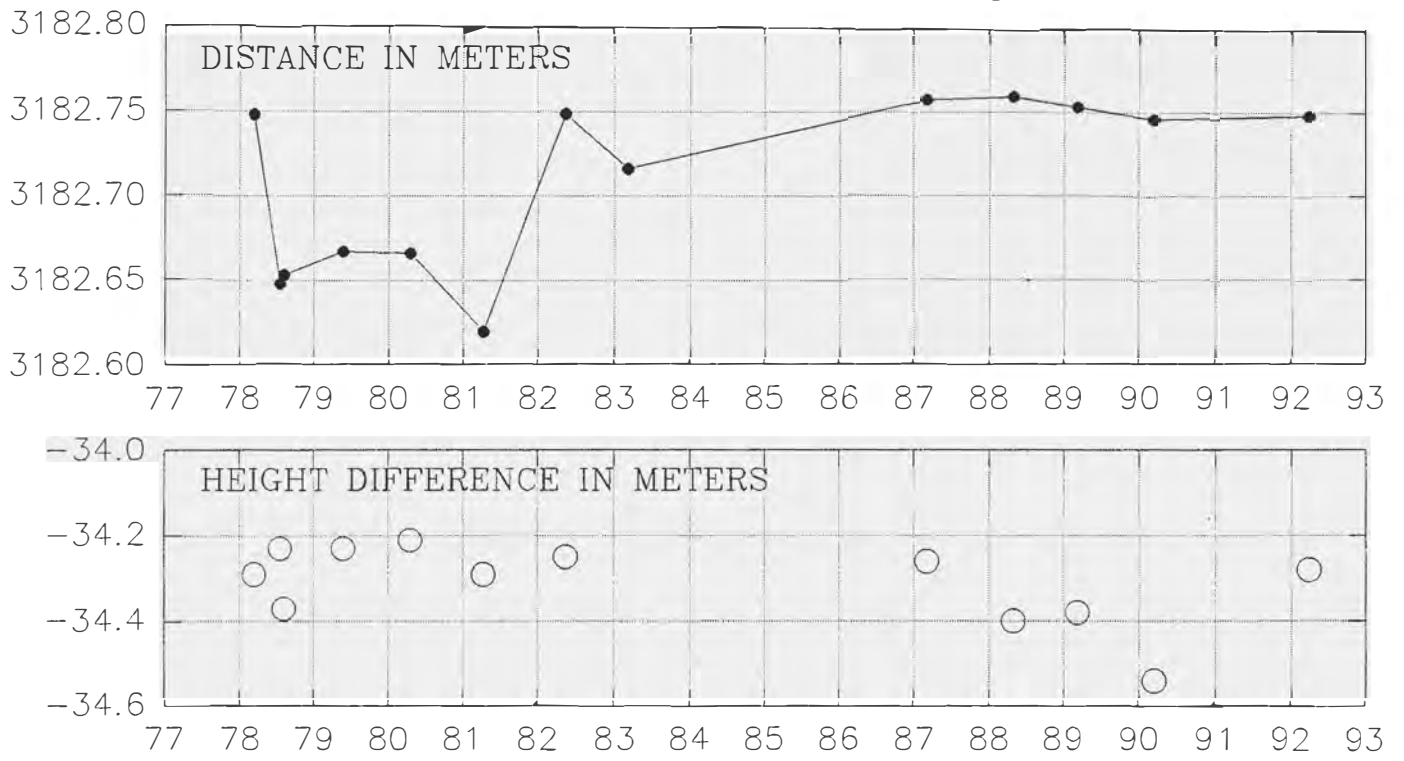


Fig. 60

STATIONS A012 AND NE77012

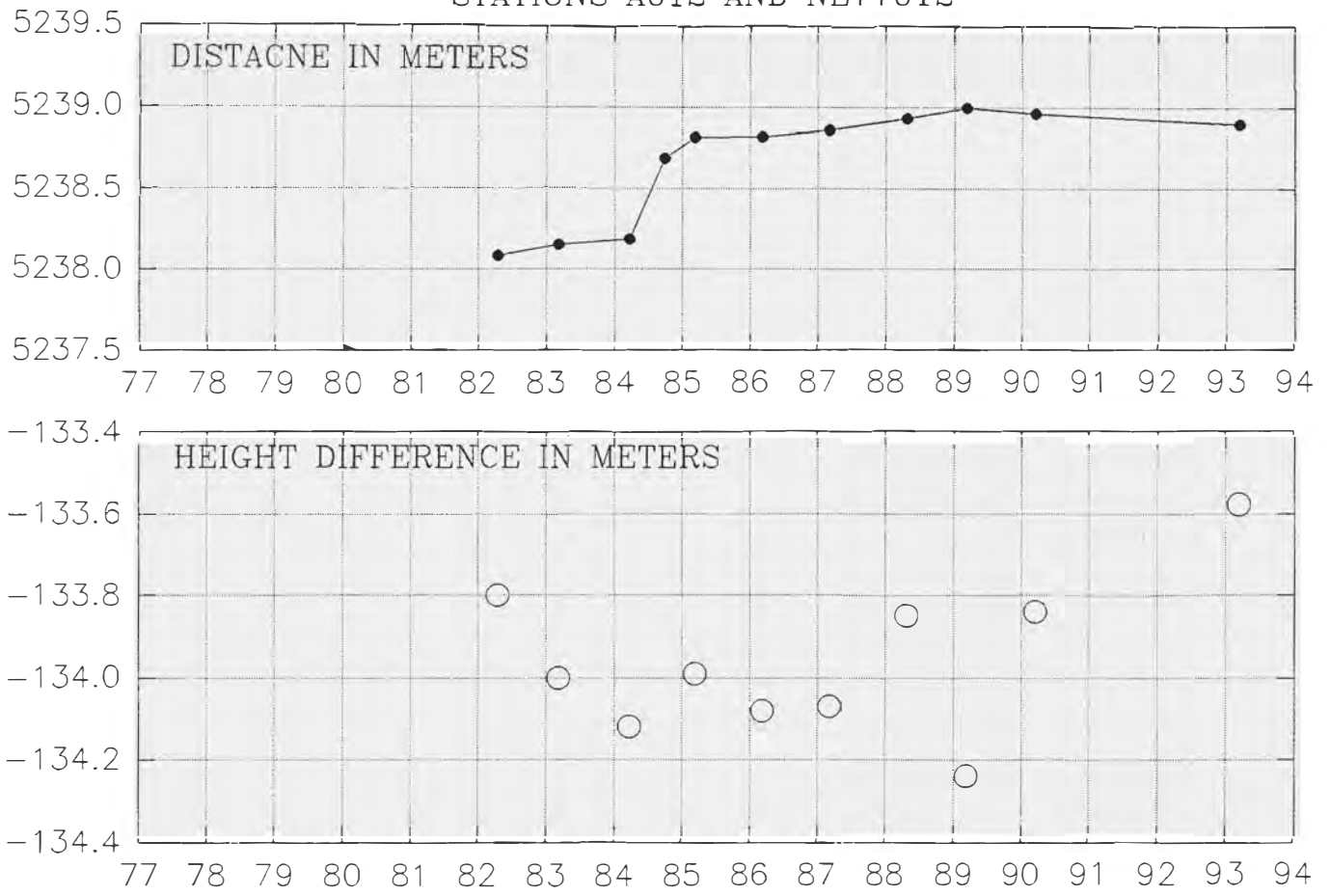


Fig. 6p

STATIONS A012 AND NE79077

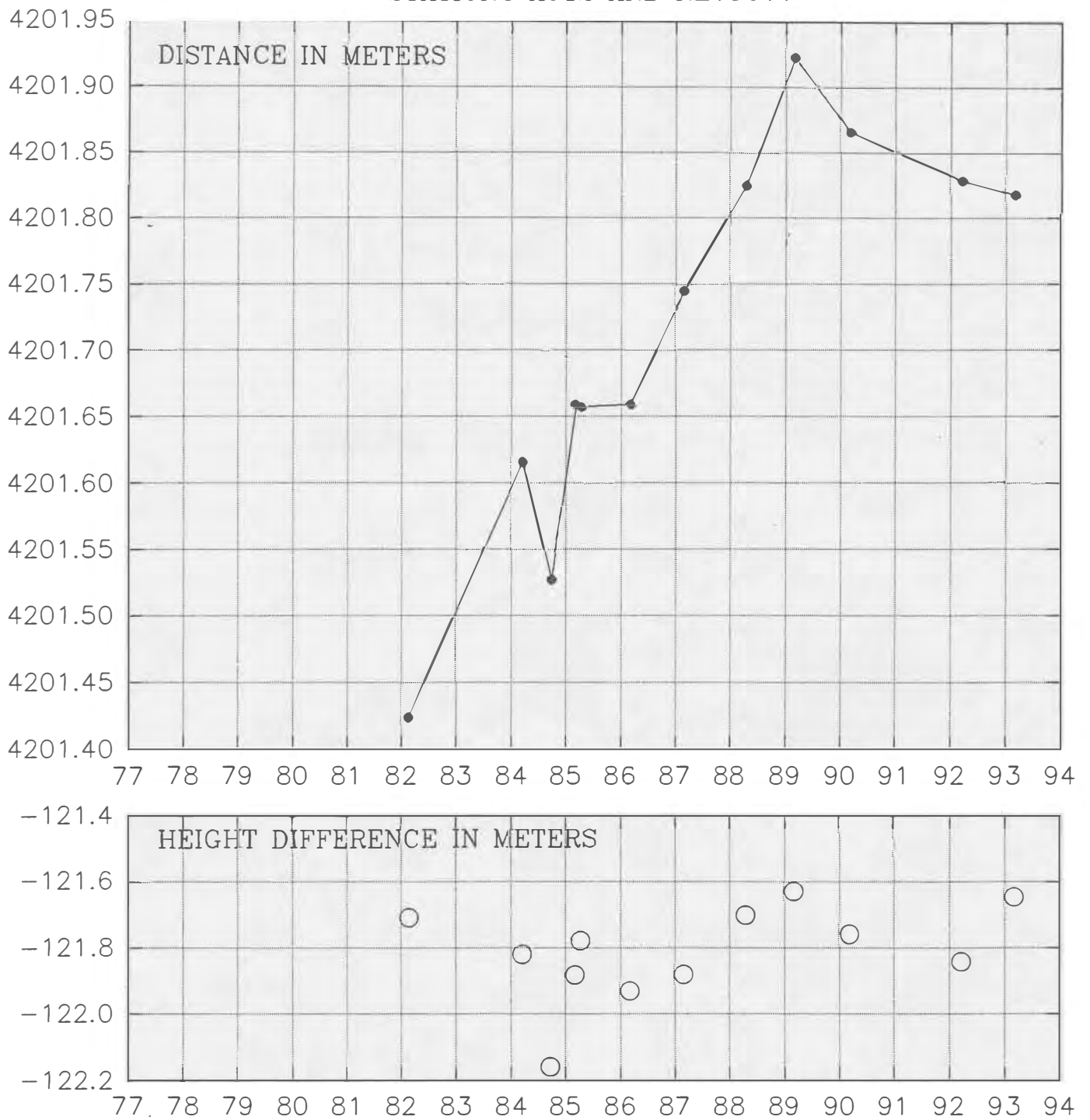


Fig. 6q

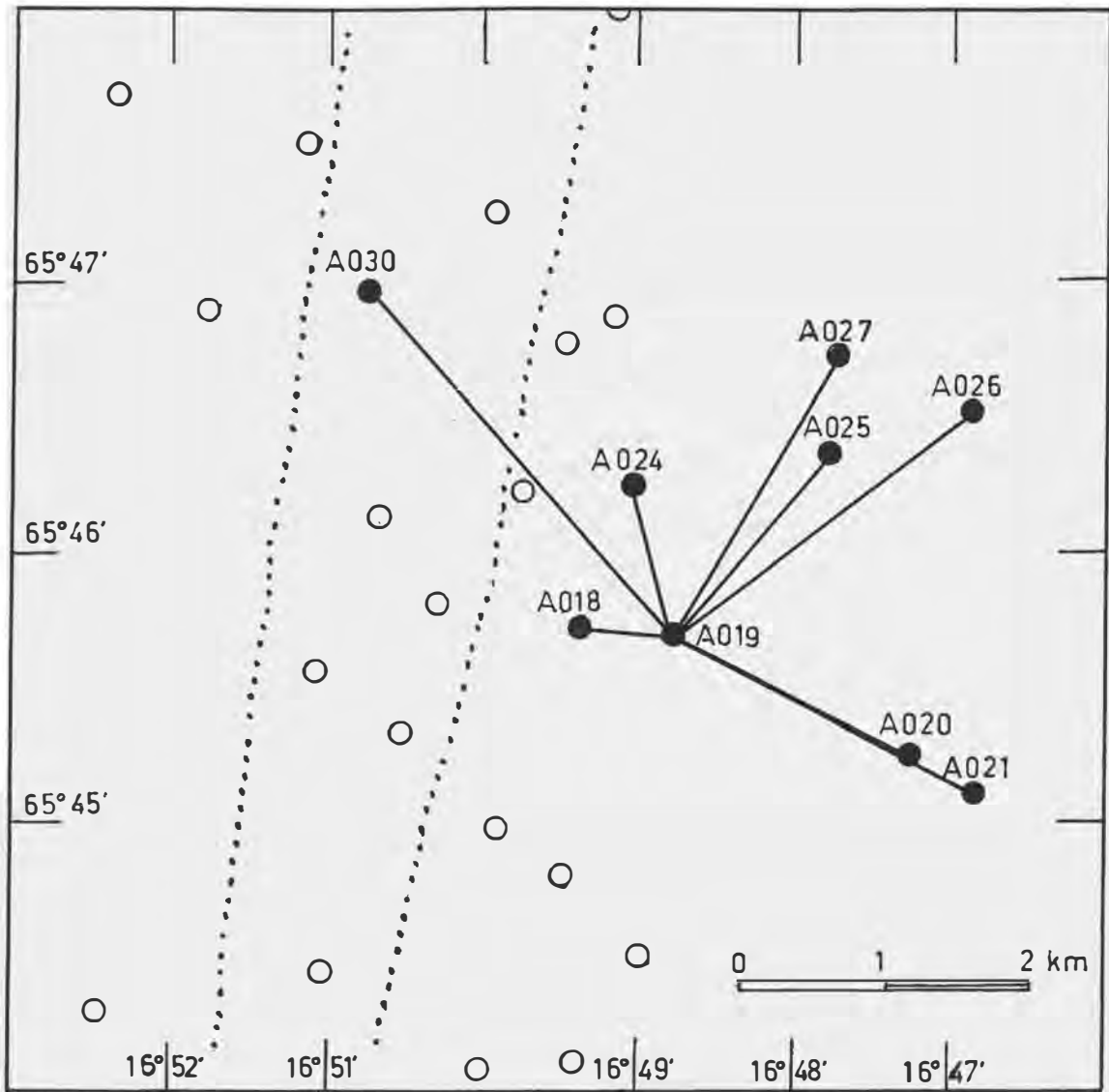


Fig. 7

Lines from station A019 which have been measured at least nine times from 1977 to 1993. Other lines from A019 are shown in earlier figures. Figs 7a to 7h show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

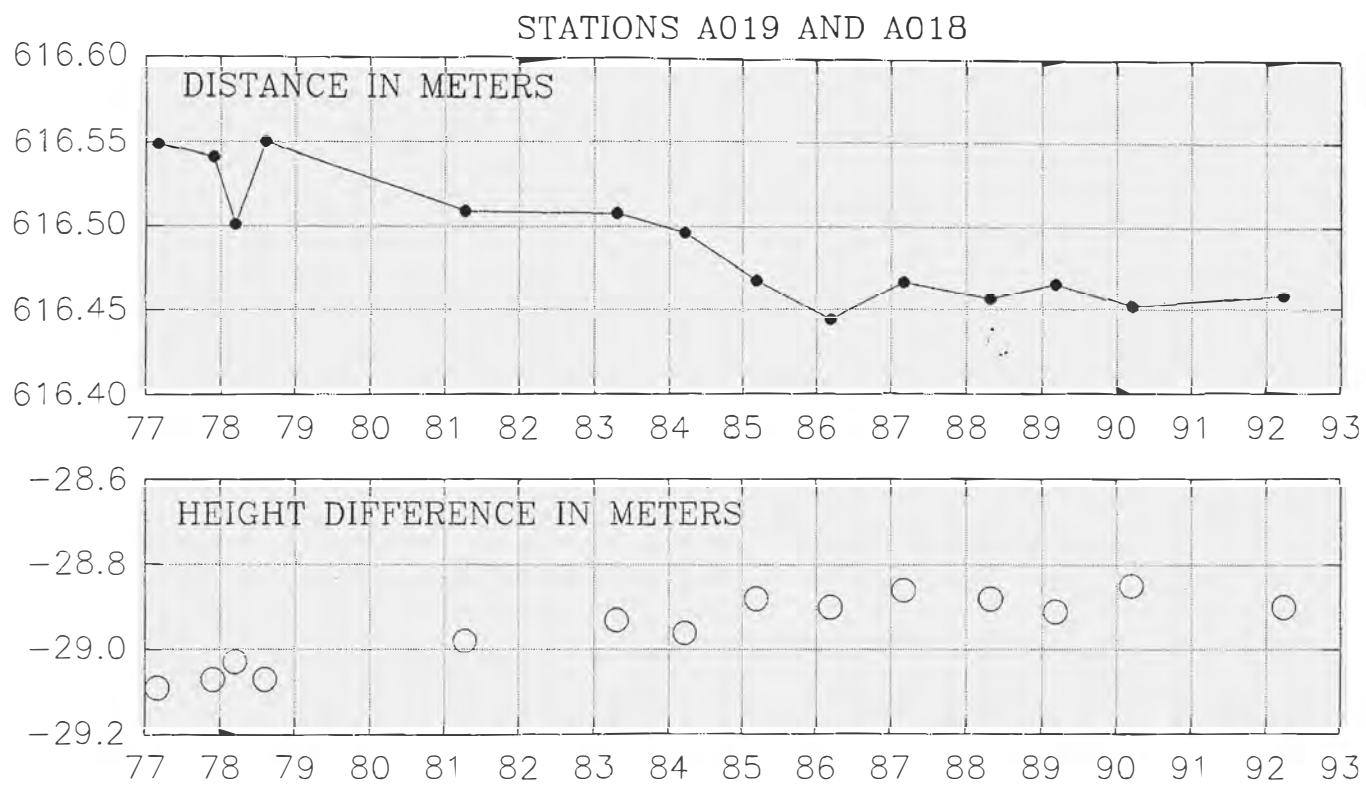


Fig. 7a

STATIONS A019 AND A020

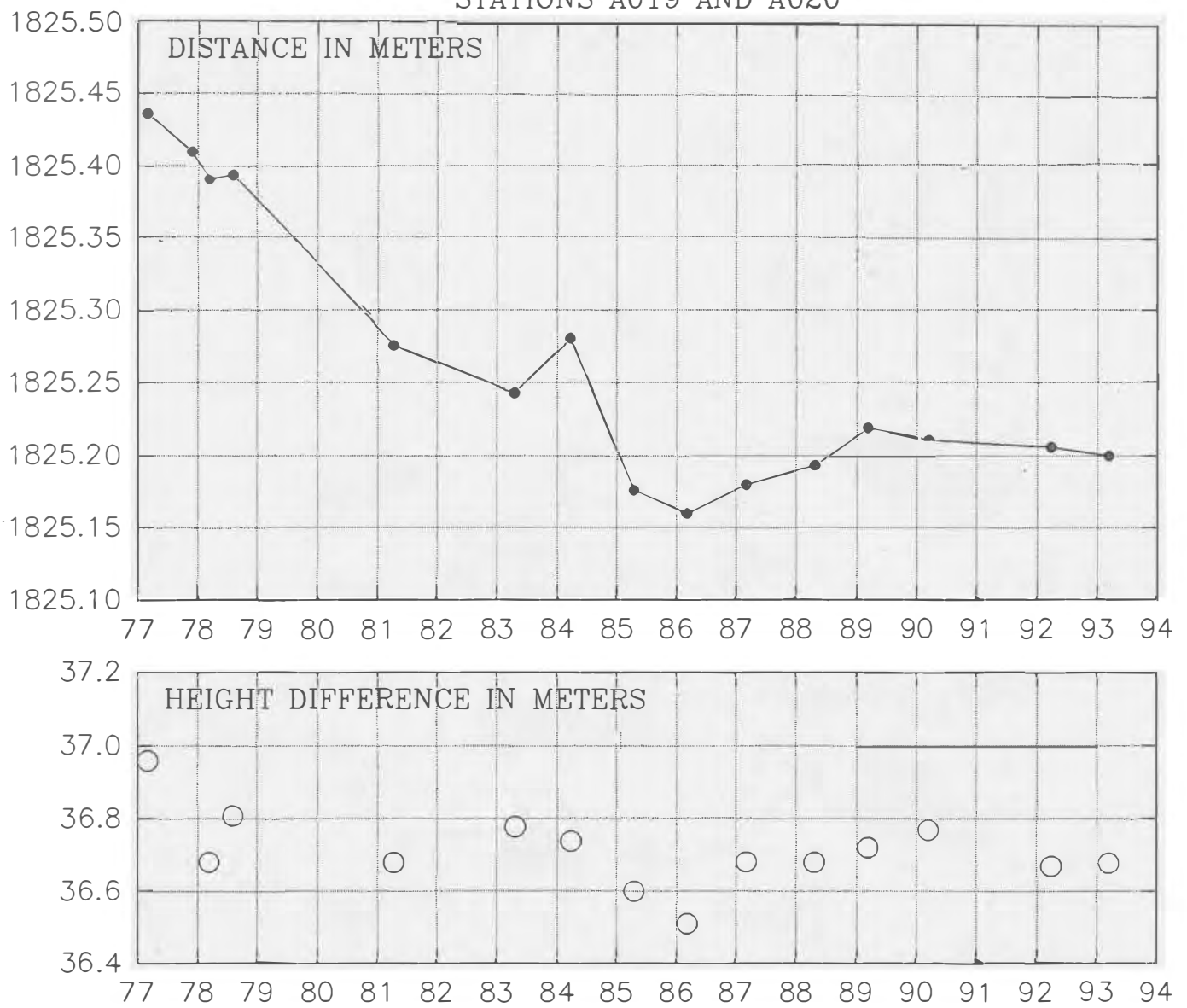


Fig. 7b

STATIONS A019 AND A021

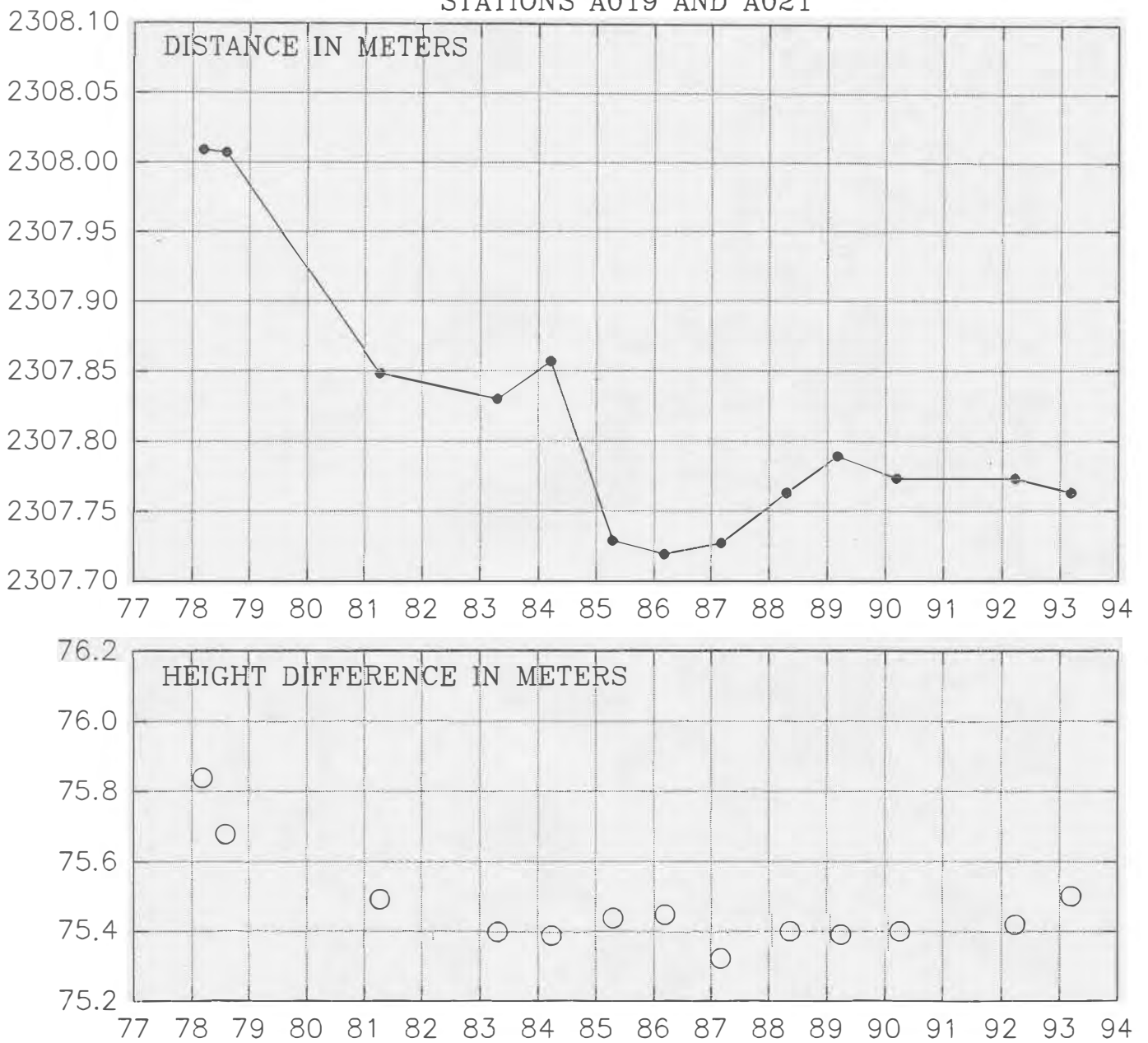


Fig. 7c

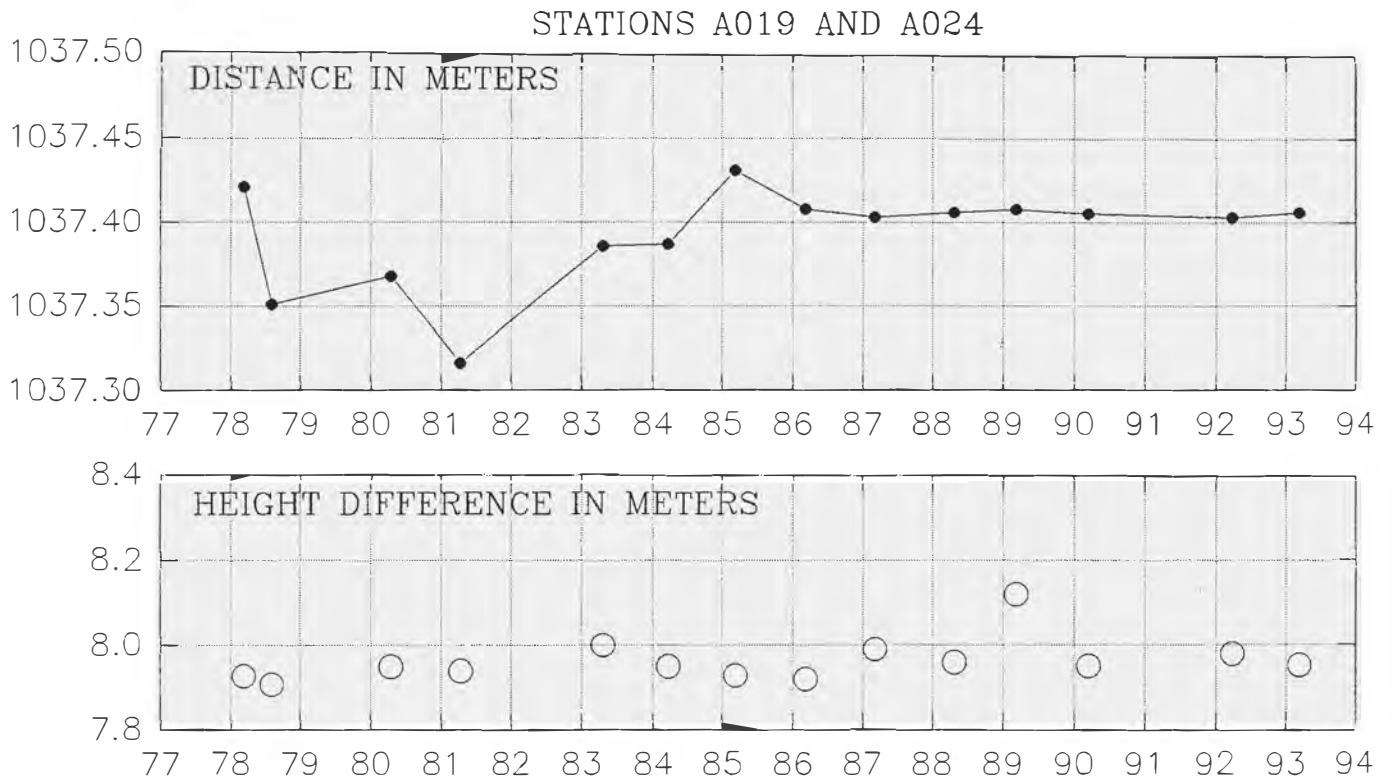


Fig. 7d

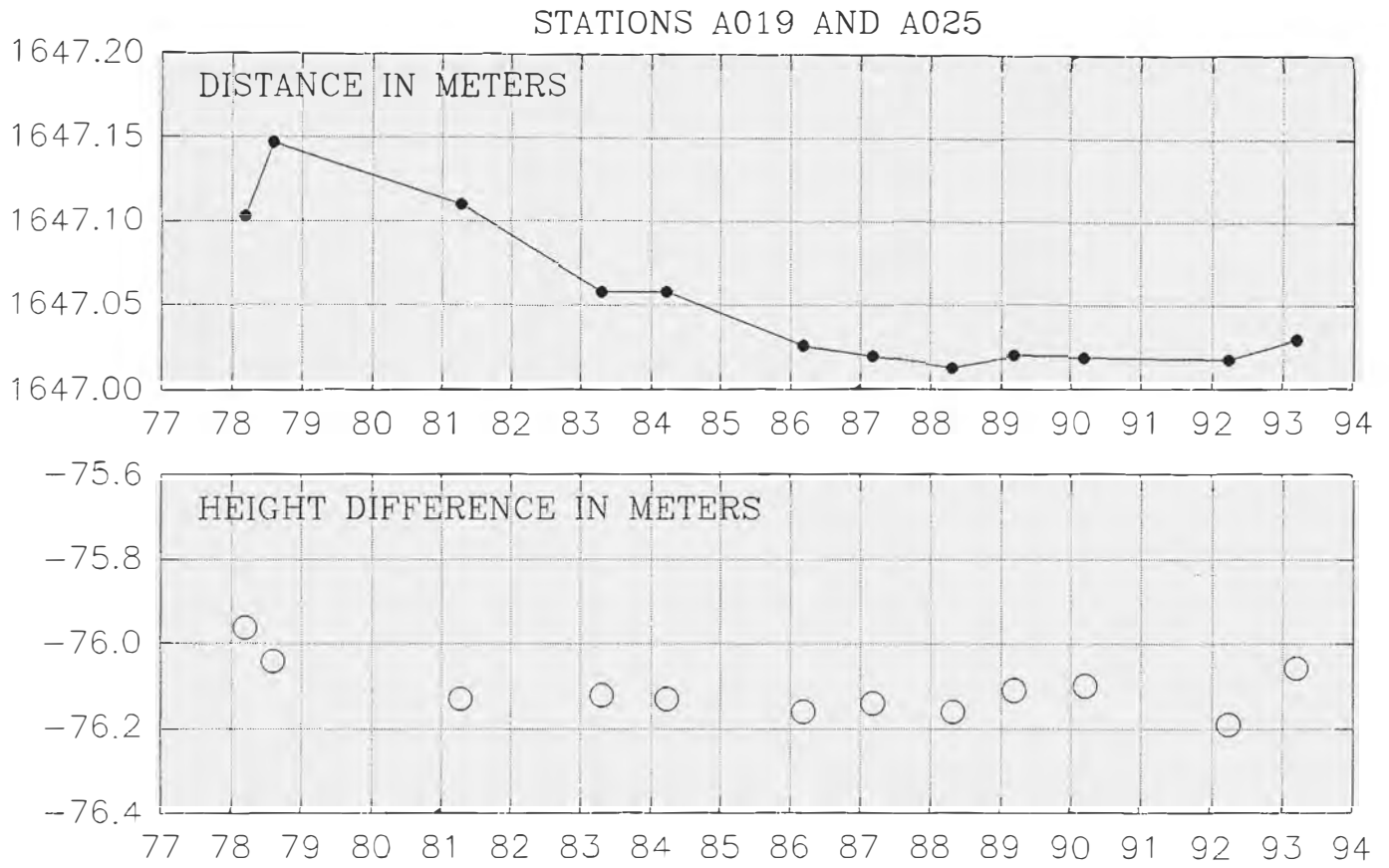


Fig. 7e

STATIONS A019 AND A026

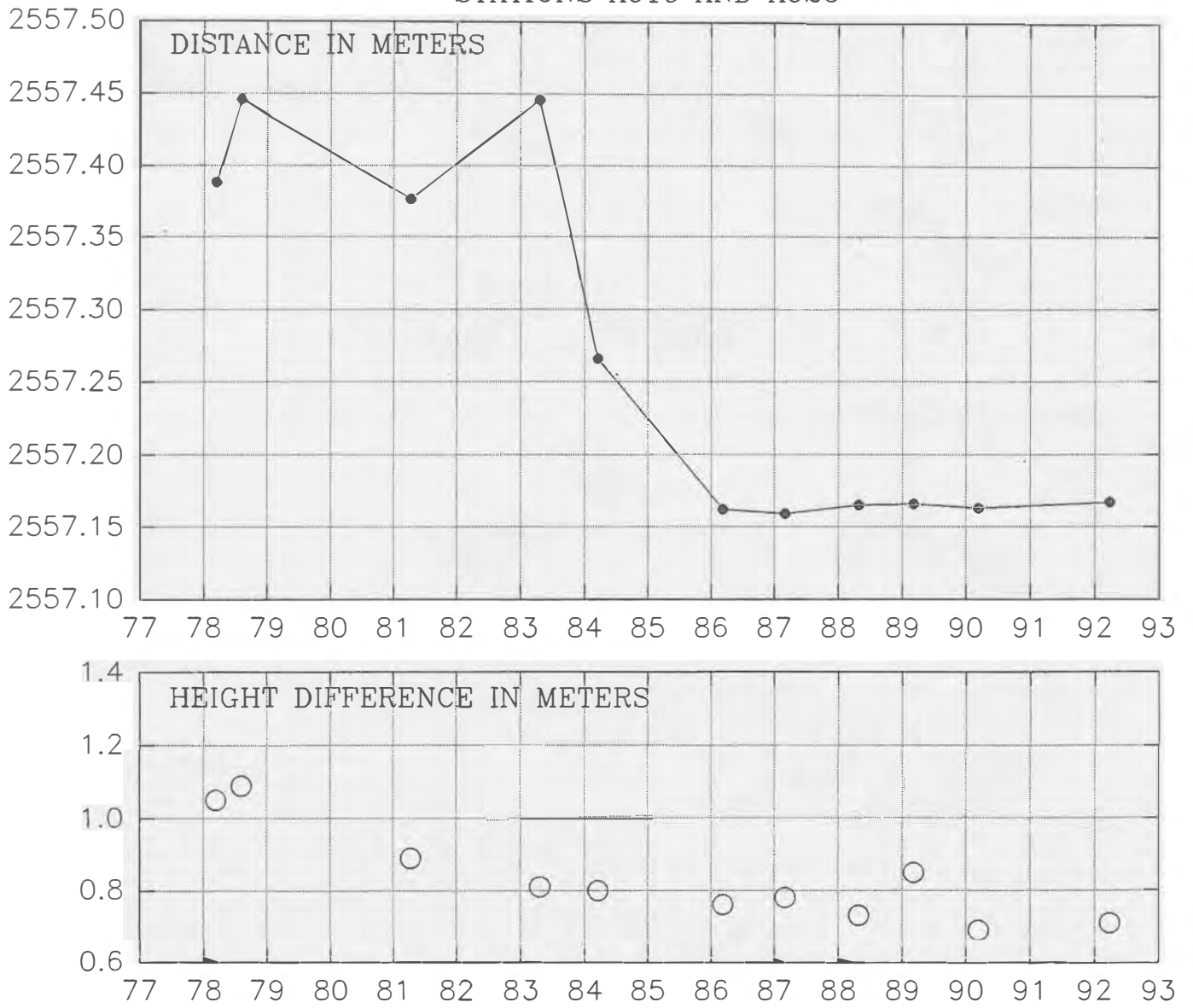


Fig. 7f

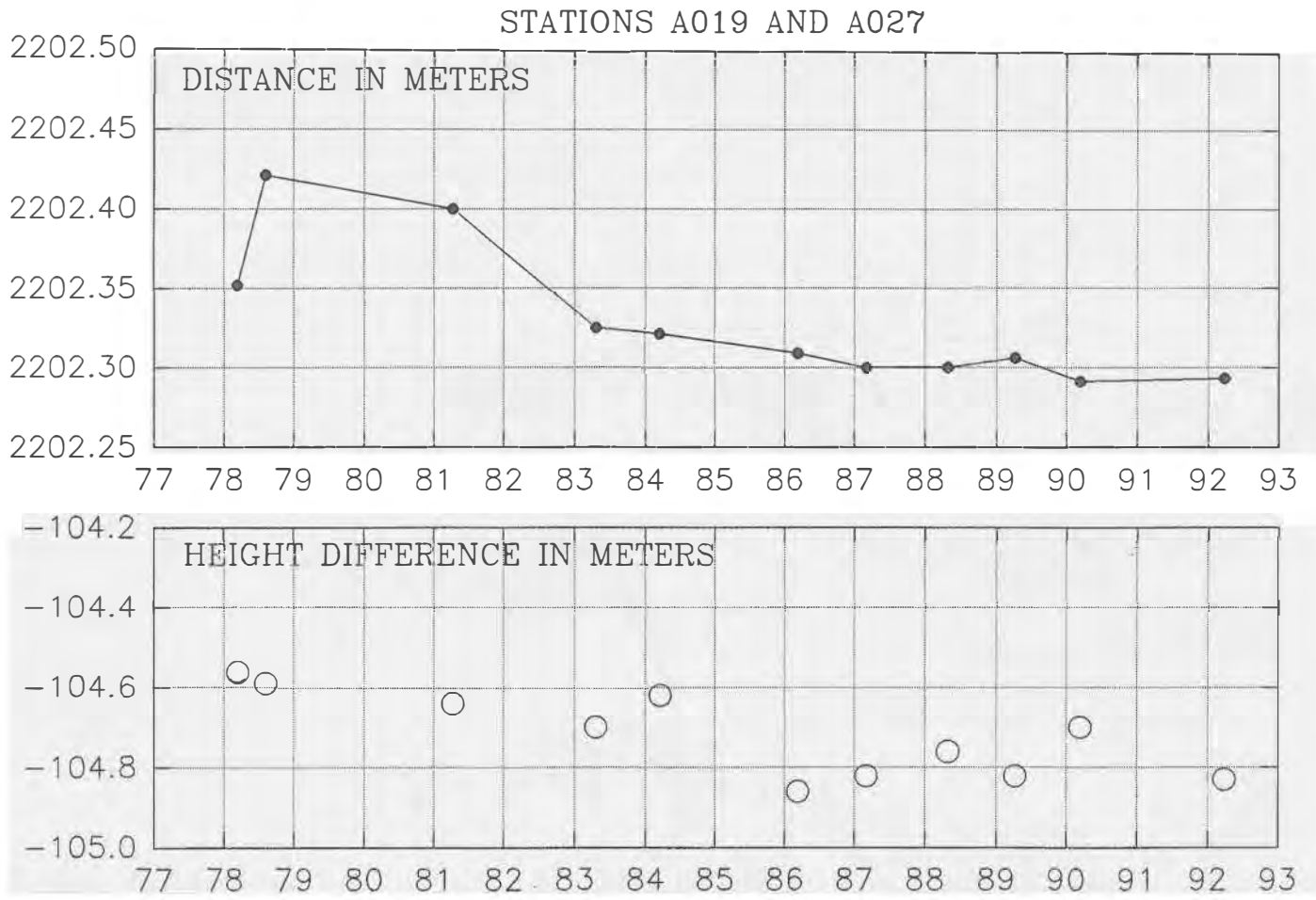


Fig. 7g

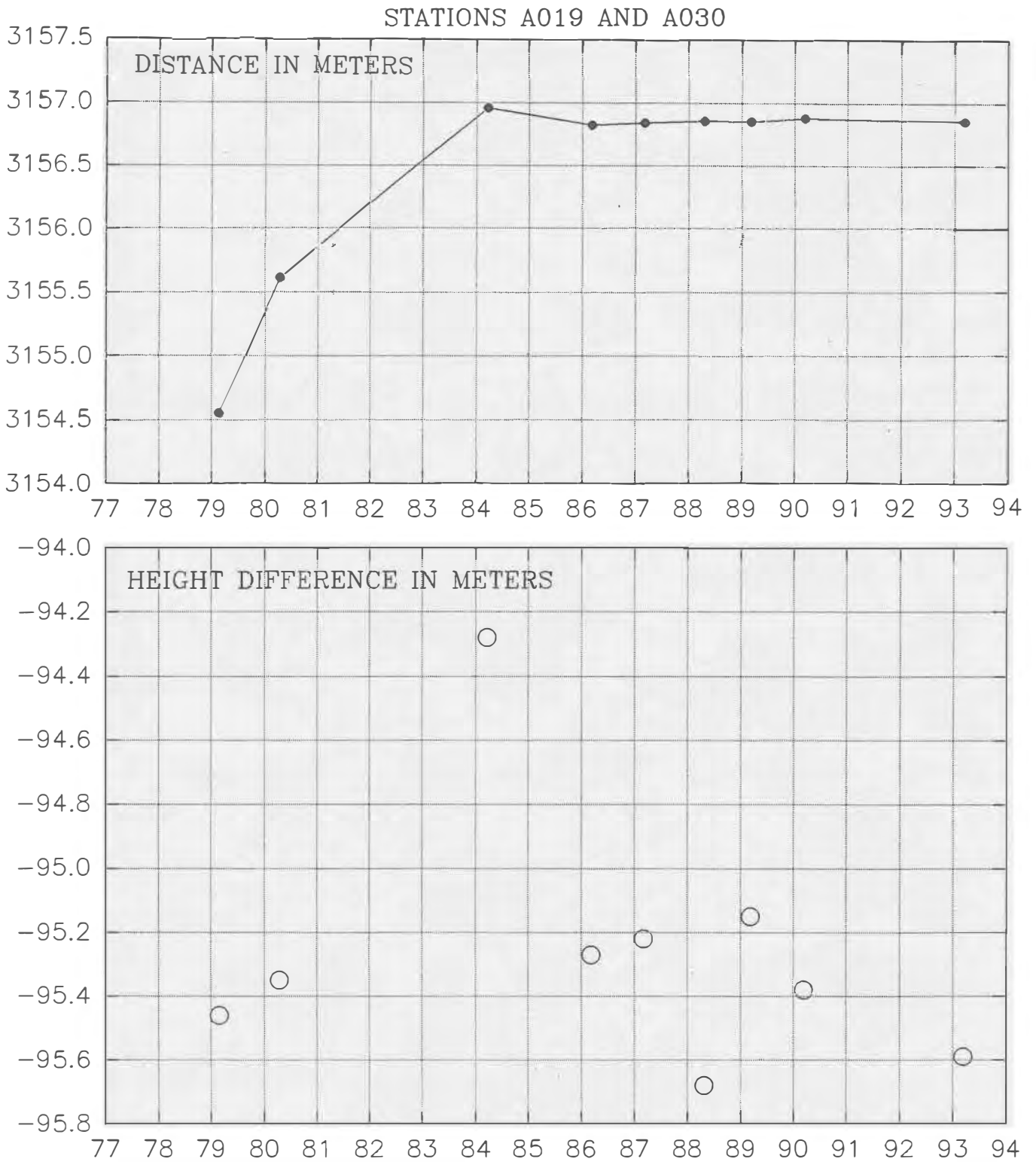


Fig. 7h

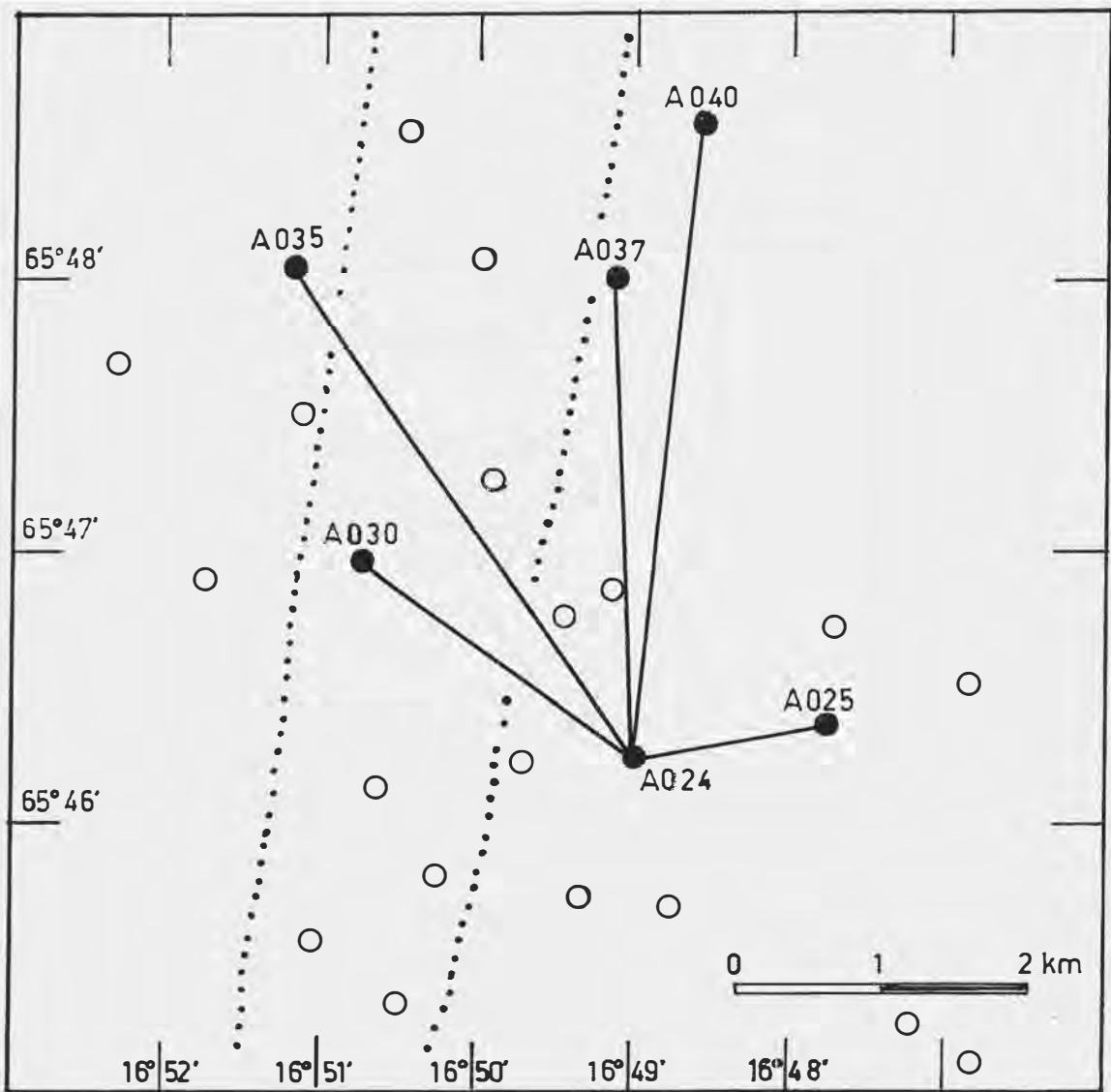


Fig. 8

Lines from station A024 which have been measured at least nine times from 1977 to 1993. Other lines from A024 are included in earlier figures. Figs 8a to 8e show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS A024 AND A025

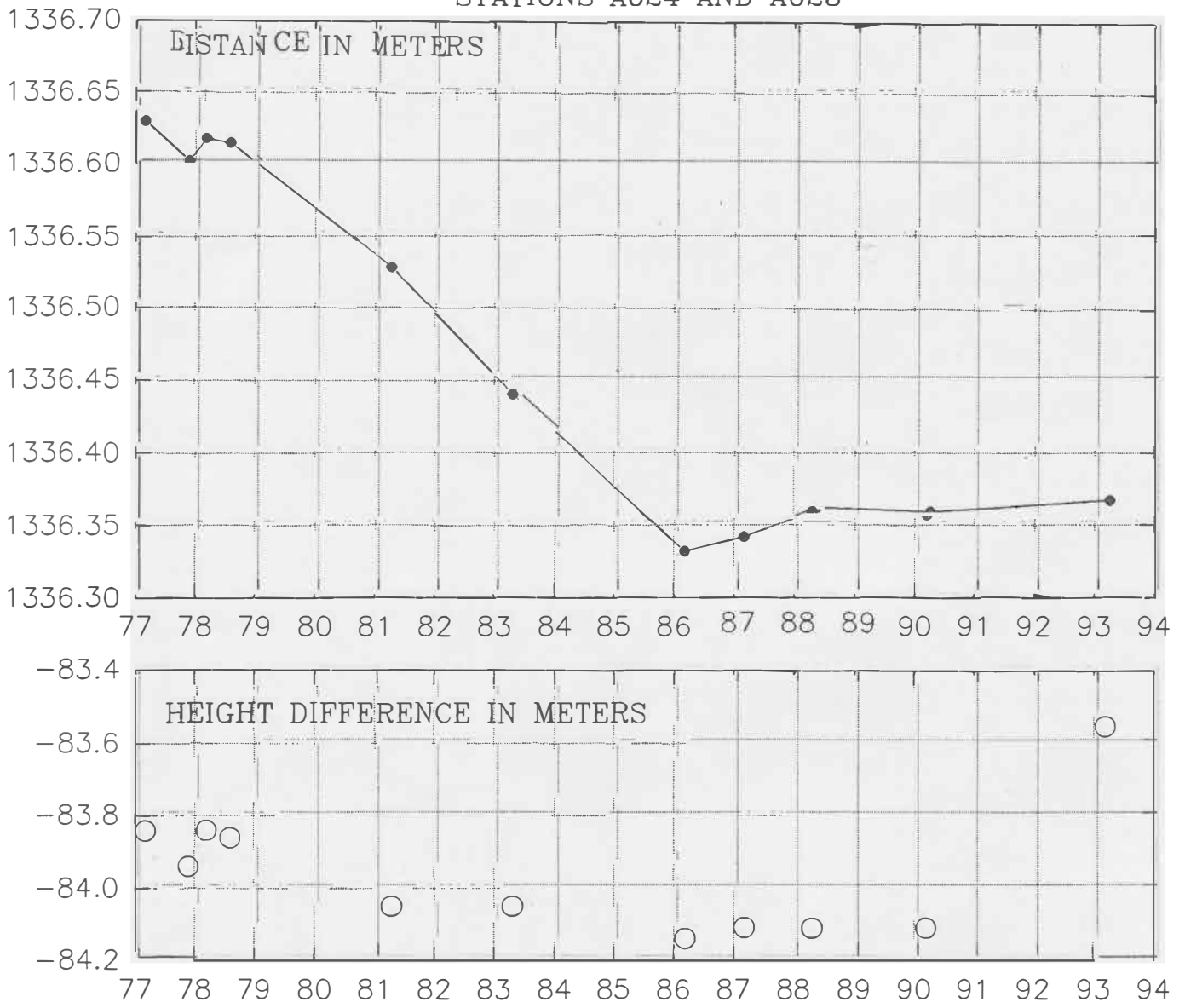


Fig. 8a

STATIONS A024 AND A030

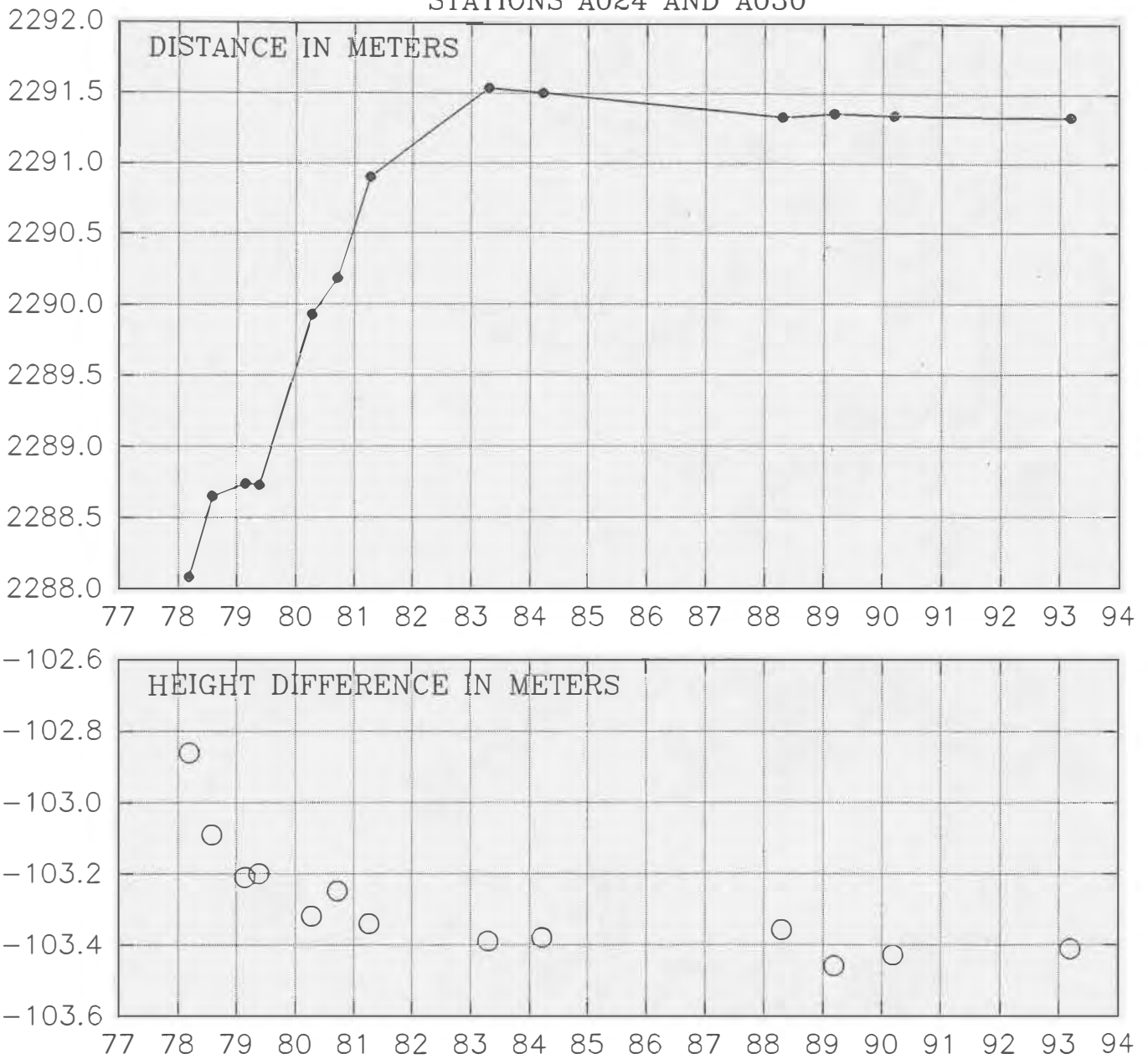


Fig. 8b

STATIONS A024 AND A035

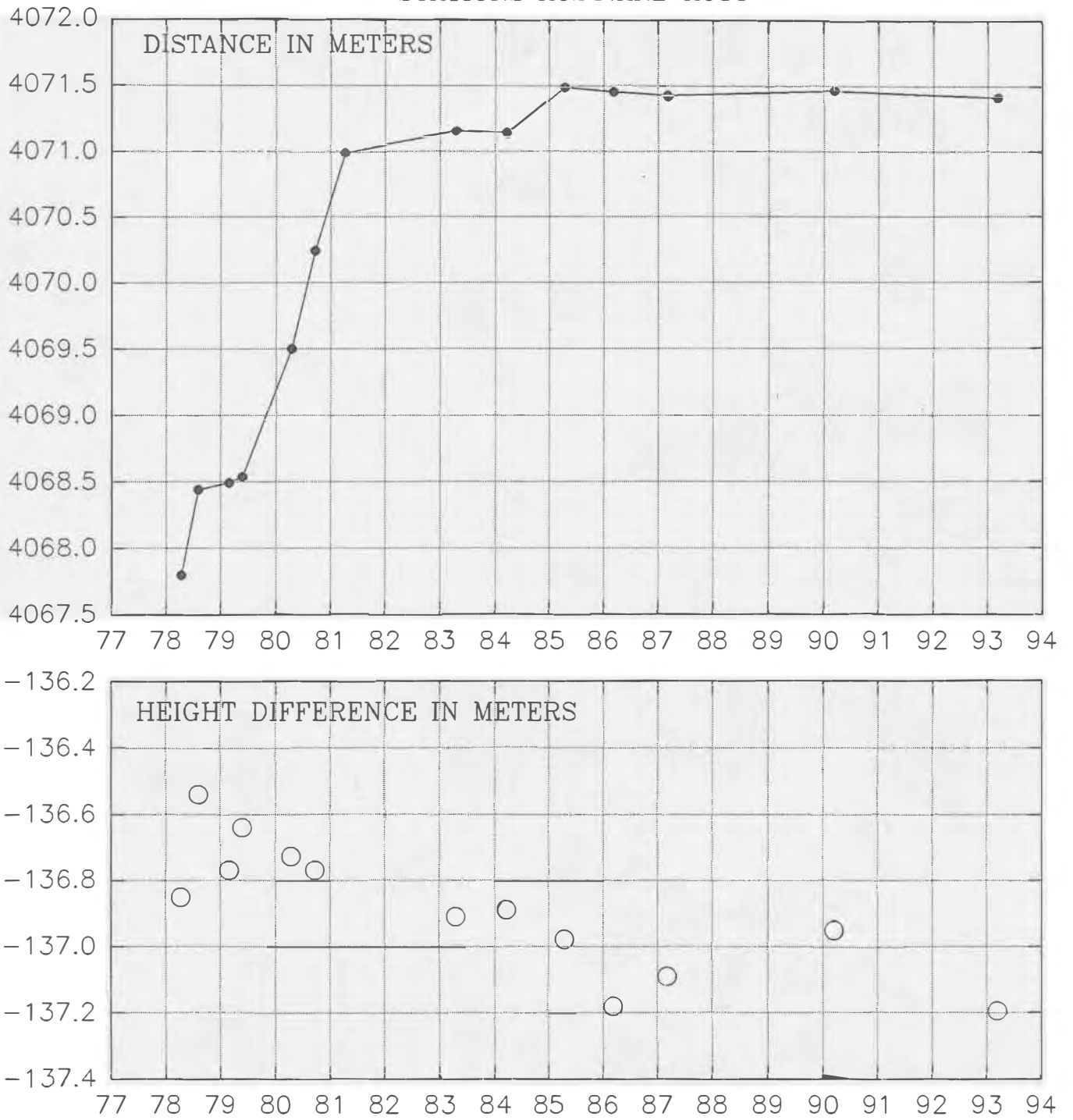


Fig. 8c

STATIONS A024 AND A037

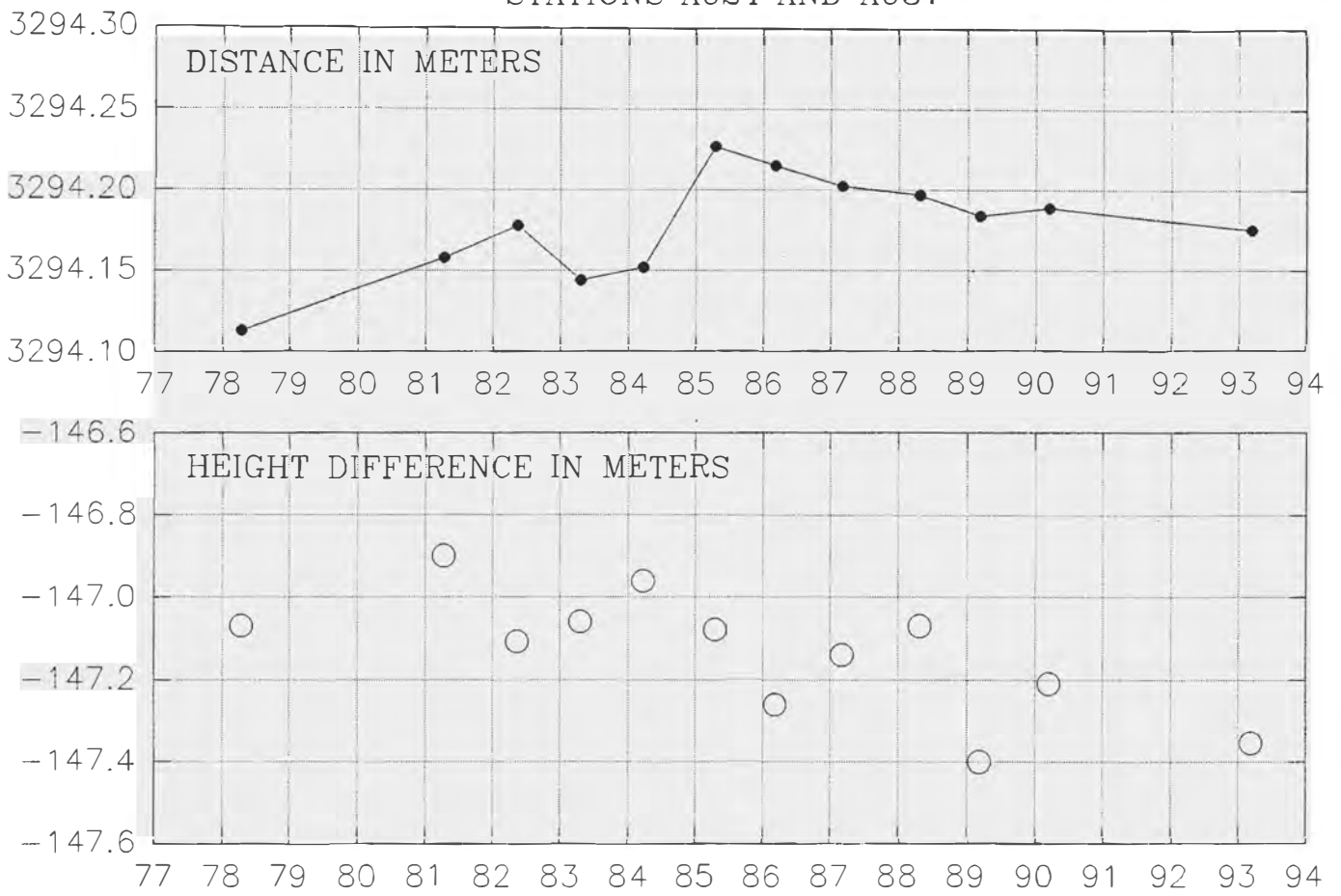


Fig. 8d

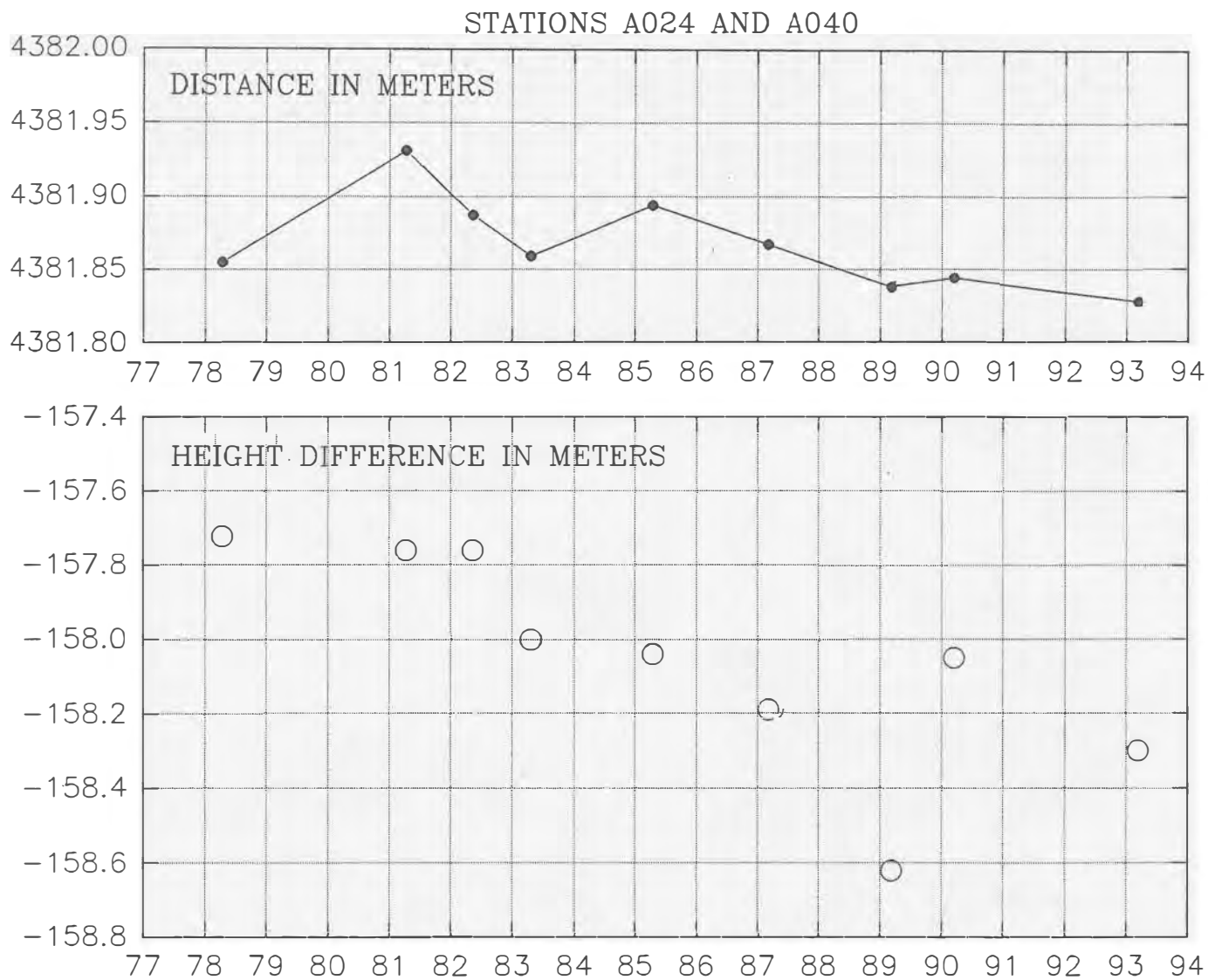


Fig. 8e

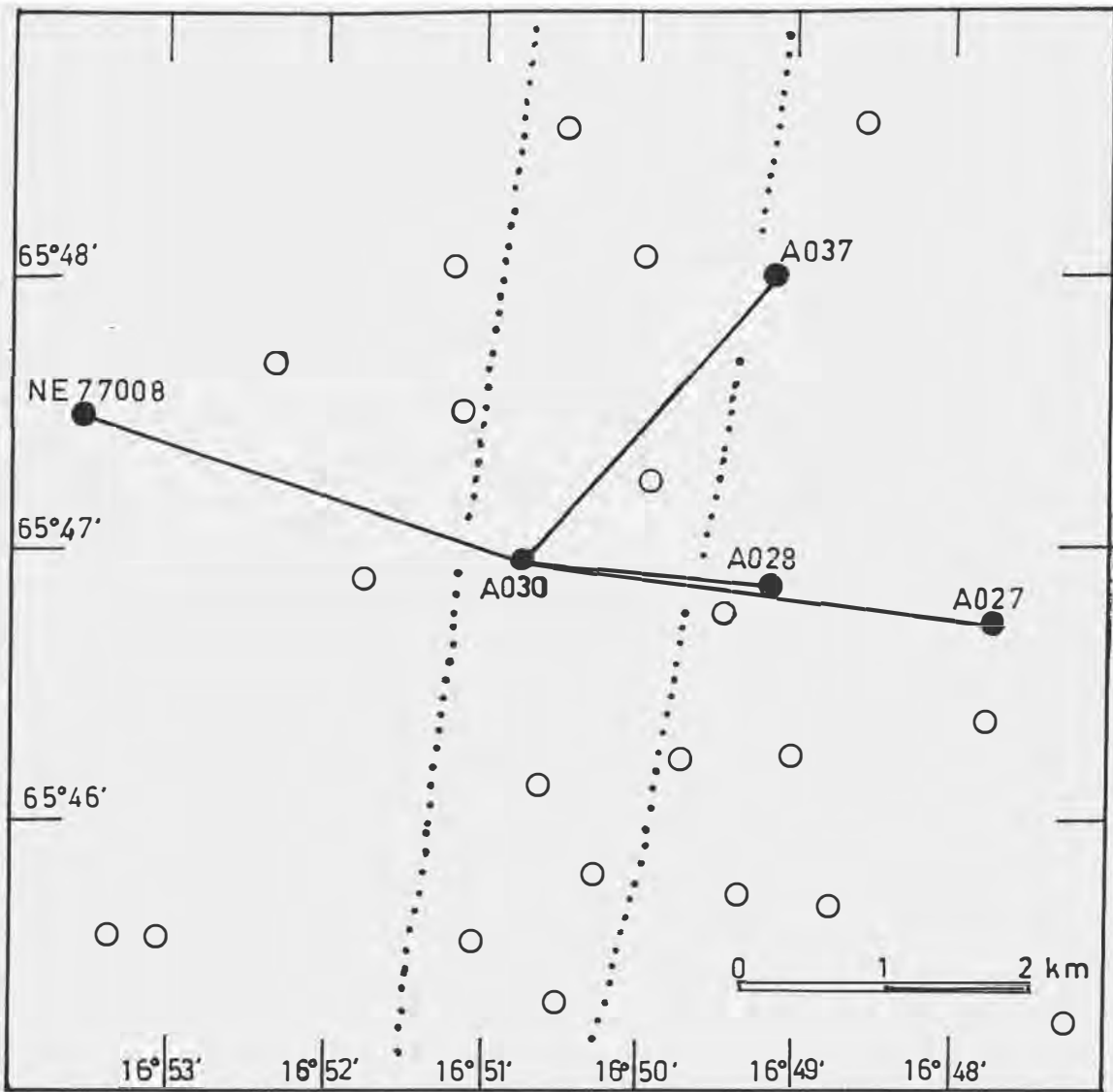


Fig. 9

Lines from station A030 which have been measured at least nine times (and one line measured 8 times) from 1977 to 1993. Other lines from A030 are included in earlier figures. Figs. 9a to 9d show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS A030 AND A027

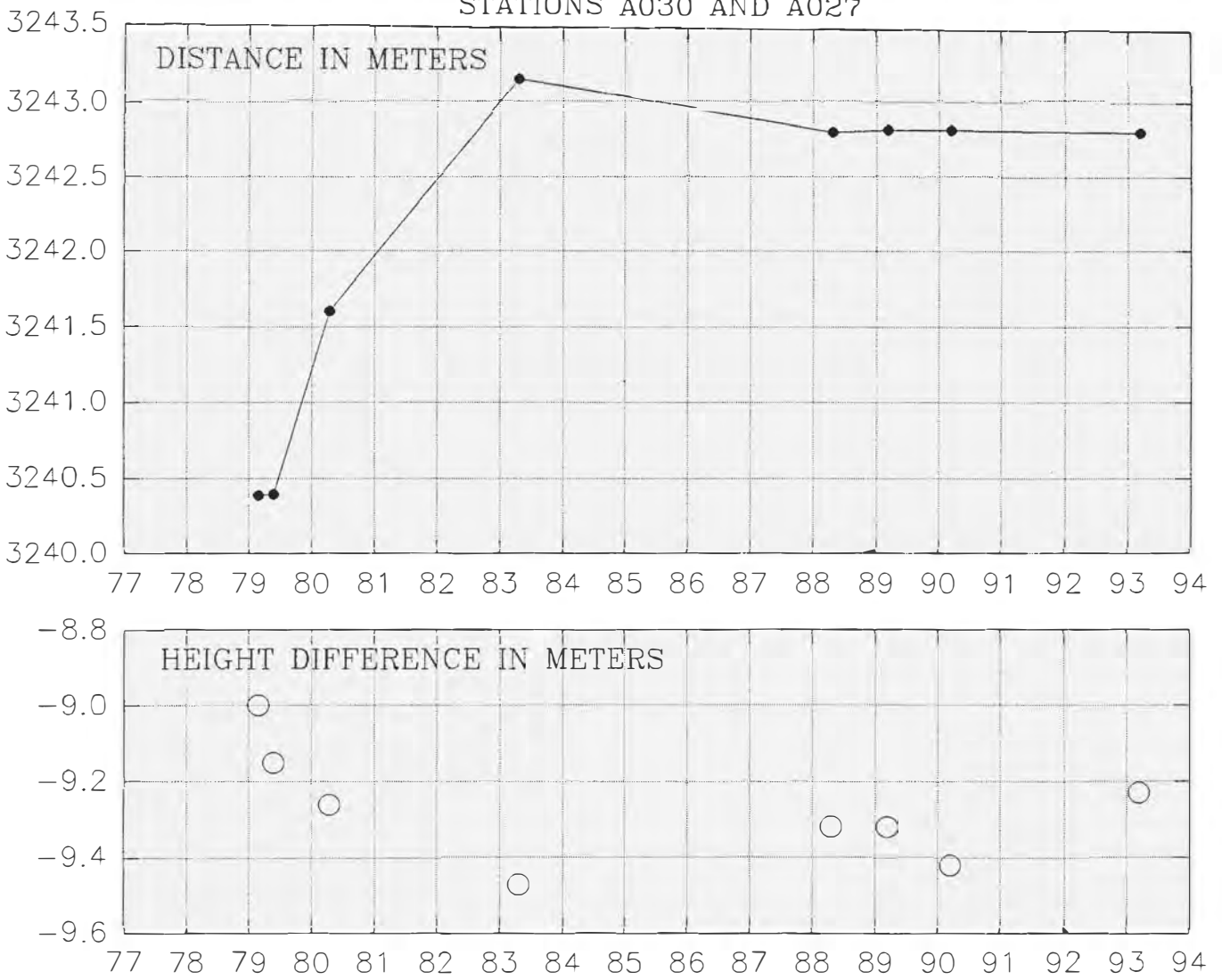


Fig. 9a

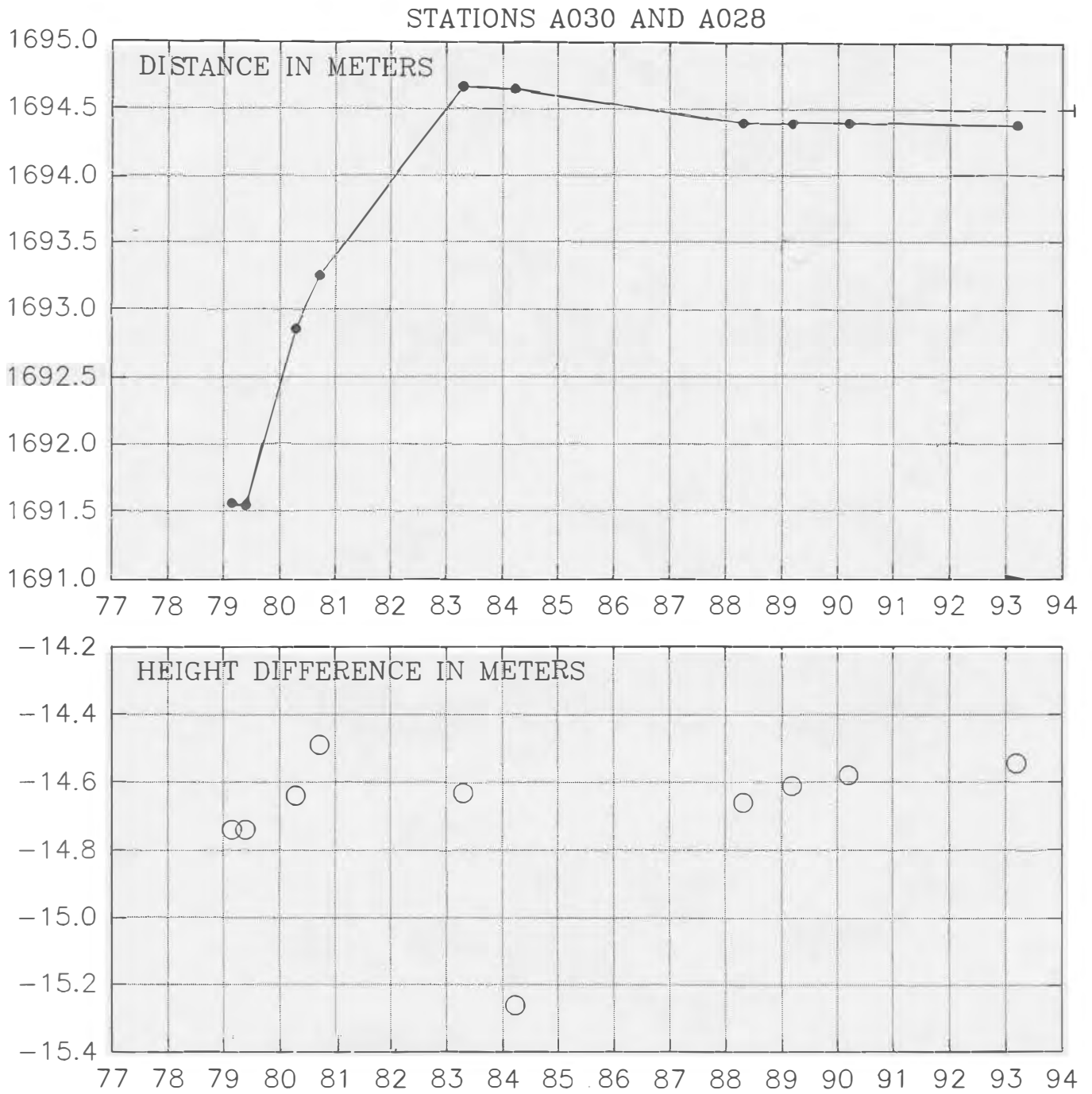


Fig. 9b

STATIONS A030 AND A037

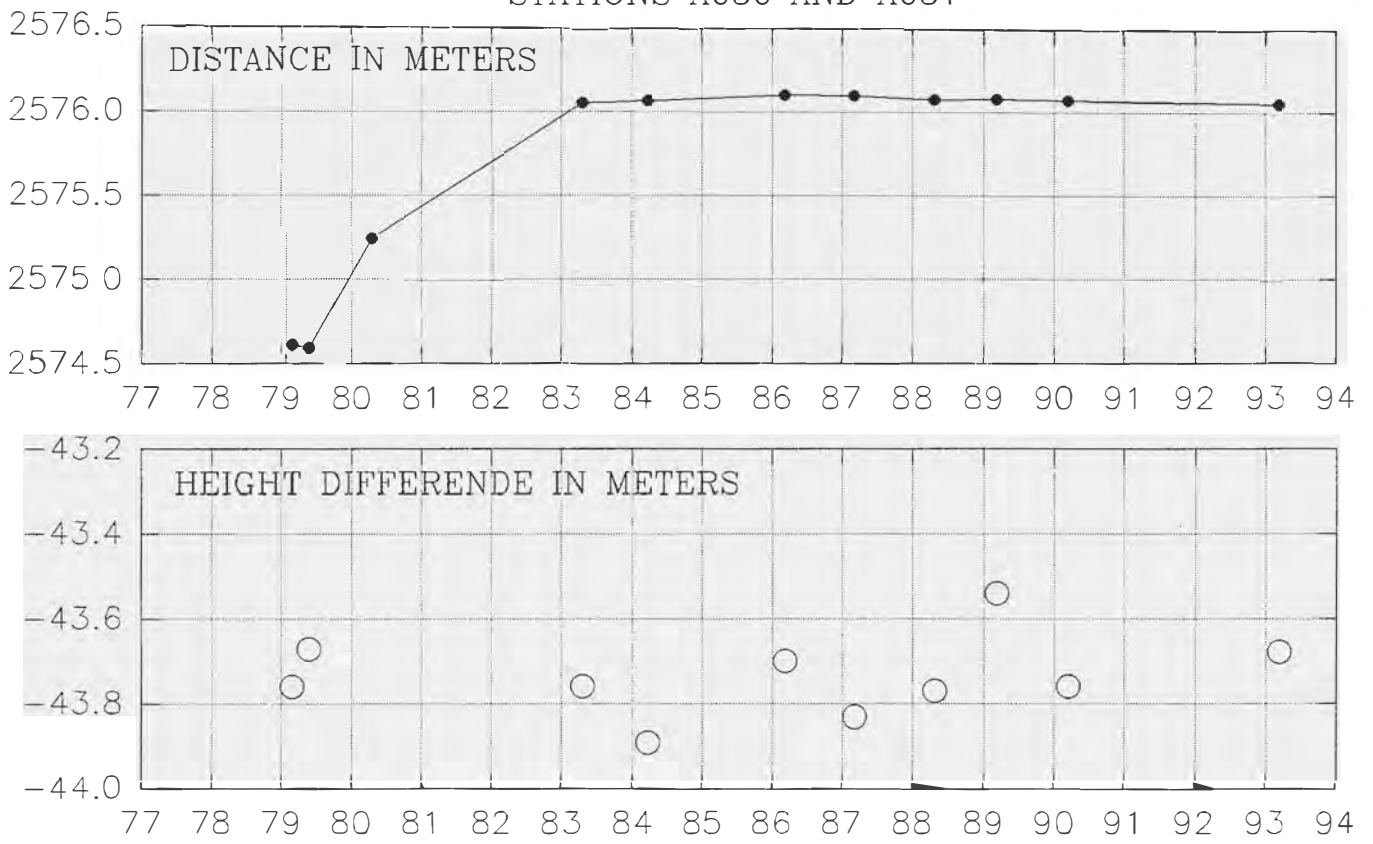


Fig. 9c

STATIONS A030 AND NE77008

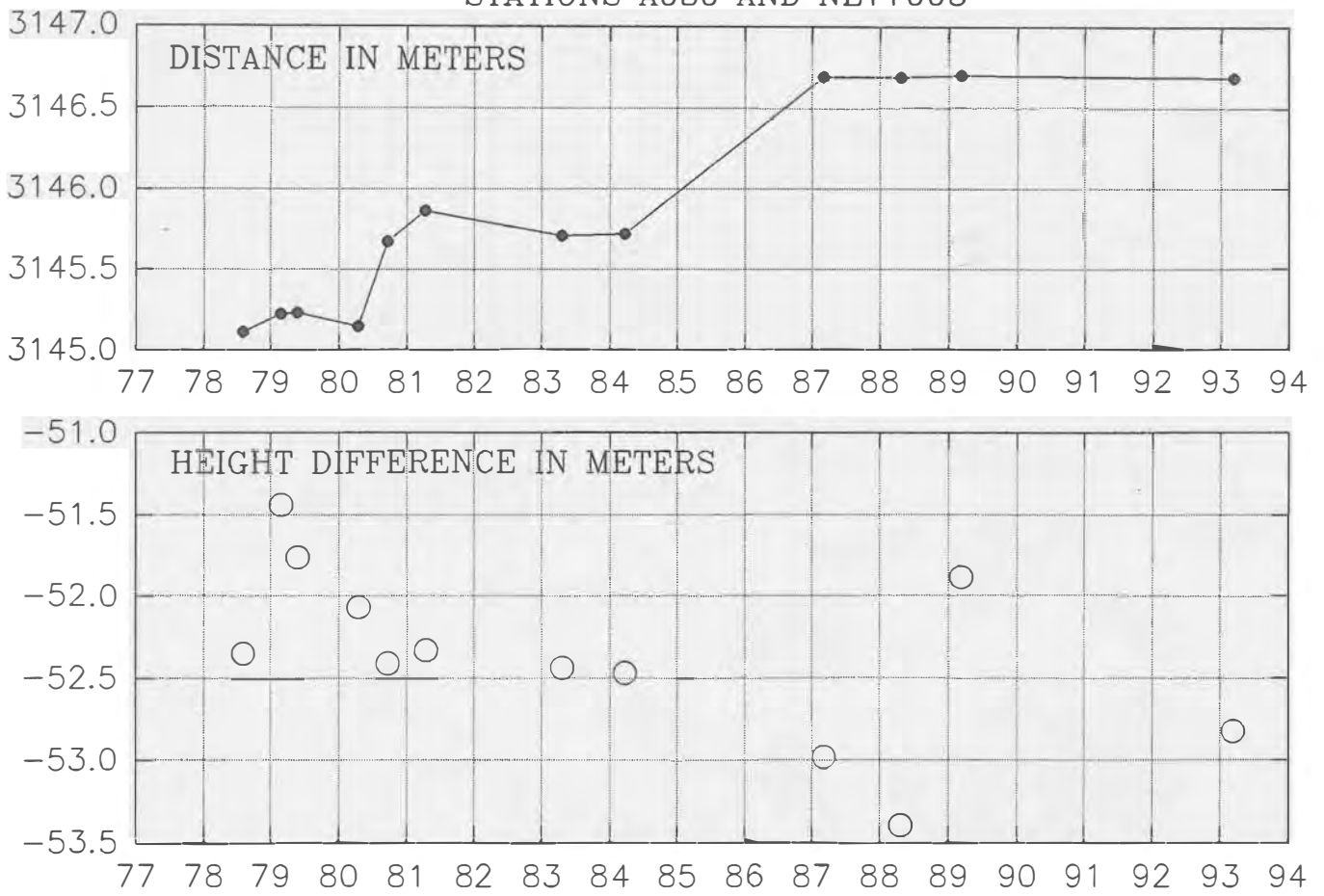


Fig. 9d

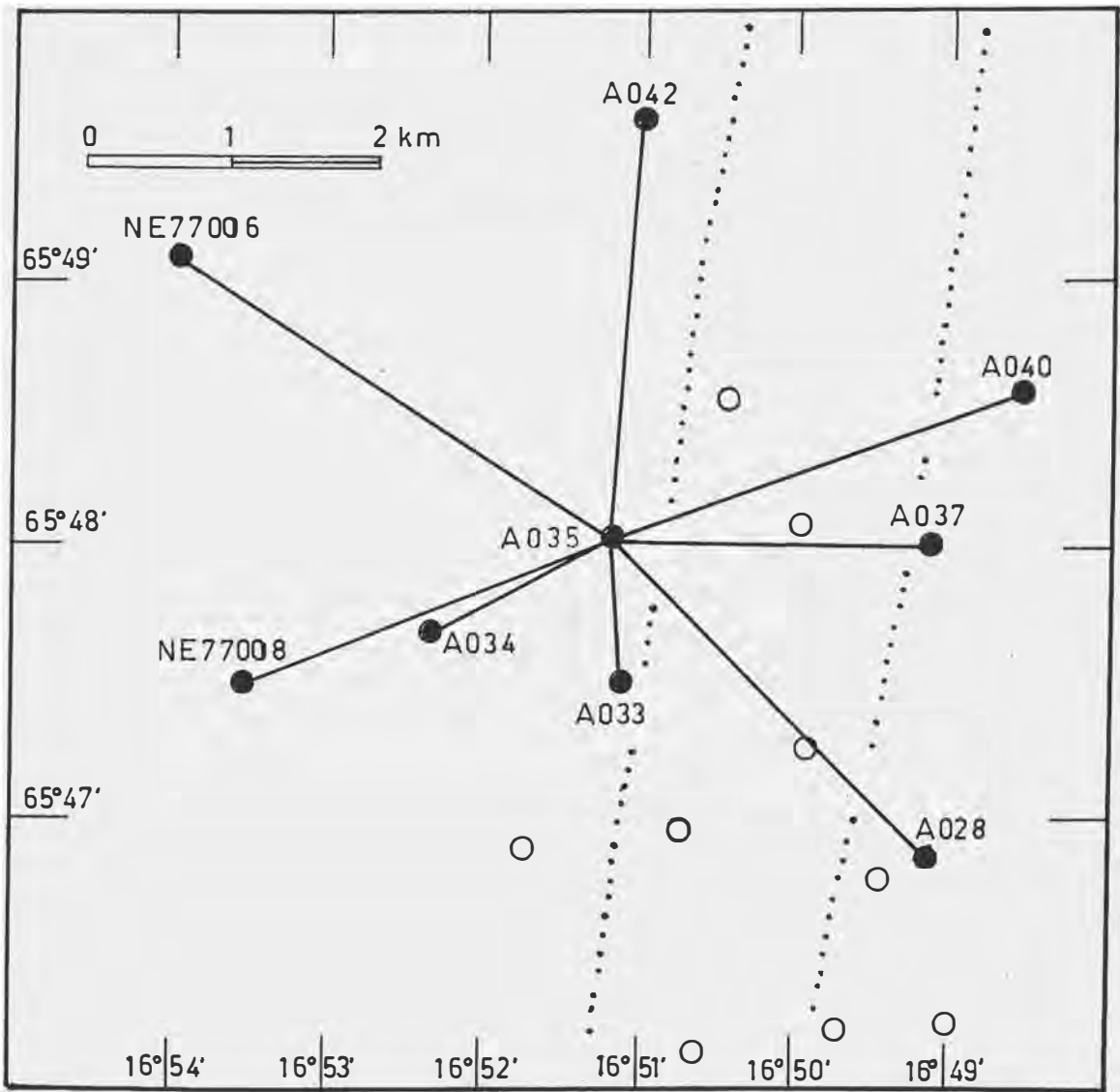


Fig. 10

Lines from station A035 which have been measured at least 9 times from 1977 to 1993. Other lines from A035 are included in earlier figures. Figs. 10a to 10h show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS A035 AND A028

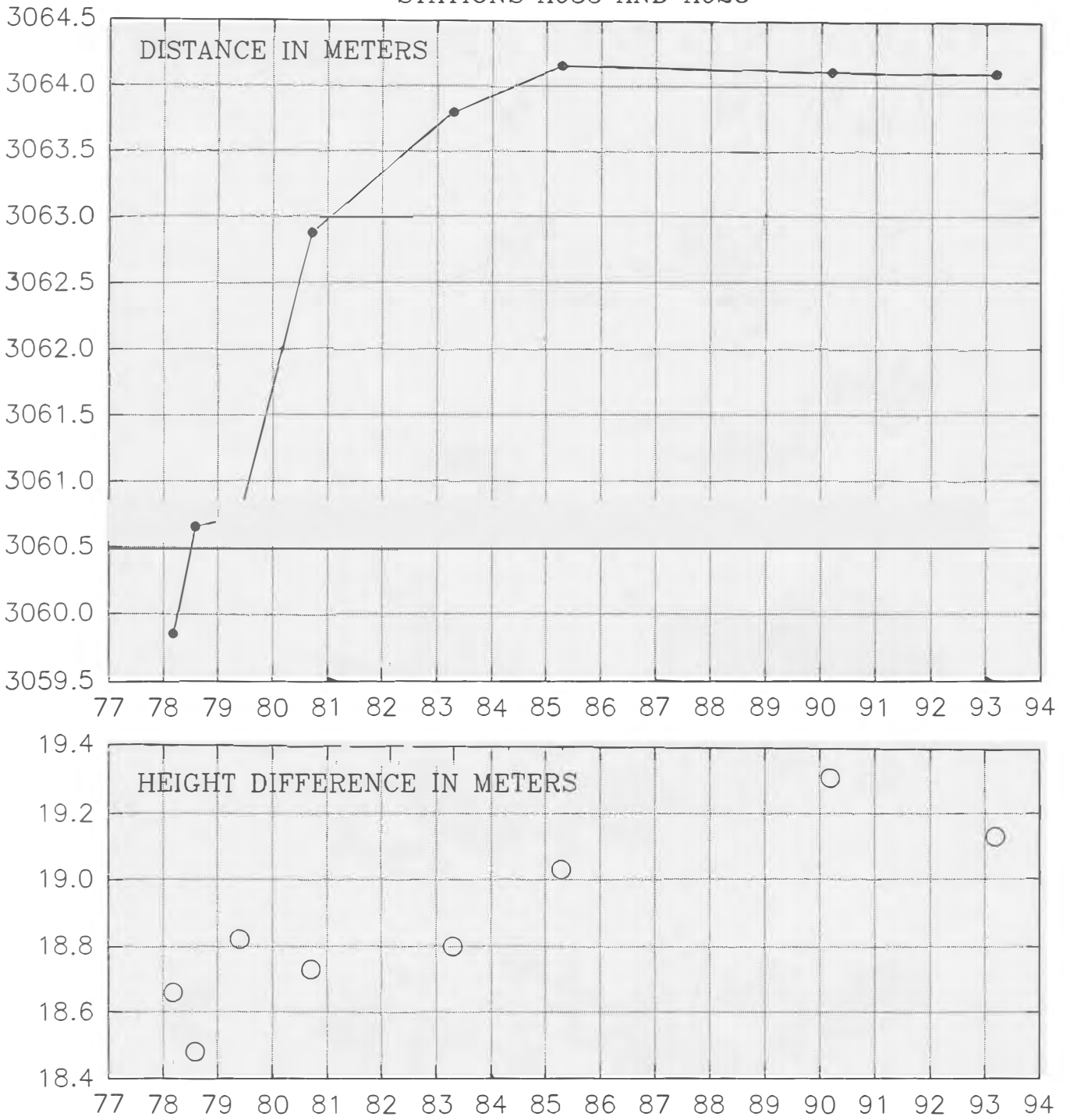


Fig. 10a

STATIONS A035 AND A033

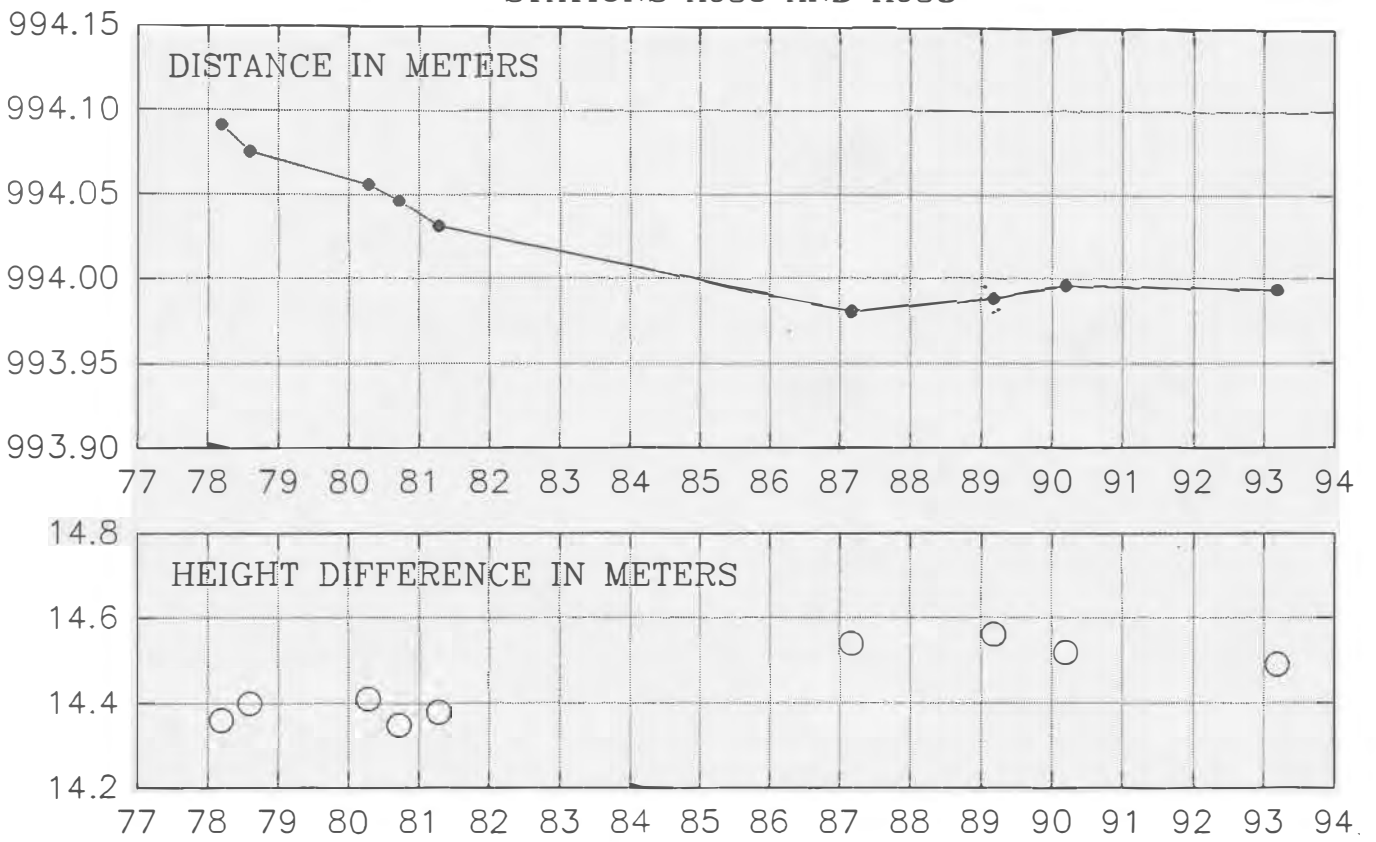


Fig. 10b

STATIONS A035 AND A034

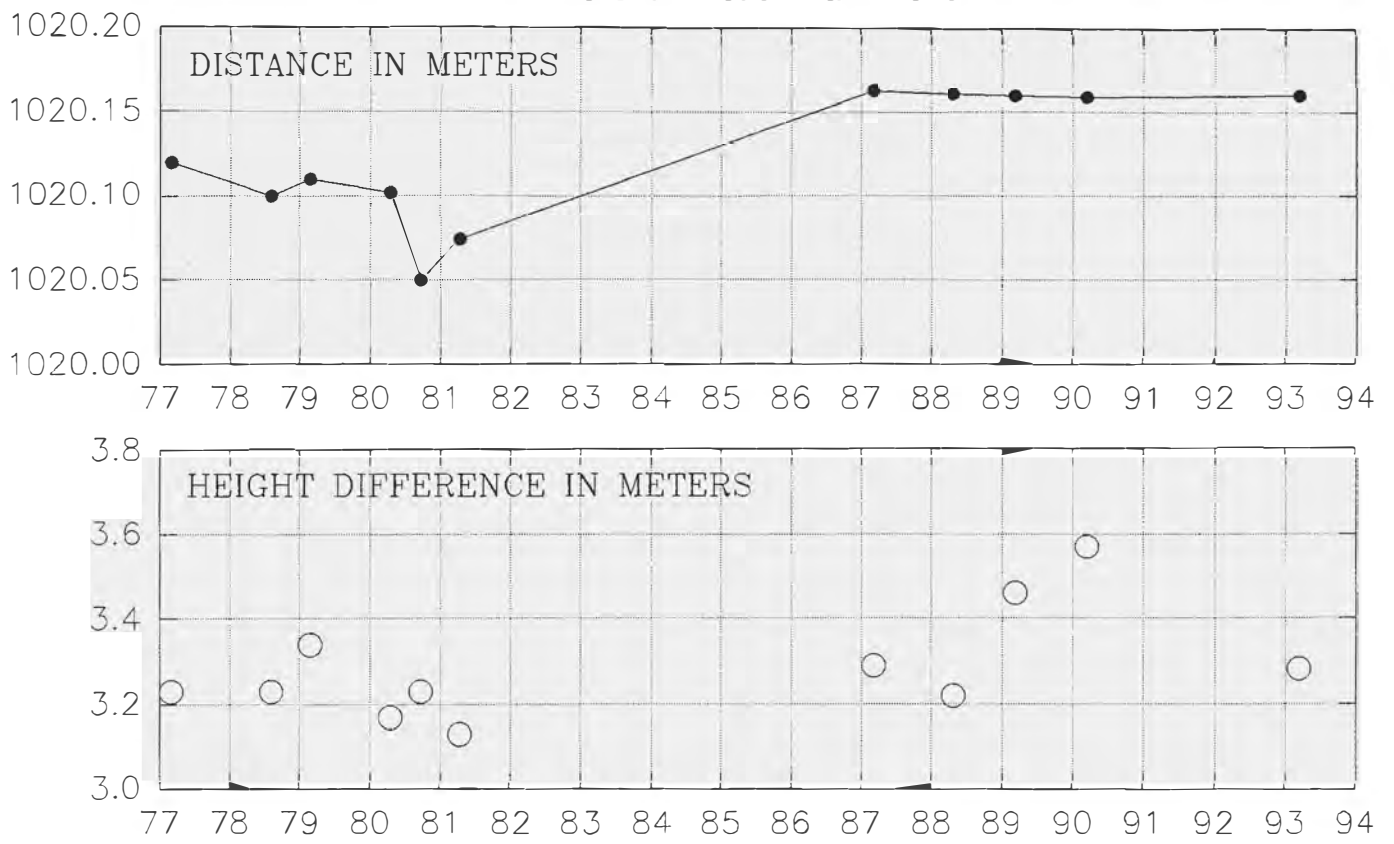


Fig. 10c

STATIONS A035 AND A037

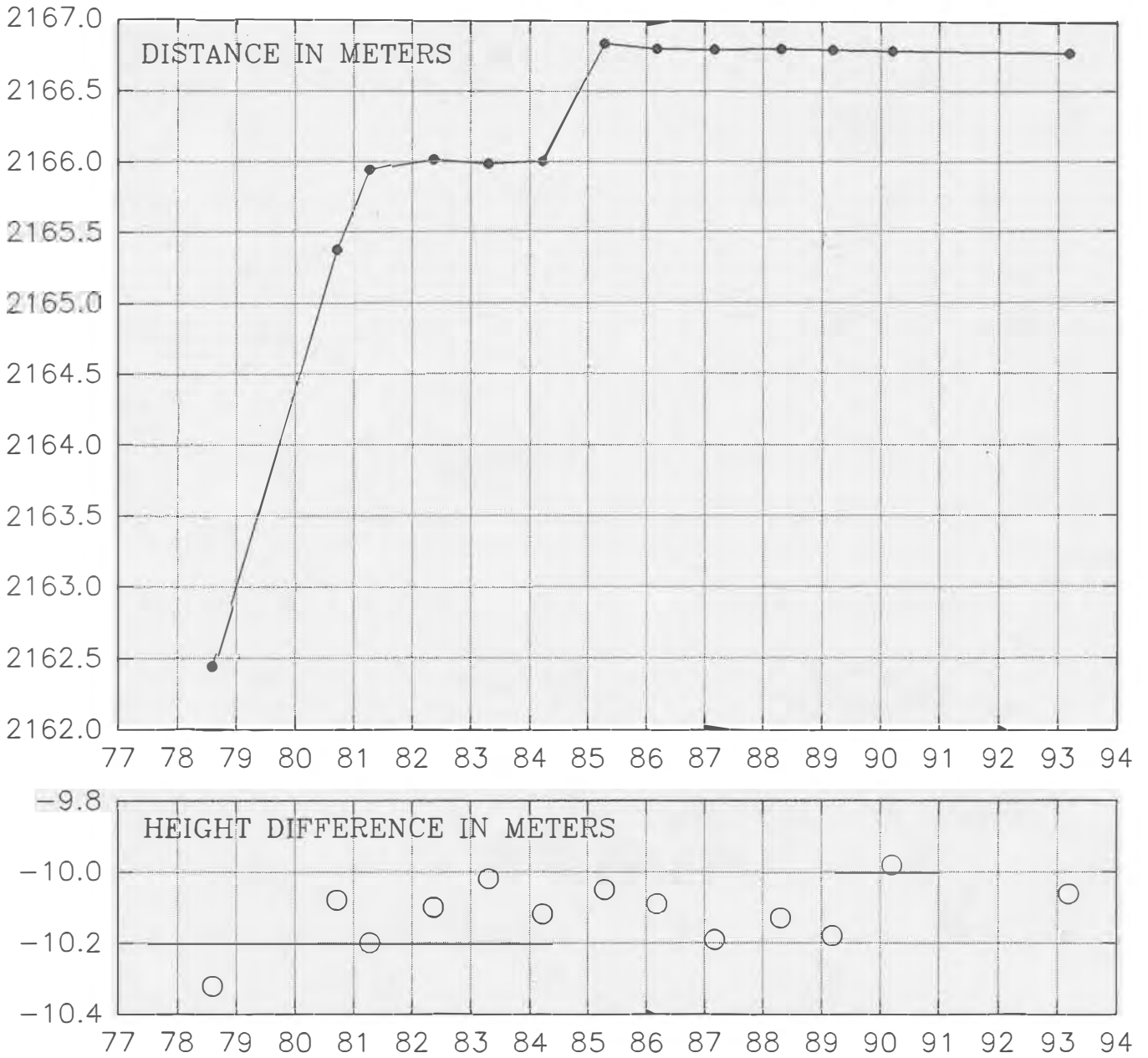


Fig. 10d

STATIONS A035 AND A040

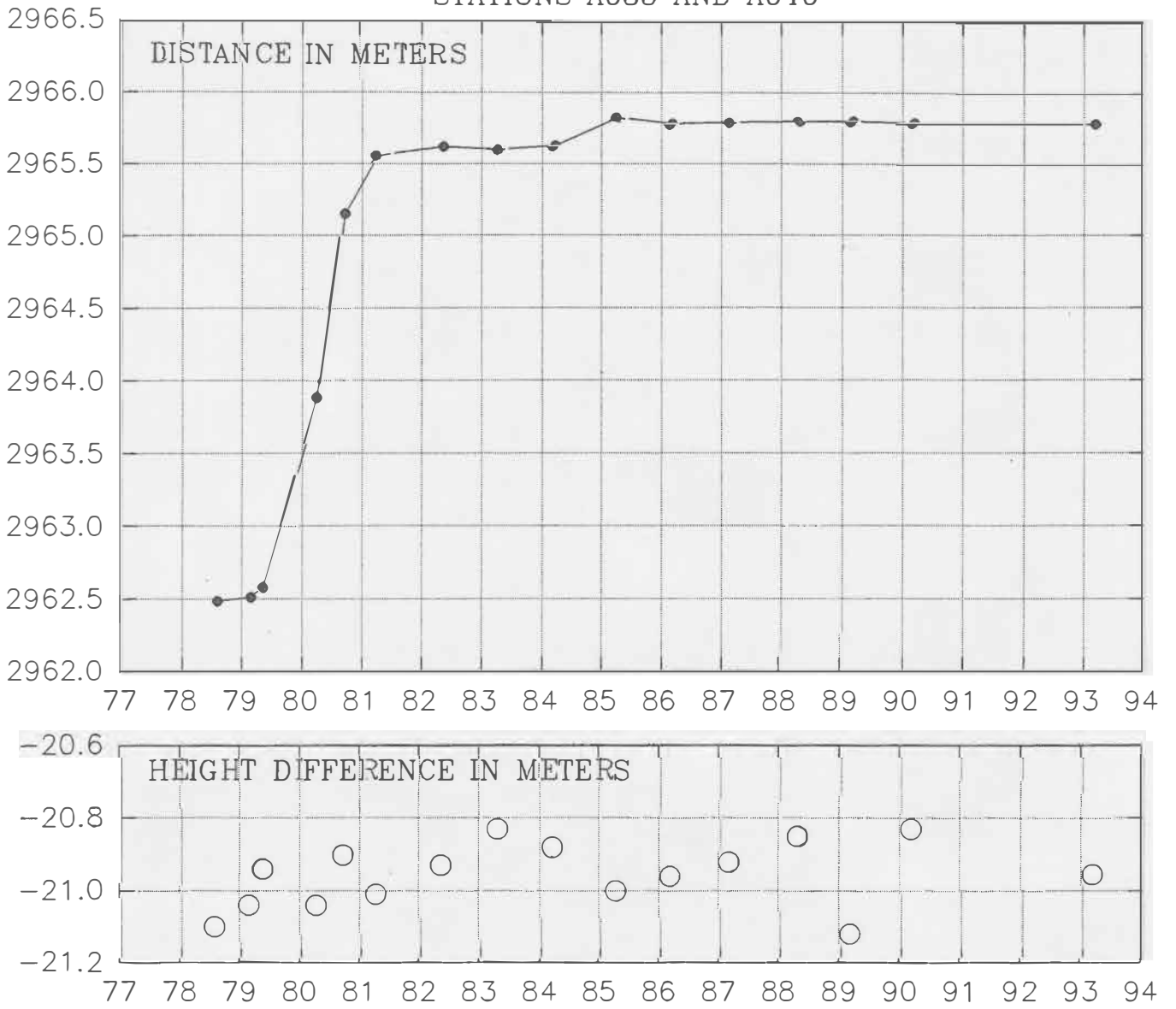


Fig. 10e

STATIONS A035 AND A042

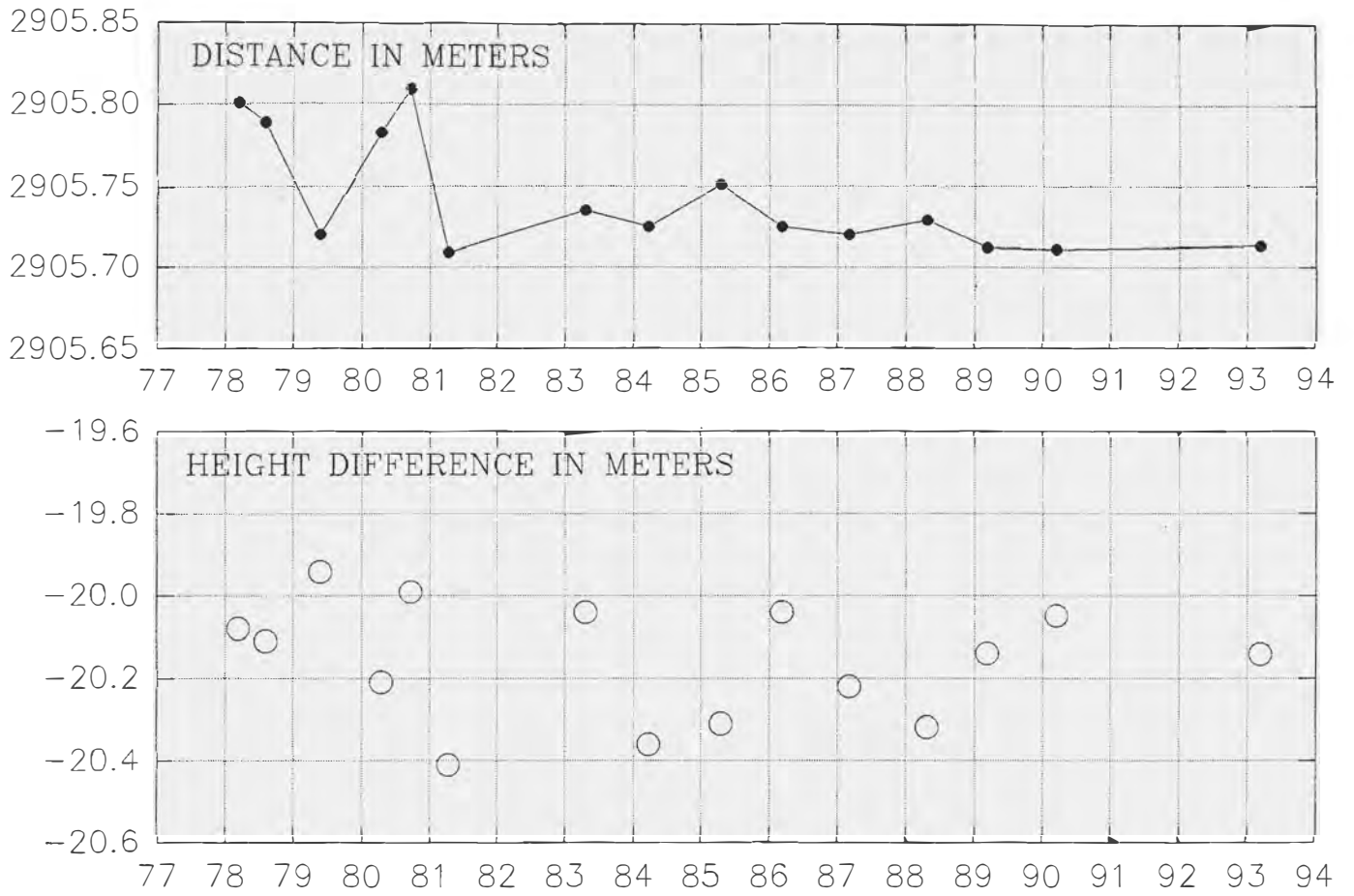


Fig. 10f

STATIONS A035 AND NE77006

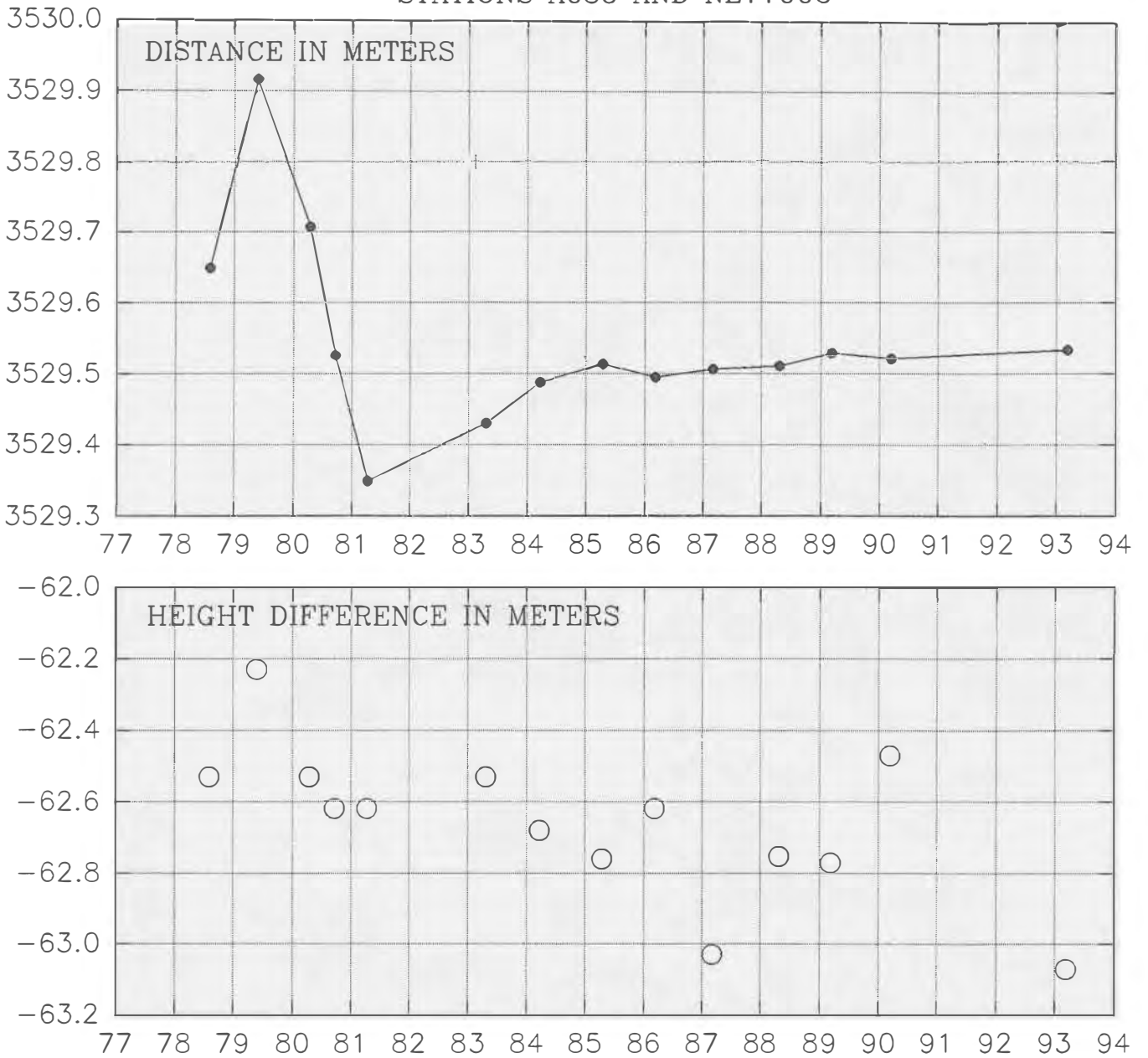


Fig. 10g

STATIONS A035 AND NE77008

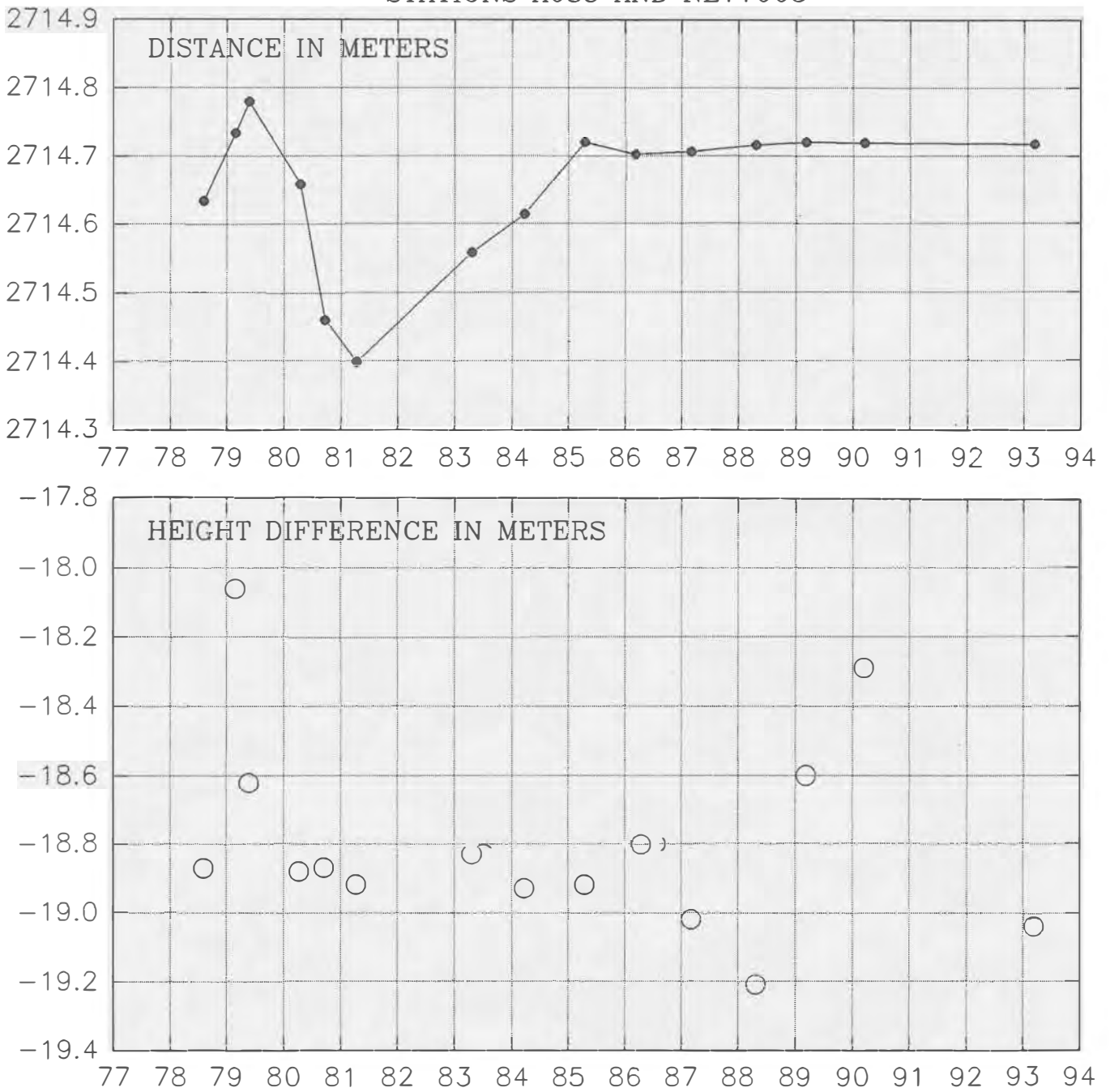


Fig. 10h

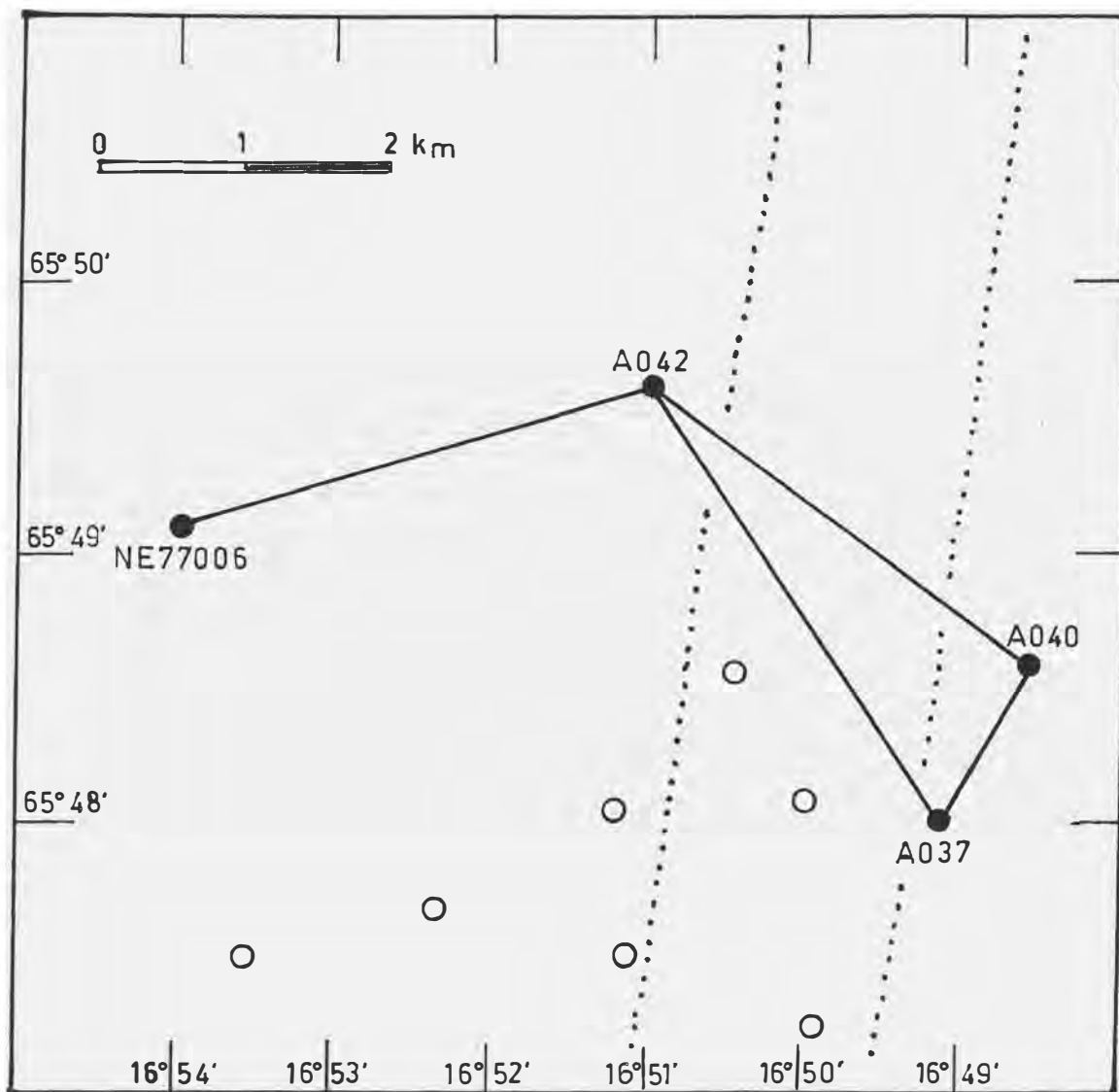


Fig. 11

Lines from stations A037, A040, and A042 which have been measured at least nine times from 1977 to 1993. Other lines from these stations are included in earlier and later figures. Figs 11a to 11d show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

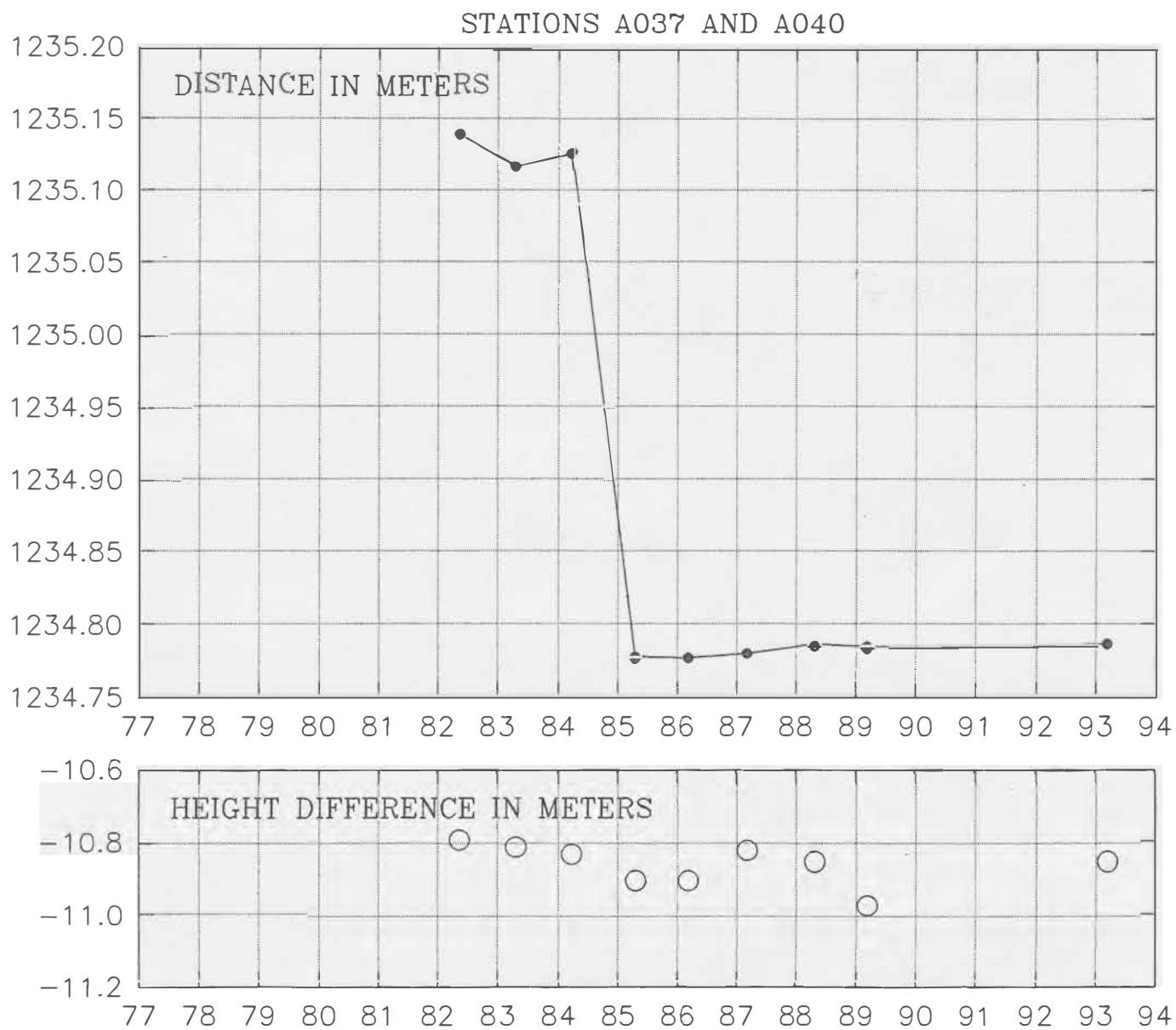


Fig. 11a

STATIONS A037 AND A042

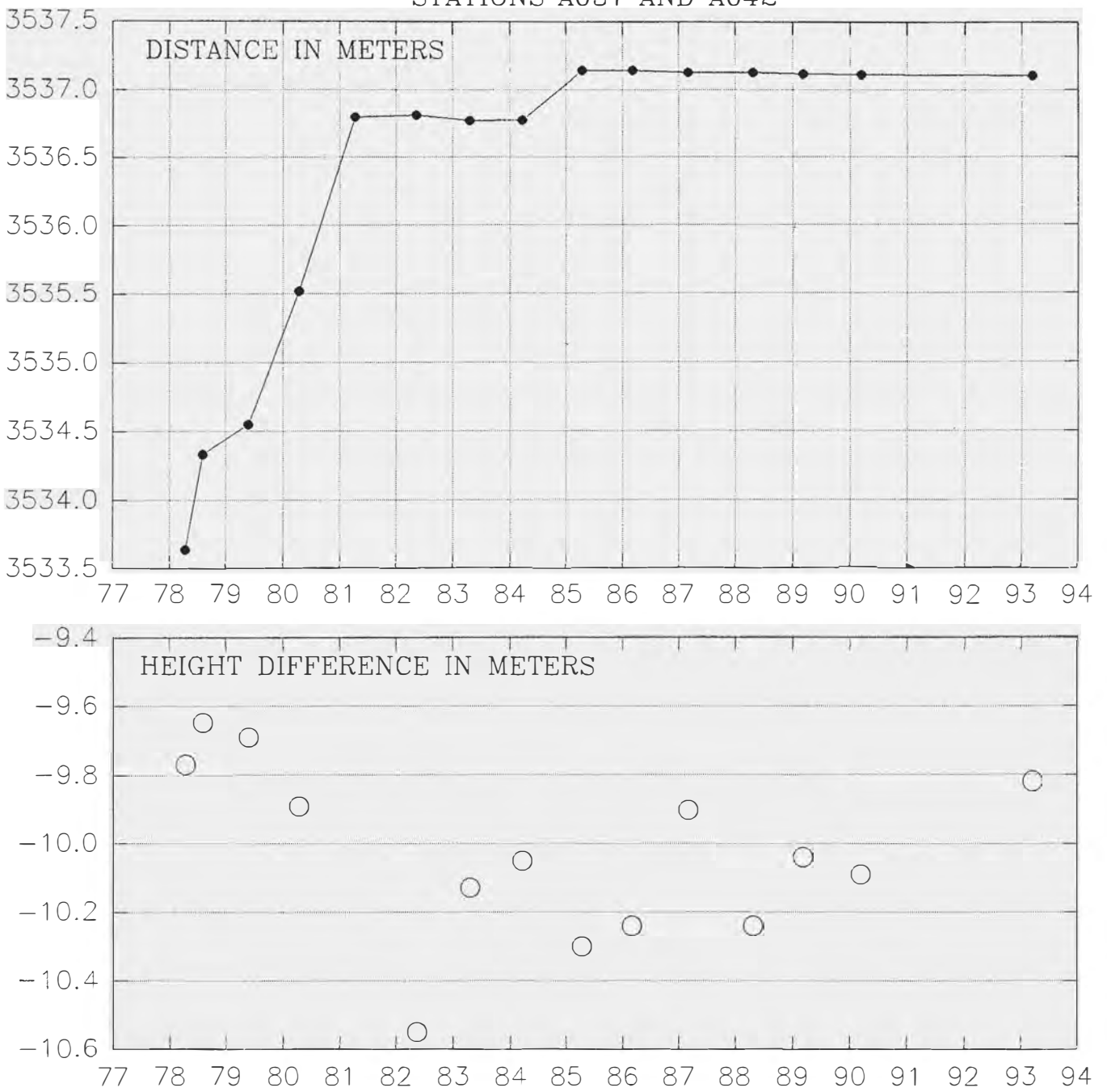


Fig. 11b

STATIONS A040 AND A042

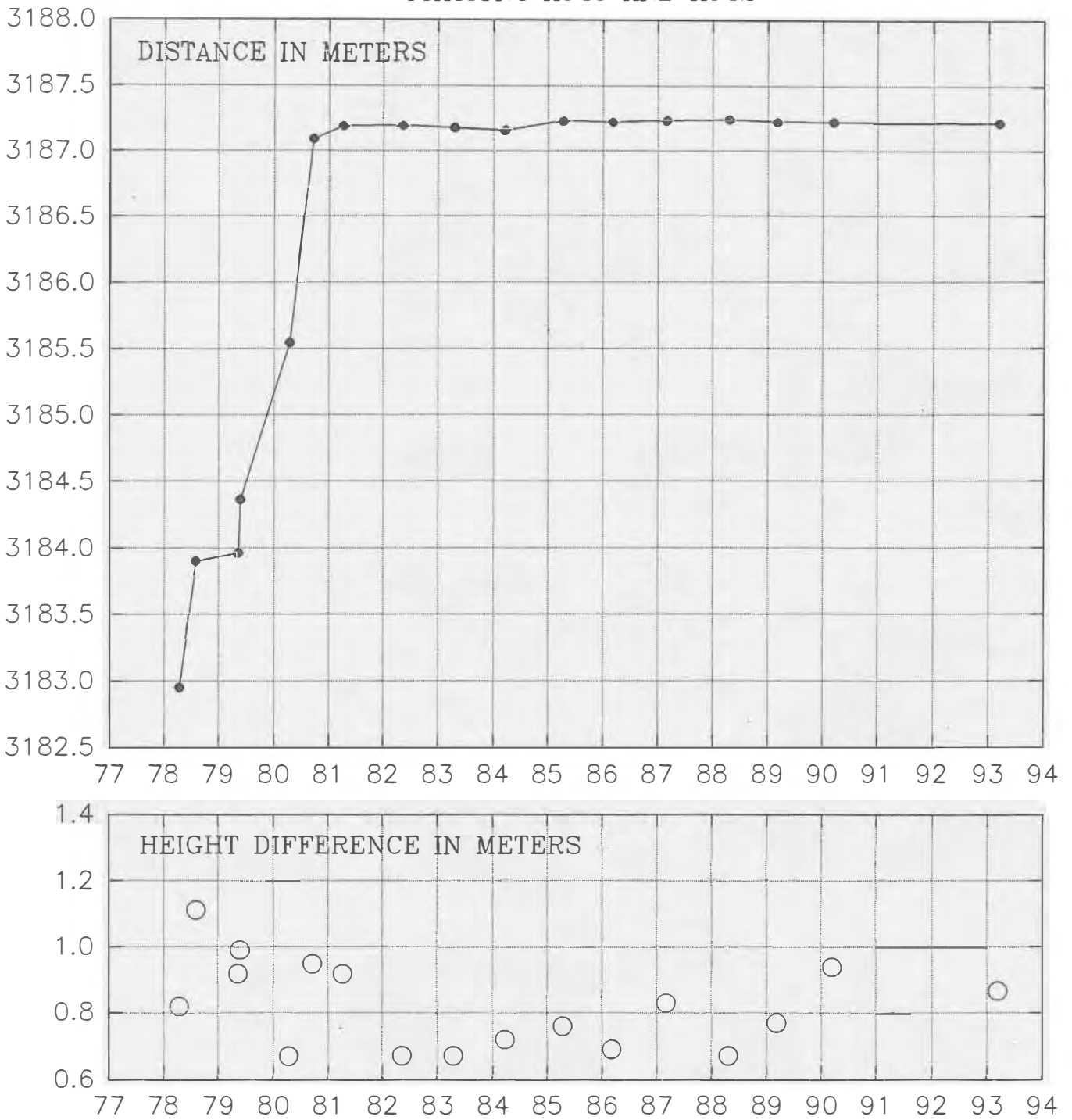


Fig. 11c

STATIONS A042 AND NE77006

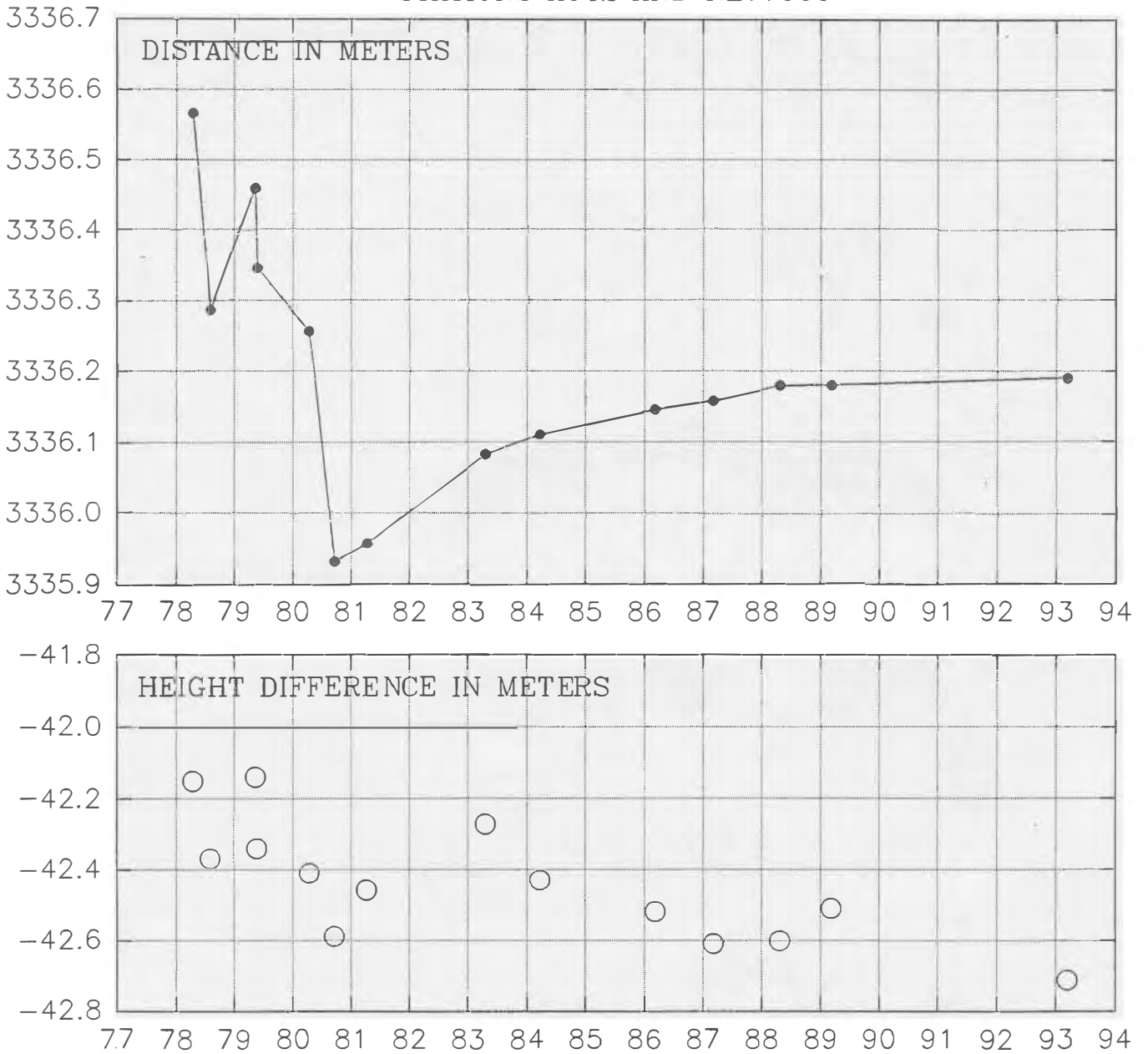


Fig. 11d

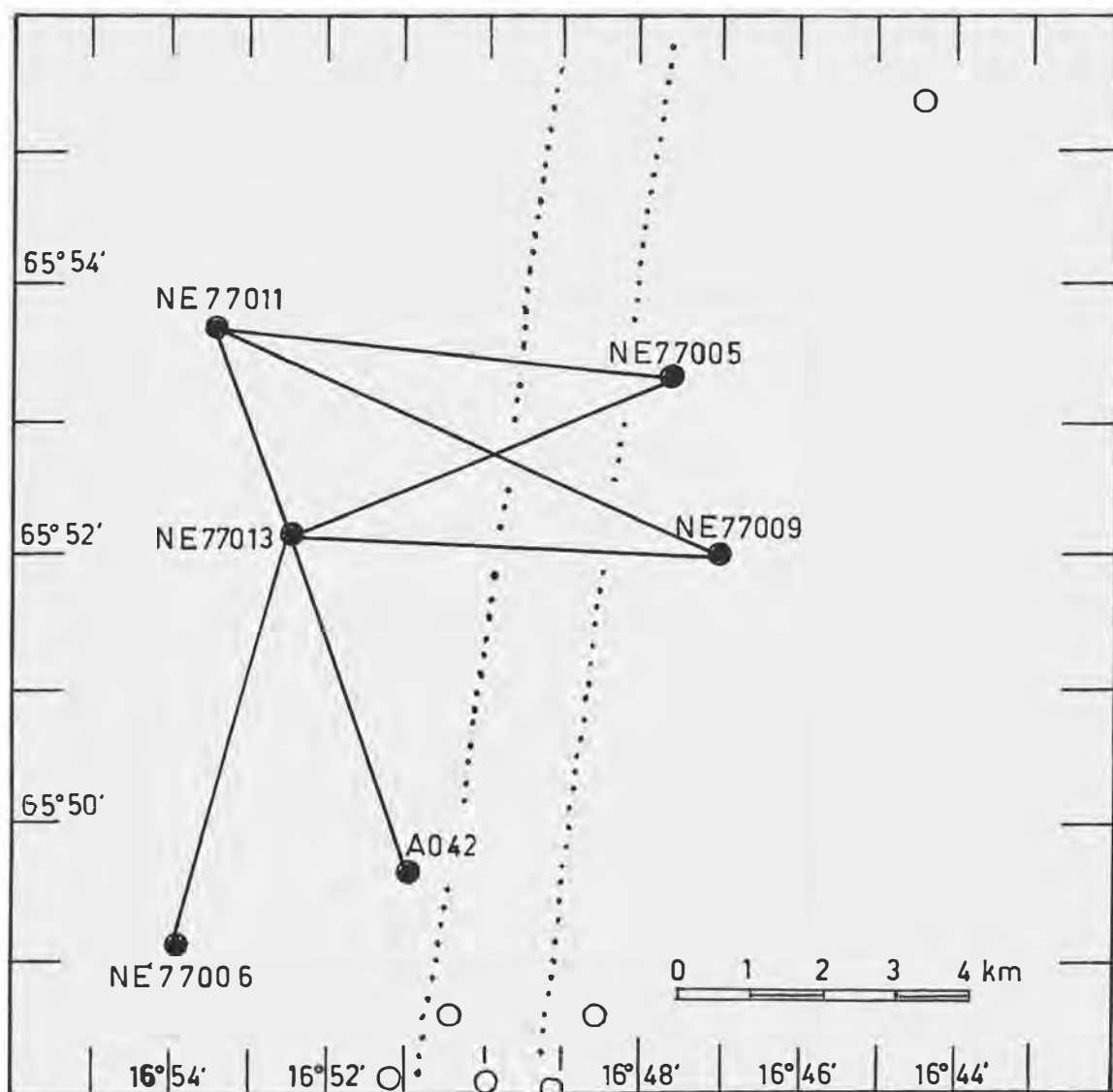


Fig. 12

Lines in the Krafla-Gjástykkí area, farther north than stations A042 and NE77006 which have been measured at least nine times from 1977 to 1993. Figs 12a to 12g show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS A042 AND NE77013

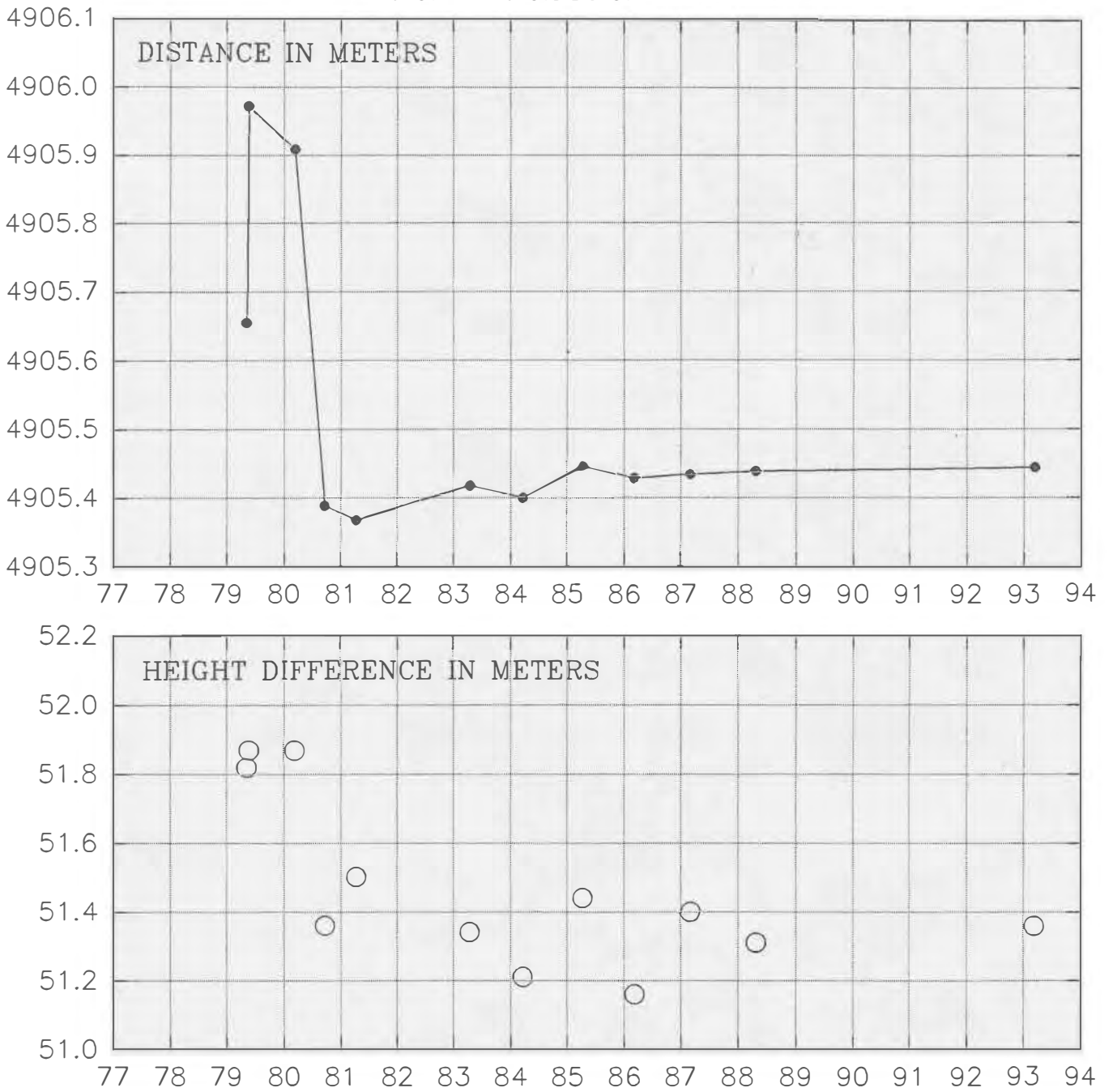


Fig. 12a

STATIONS NE77005 AND NE77011

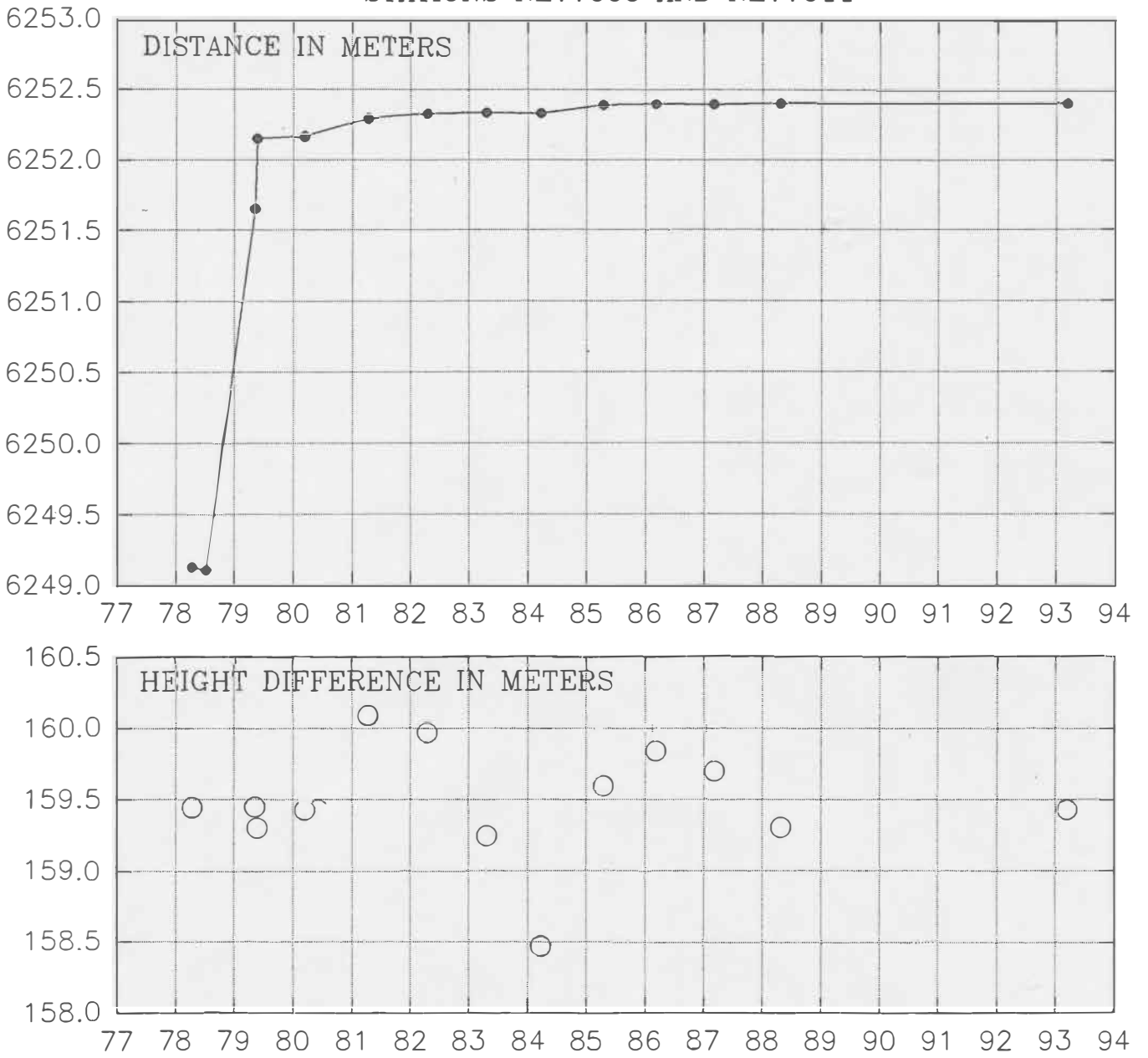


Fig. 12b

STATIONS NE77005 AND NE77013

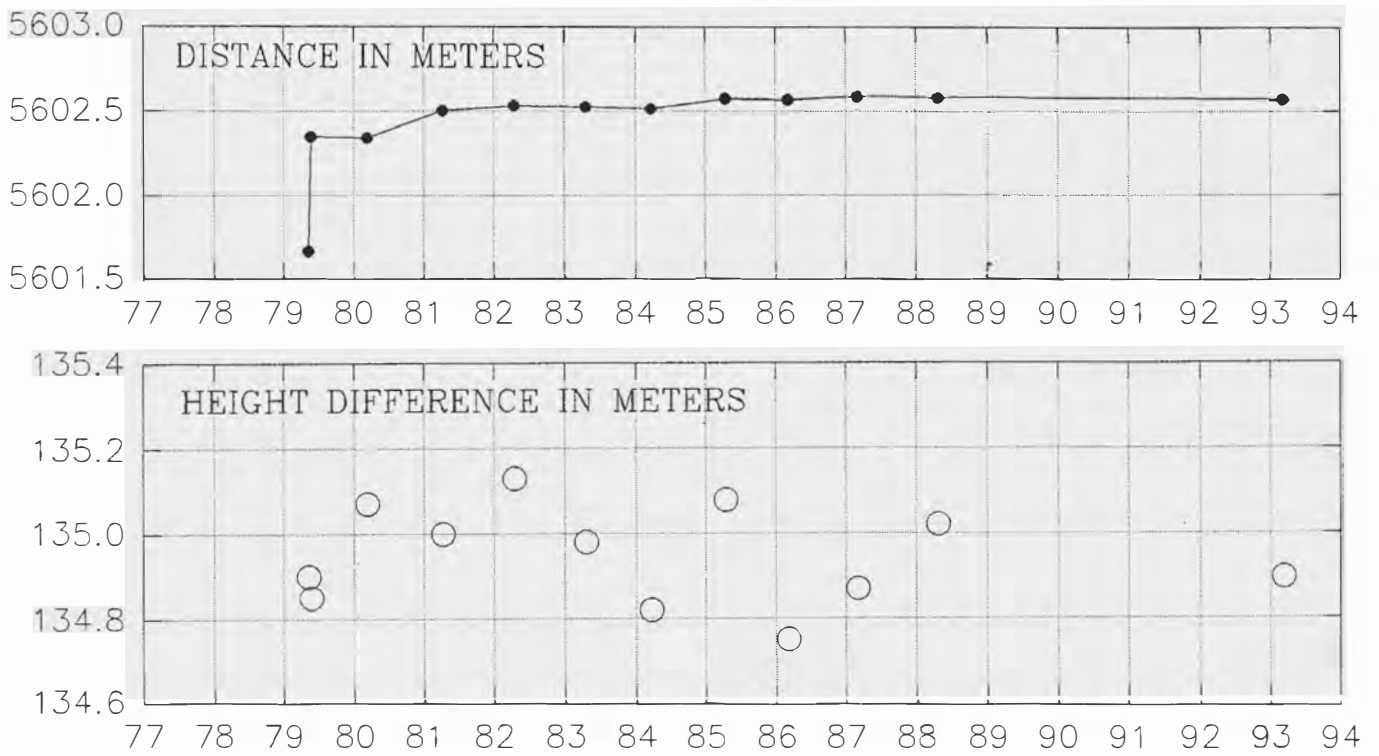


Fig. 12c

STATIONS NE77006 AND NE77013

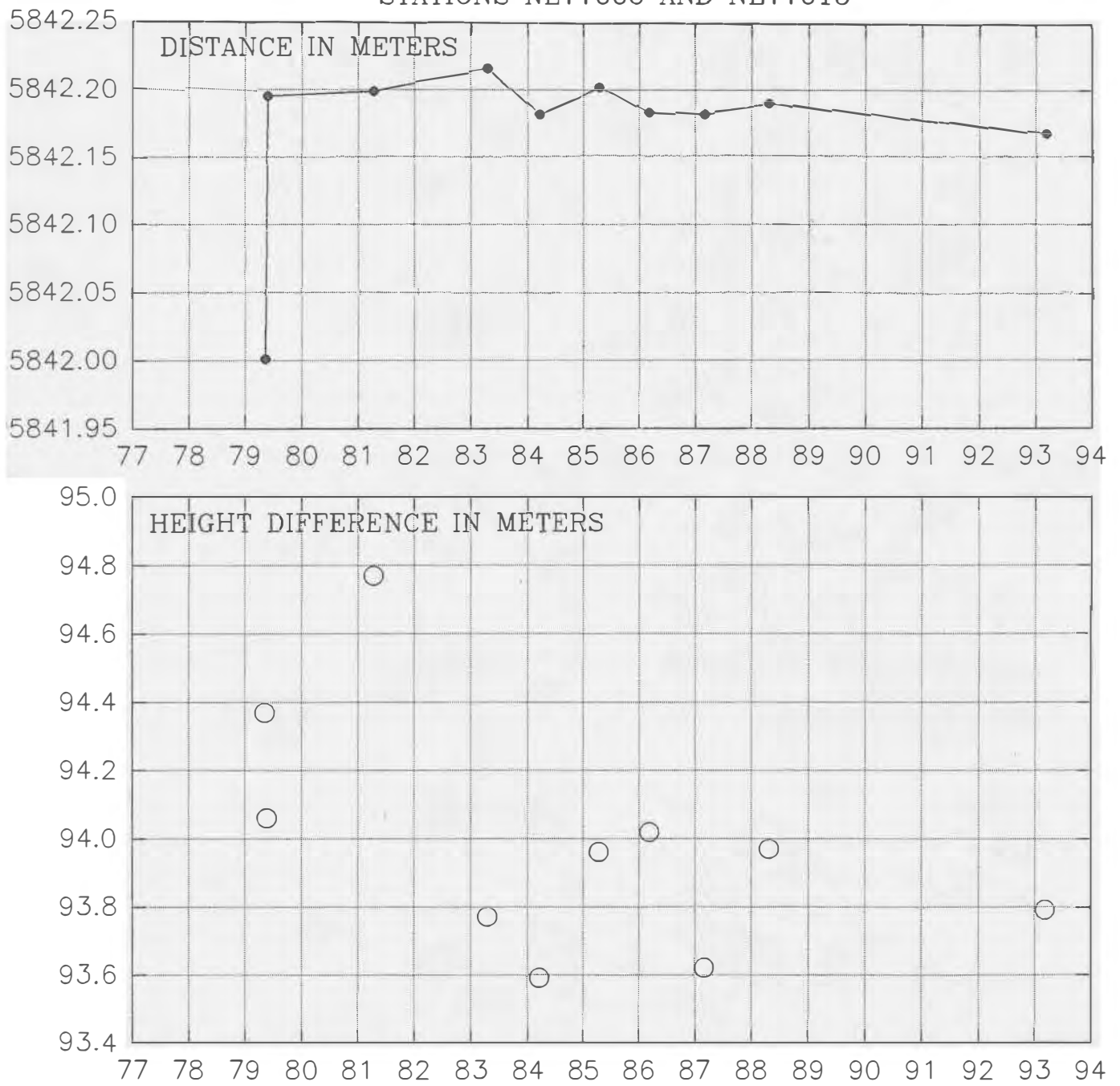


Fig. 12d

STATIONS NE77011 AND NE77009

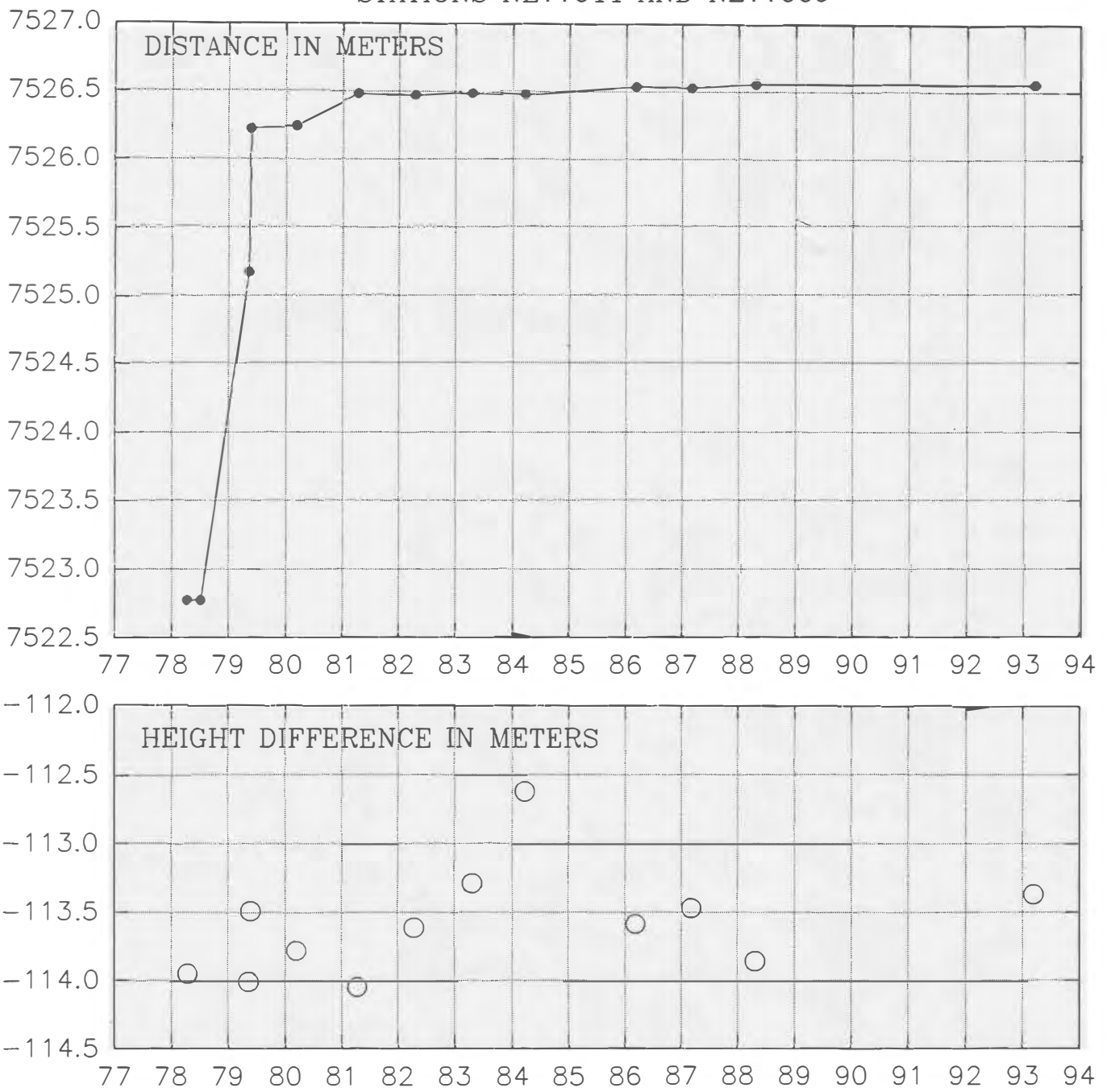


Fig. 12e

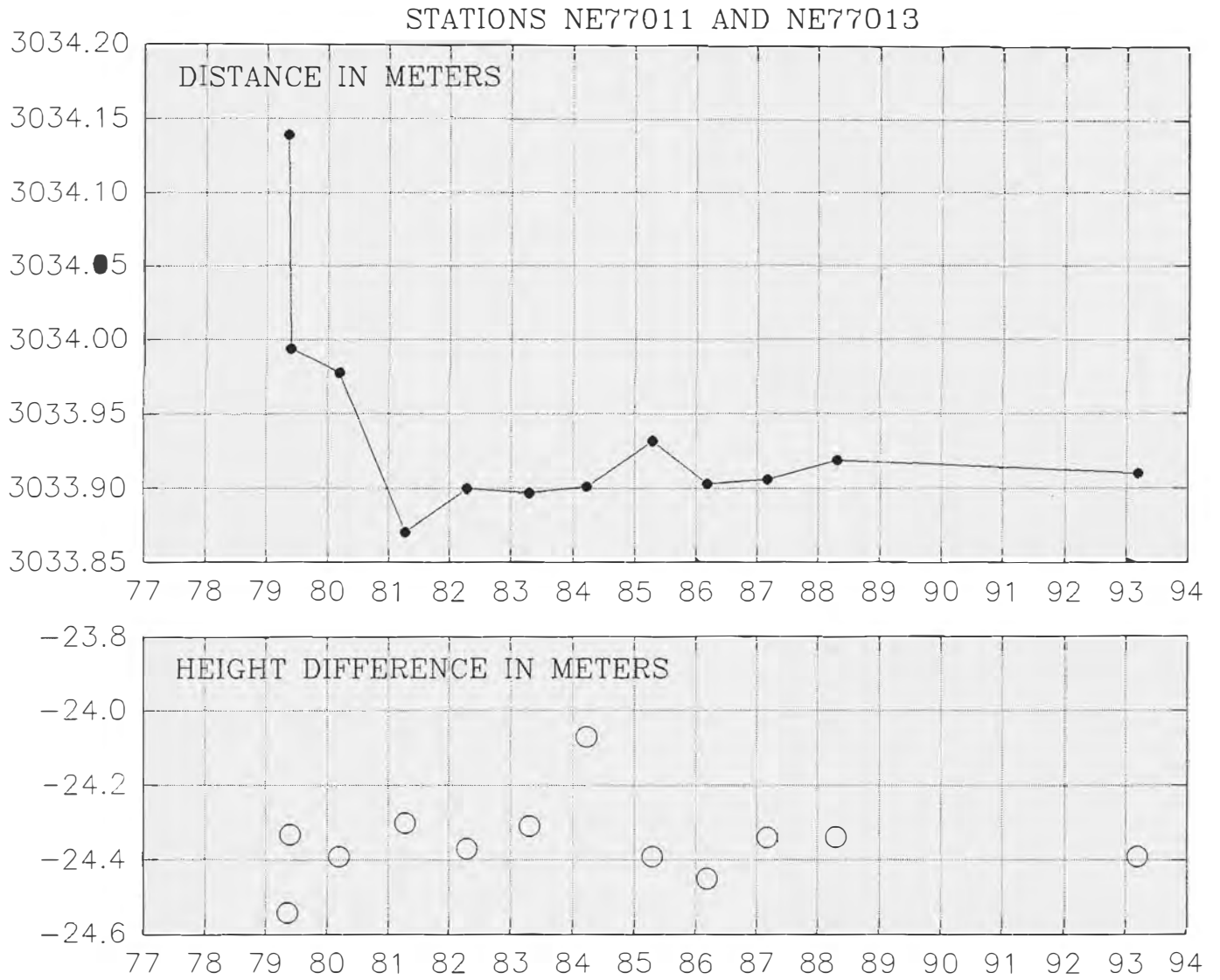


Fig. 12f

STATIONS NE77013 AND NE77009

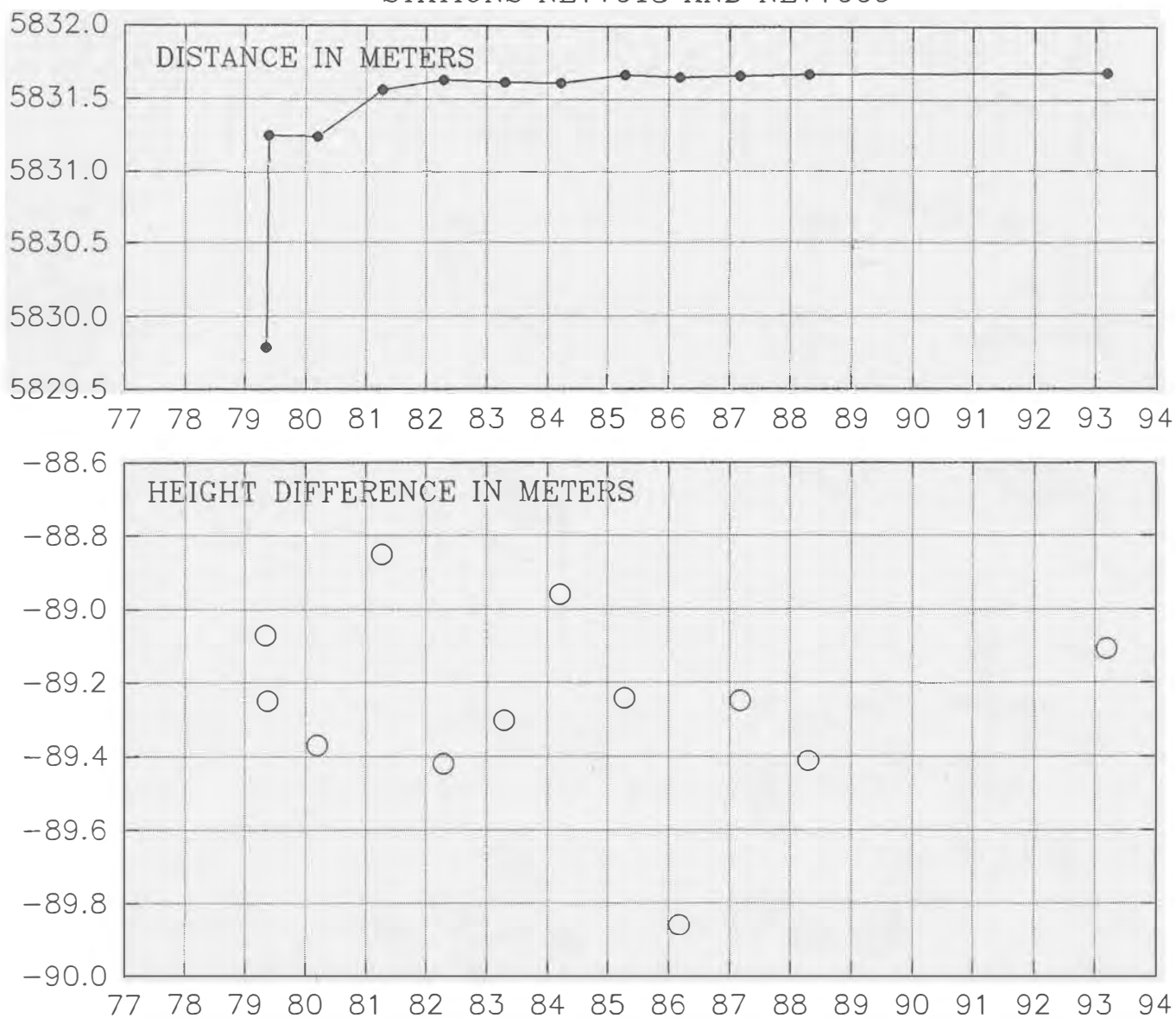


Fig. 12g

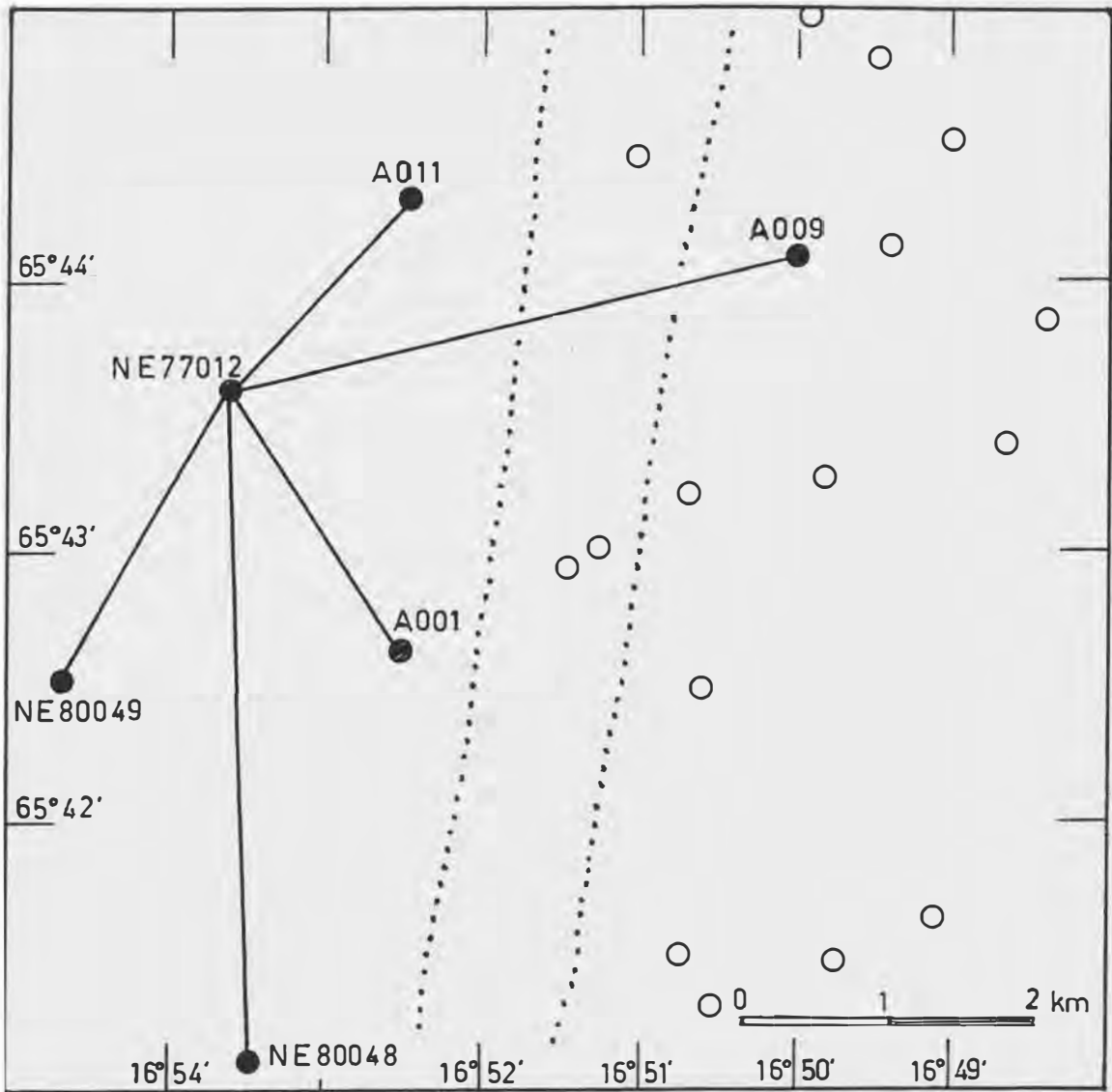


Fig. 13

Lines from station NE77012 which have been measured at least nine times from 1977 to 1993. Other lines from NE77012 are included in earlier figures. Figs. 13a to 13e show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS NE77012 AND A001

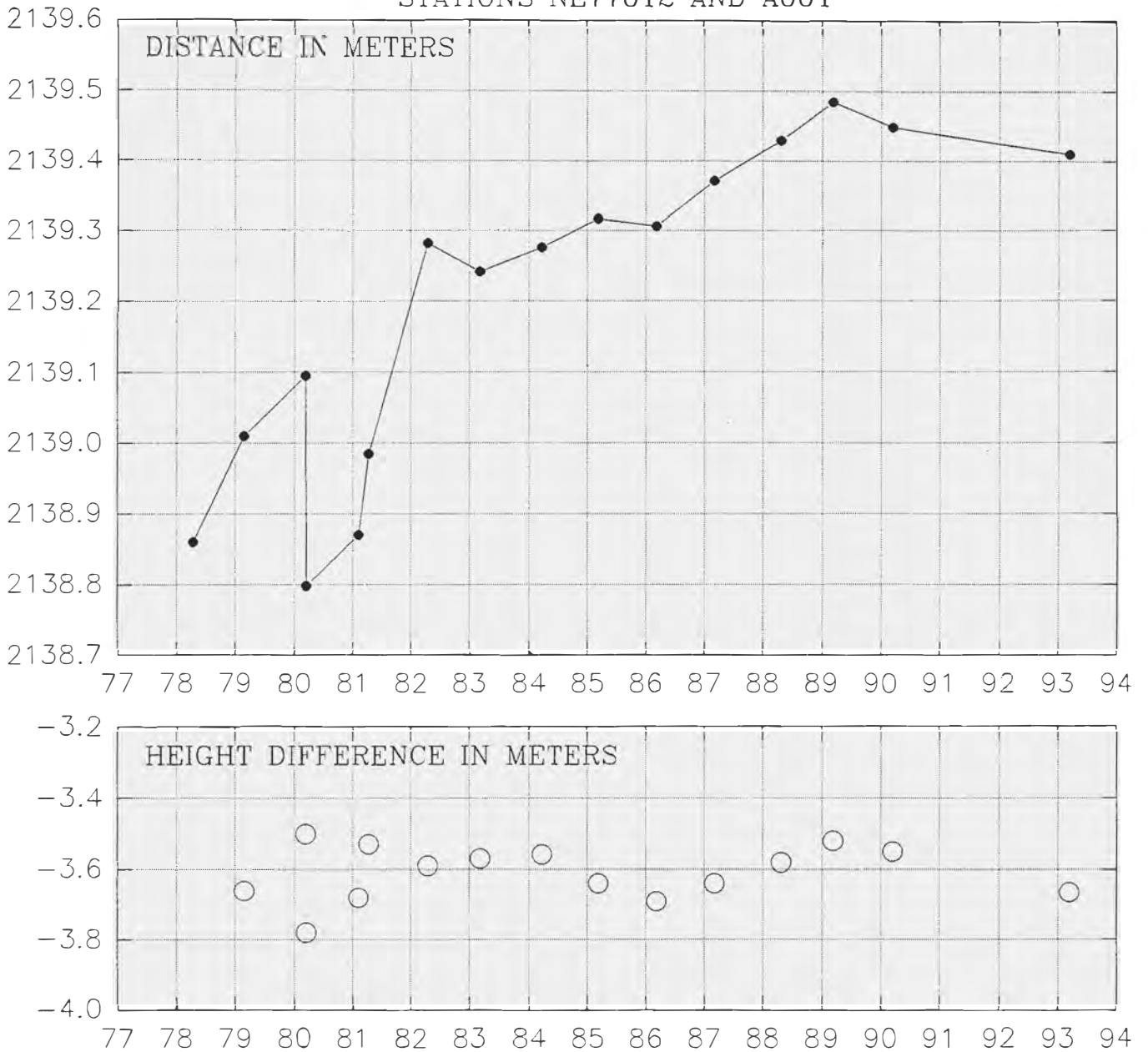


Fig. 13a

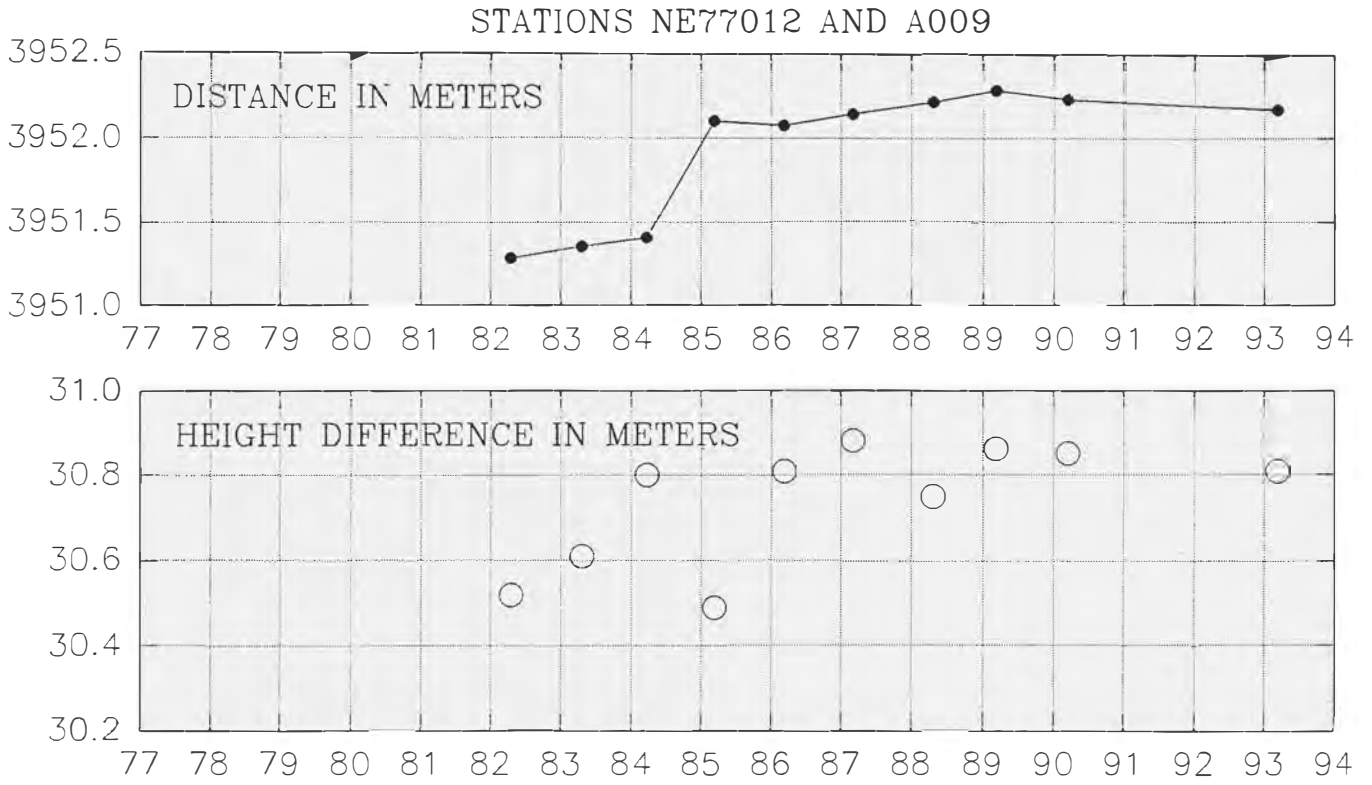


Fig. 13b

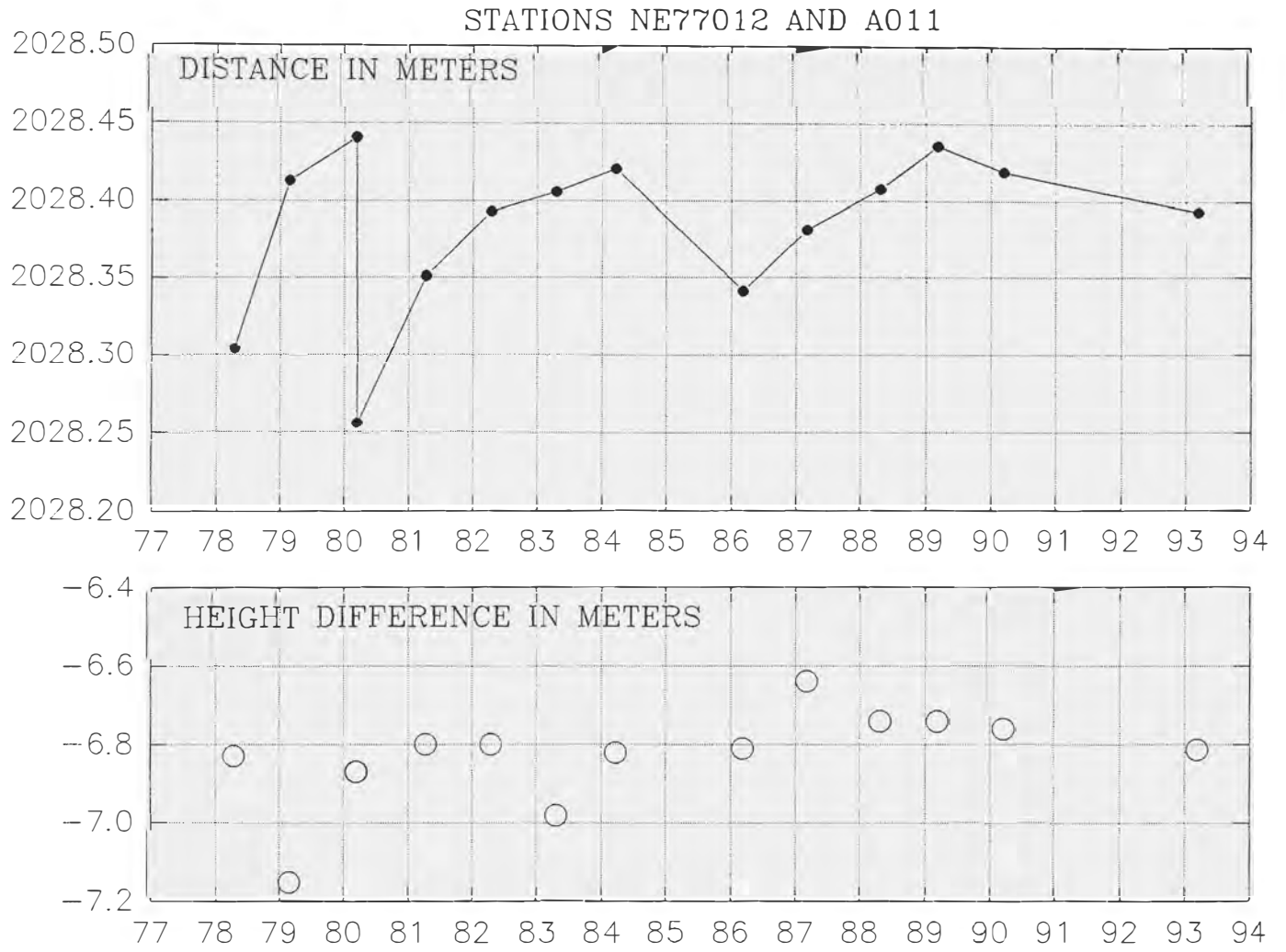


Fig. 13c

STATIONS NE77012 AND NE80048

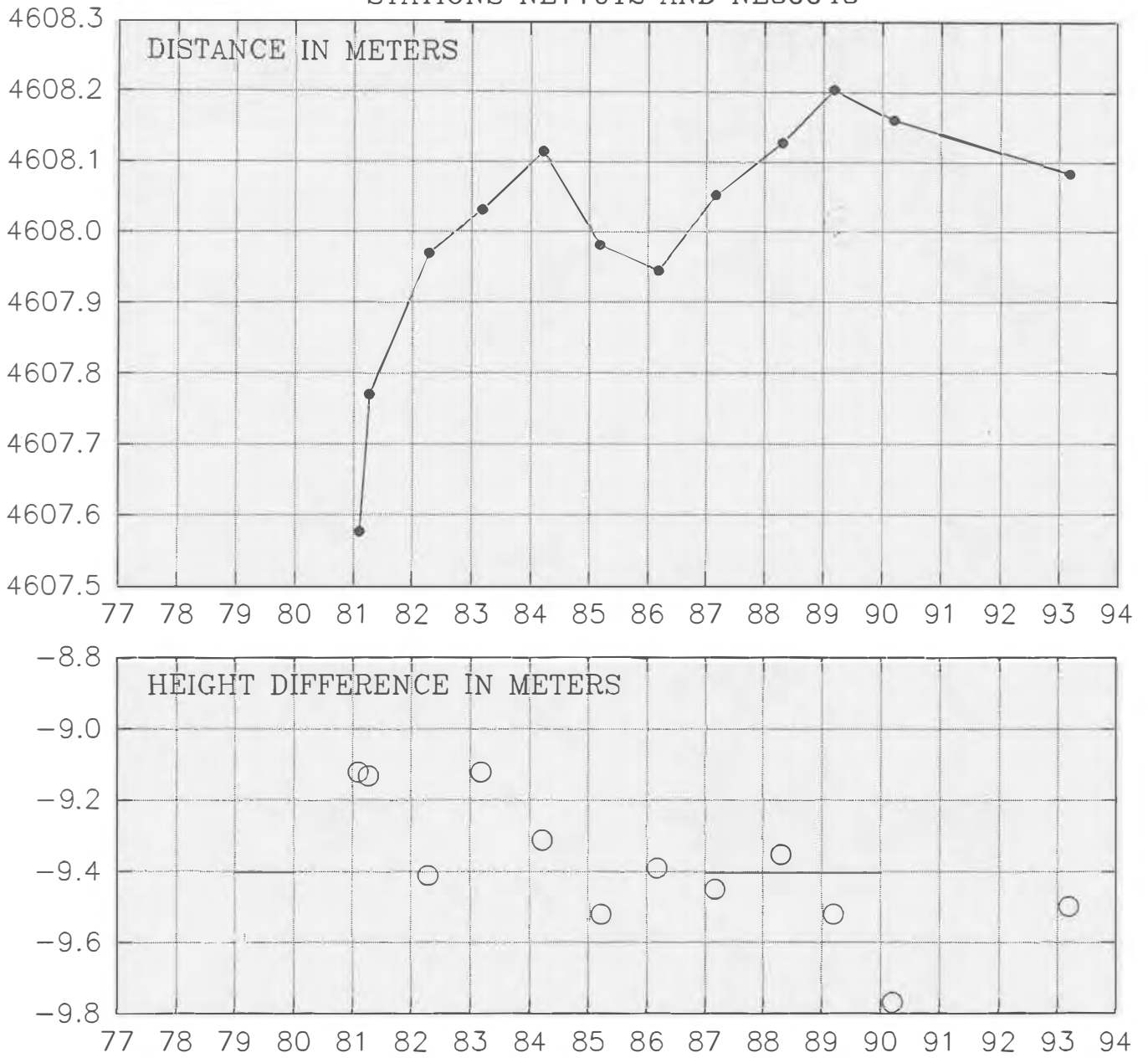


Fig. 13d

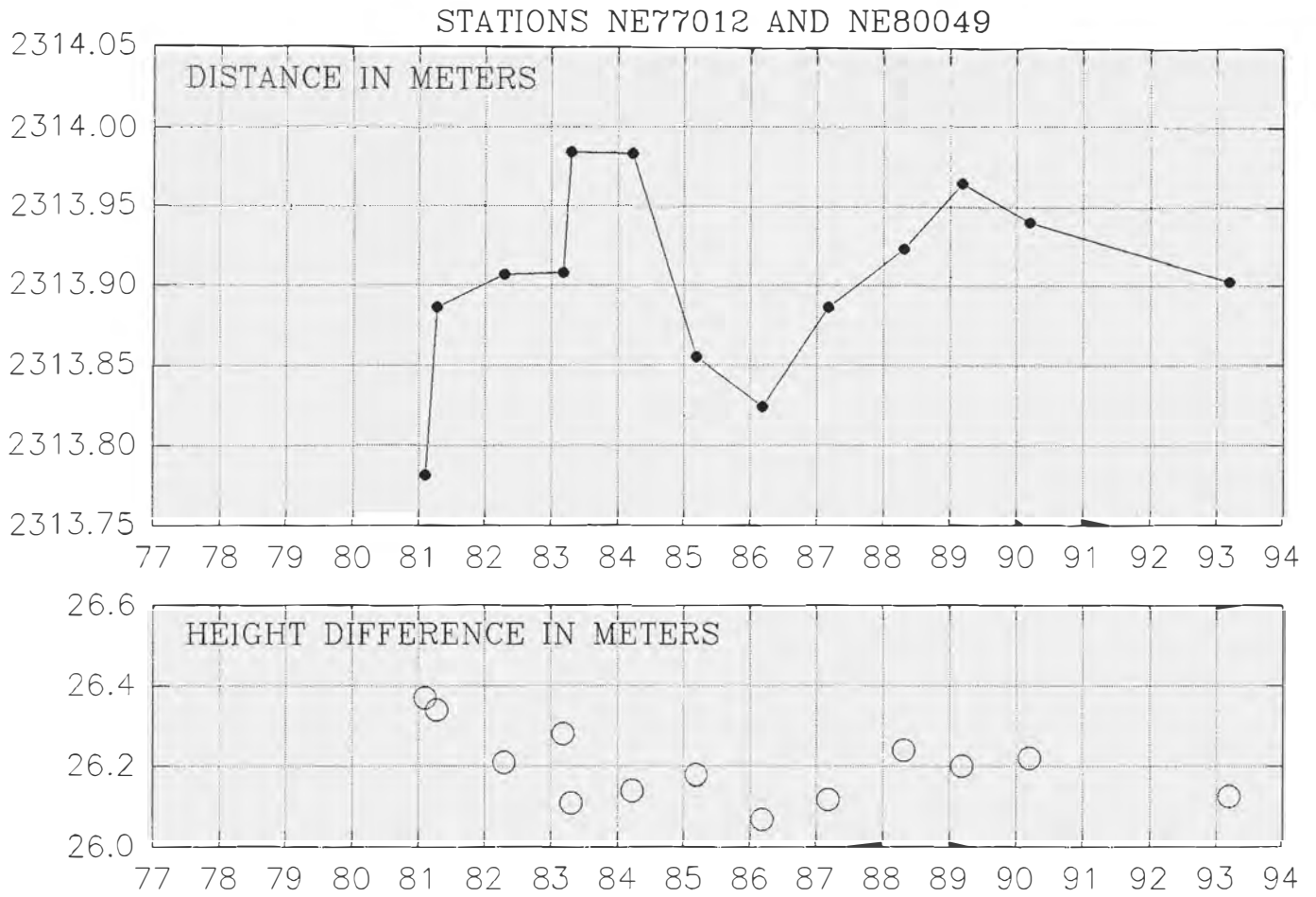


Fig. 13e

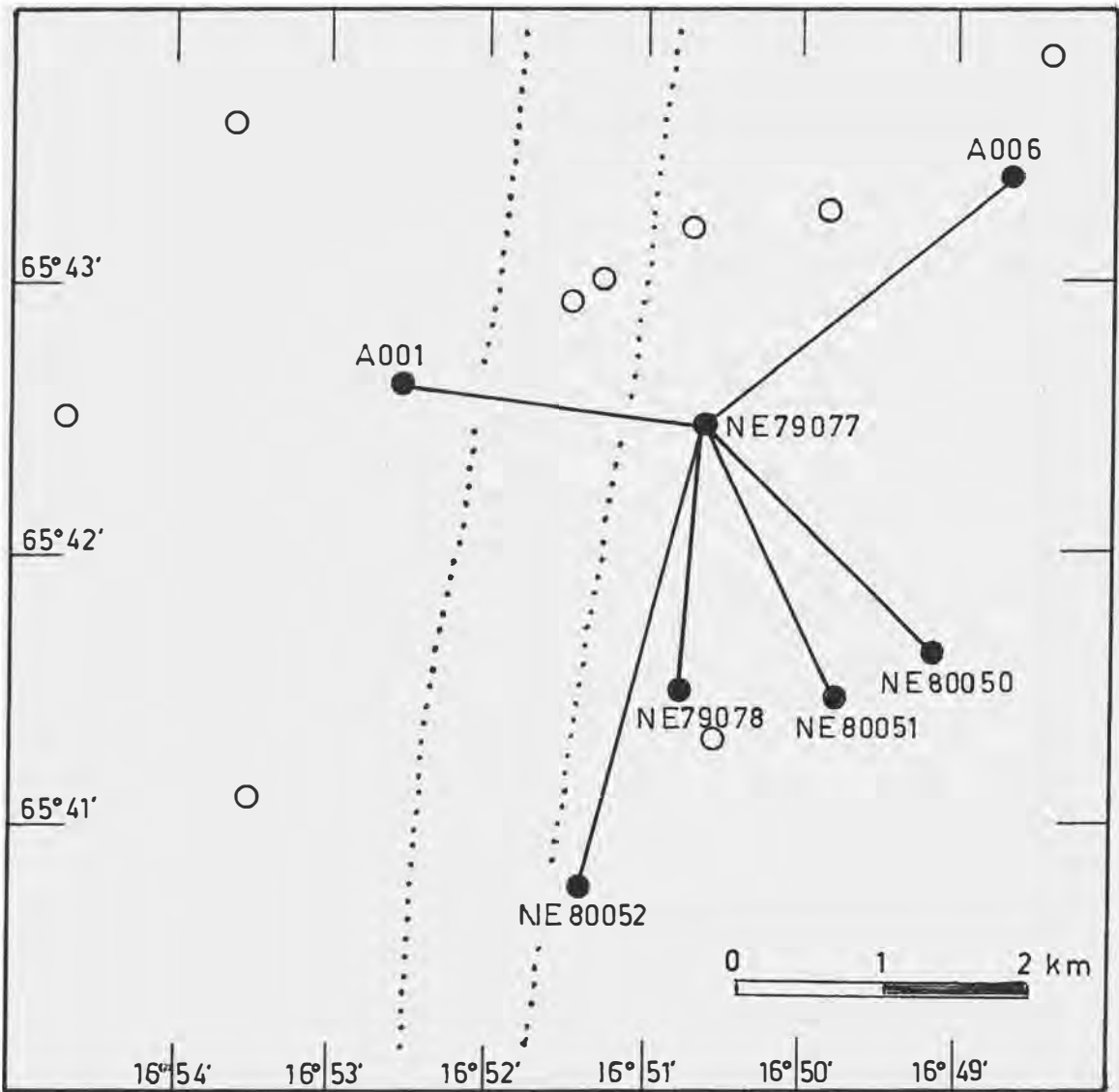


Fig. 14

Lines from station NE79077 which have been measured at least nine times from 1979 to 1993. Other lines from NE79077 are included in earlier figures. Figs. 14a to 14f show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

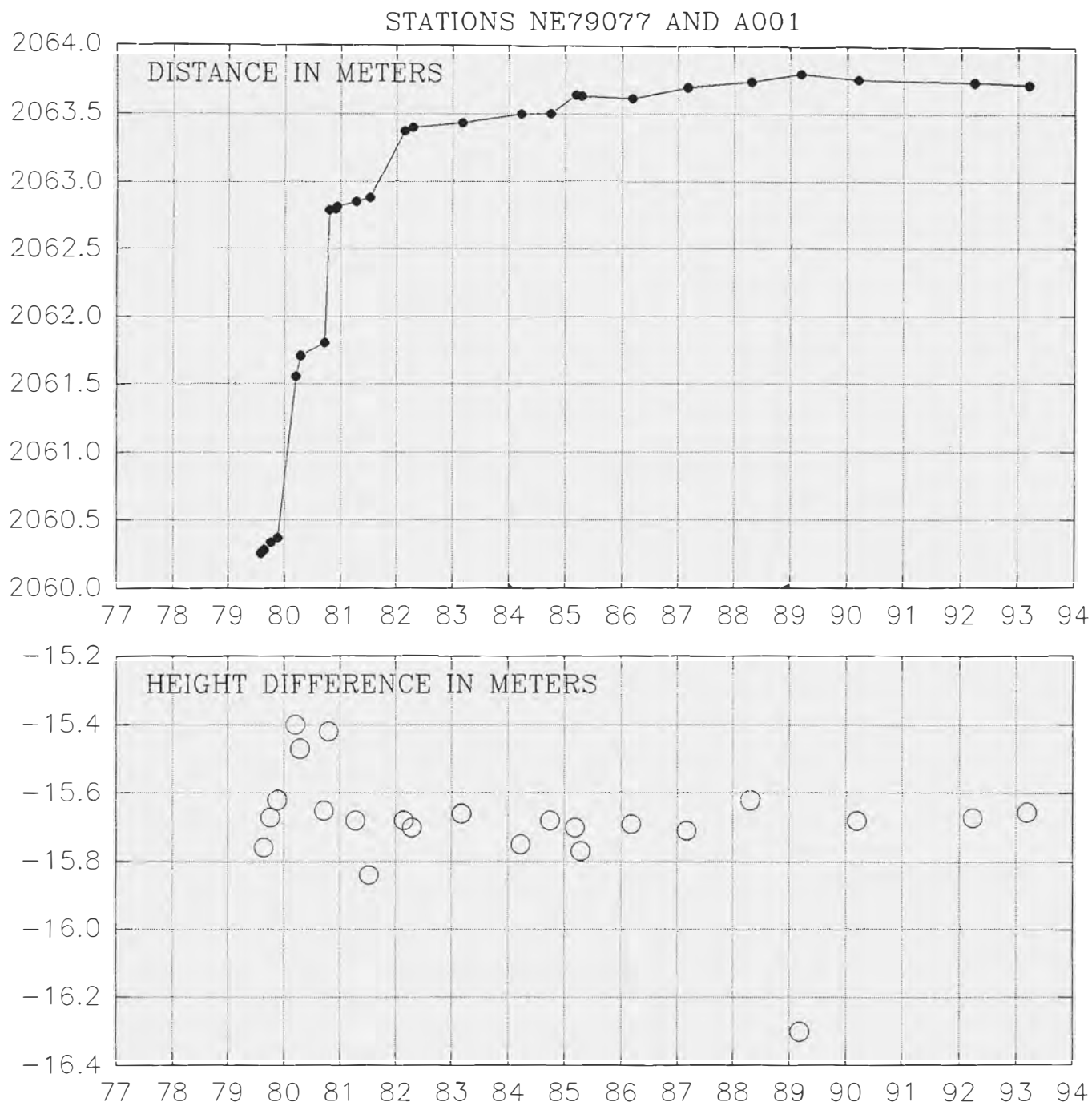


Fig. 14a

STATIONS NE79077 AND A006

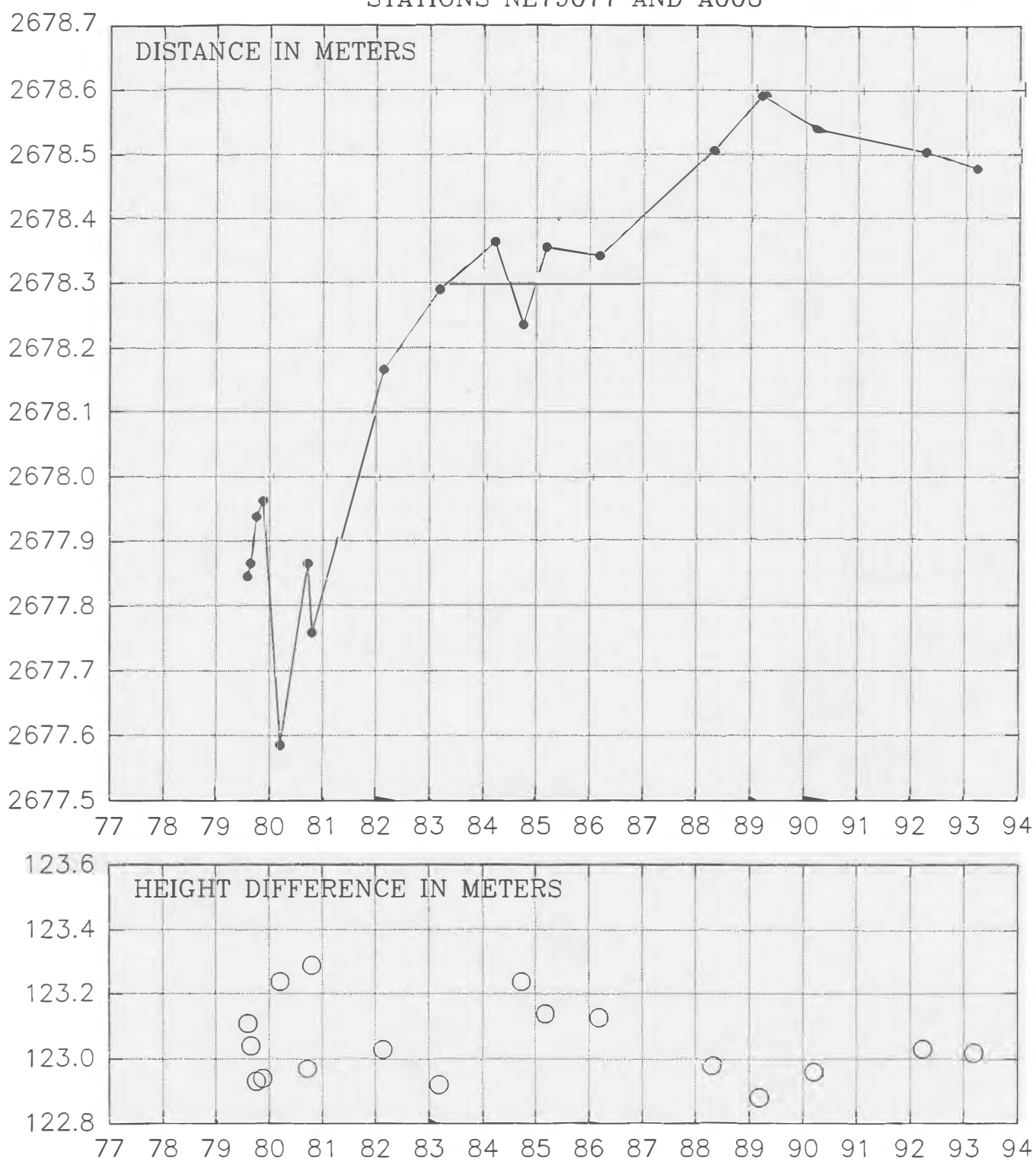


Fig. 14b

STATIONS NE79077 AND NE79078

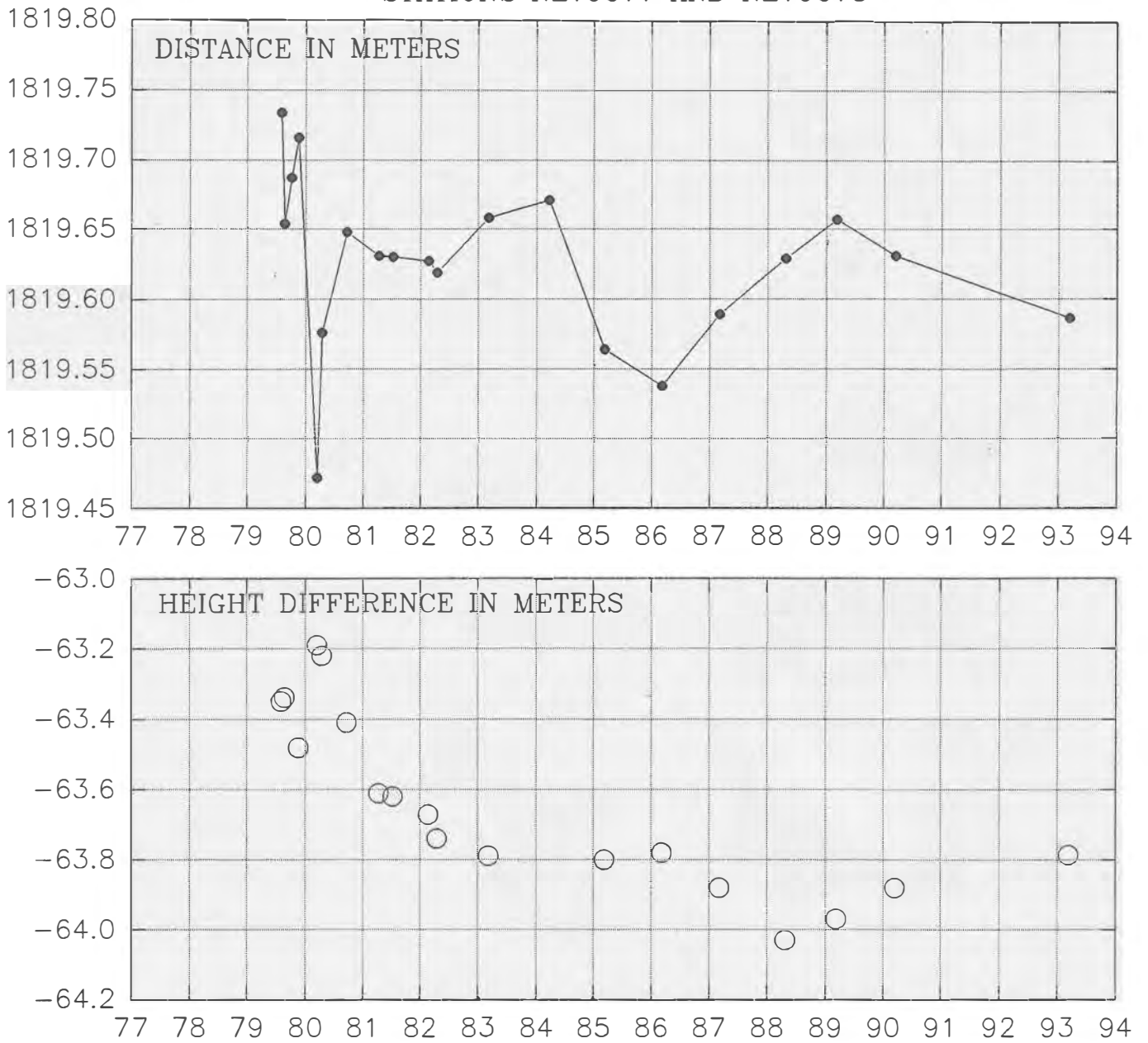


Fig. 14c

STATIONS NE79077 AND NE80050

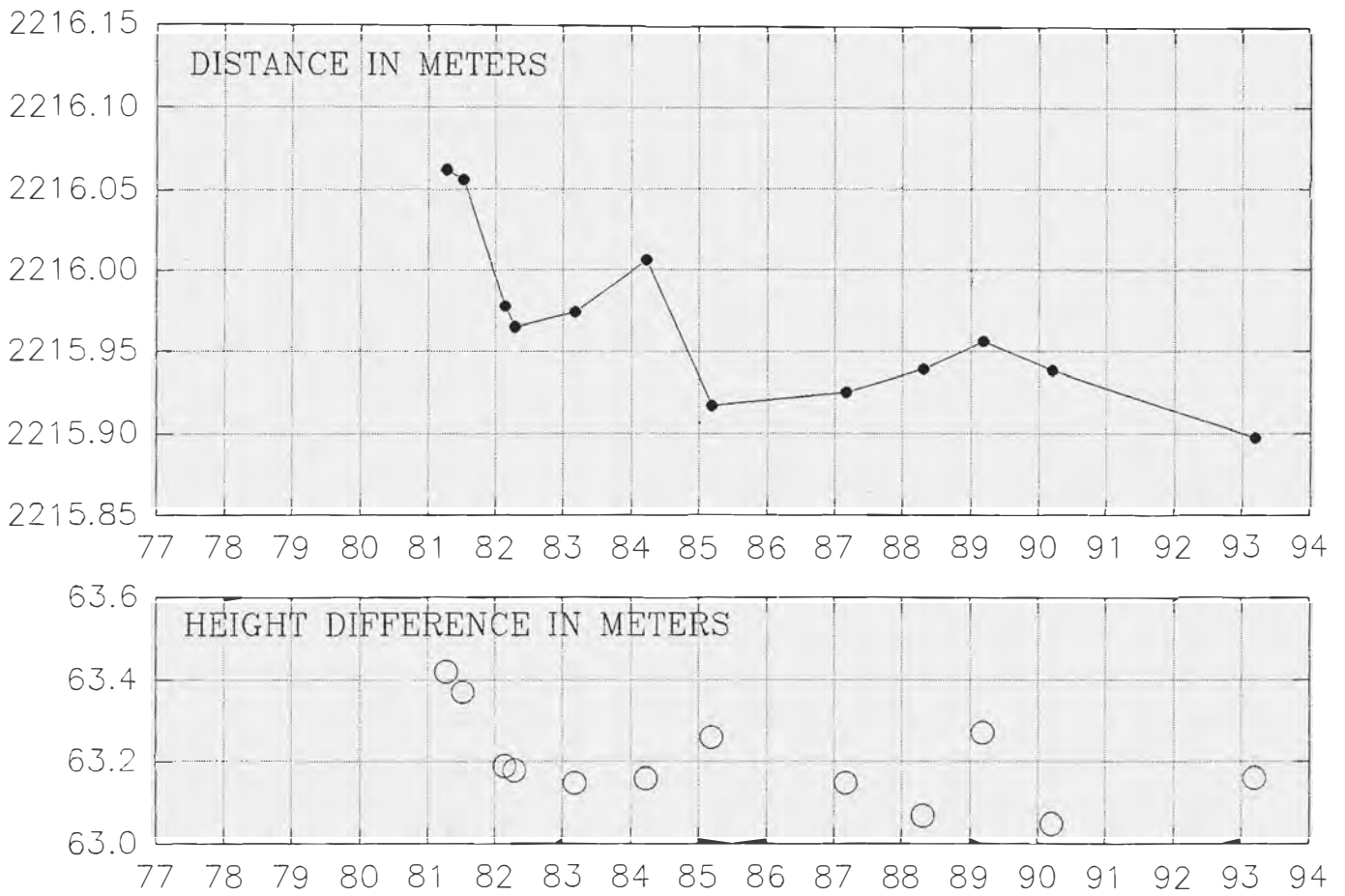


Fig. 14d

STATIONS NE79077 AND NE80051

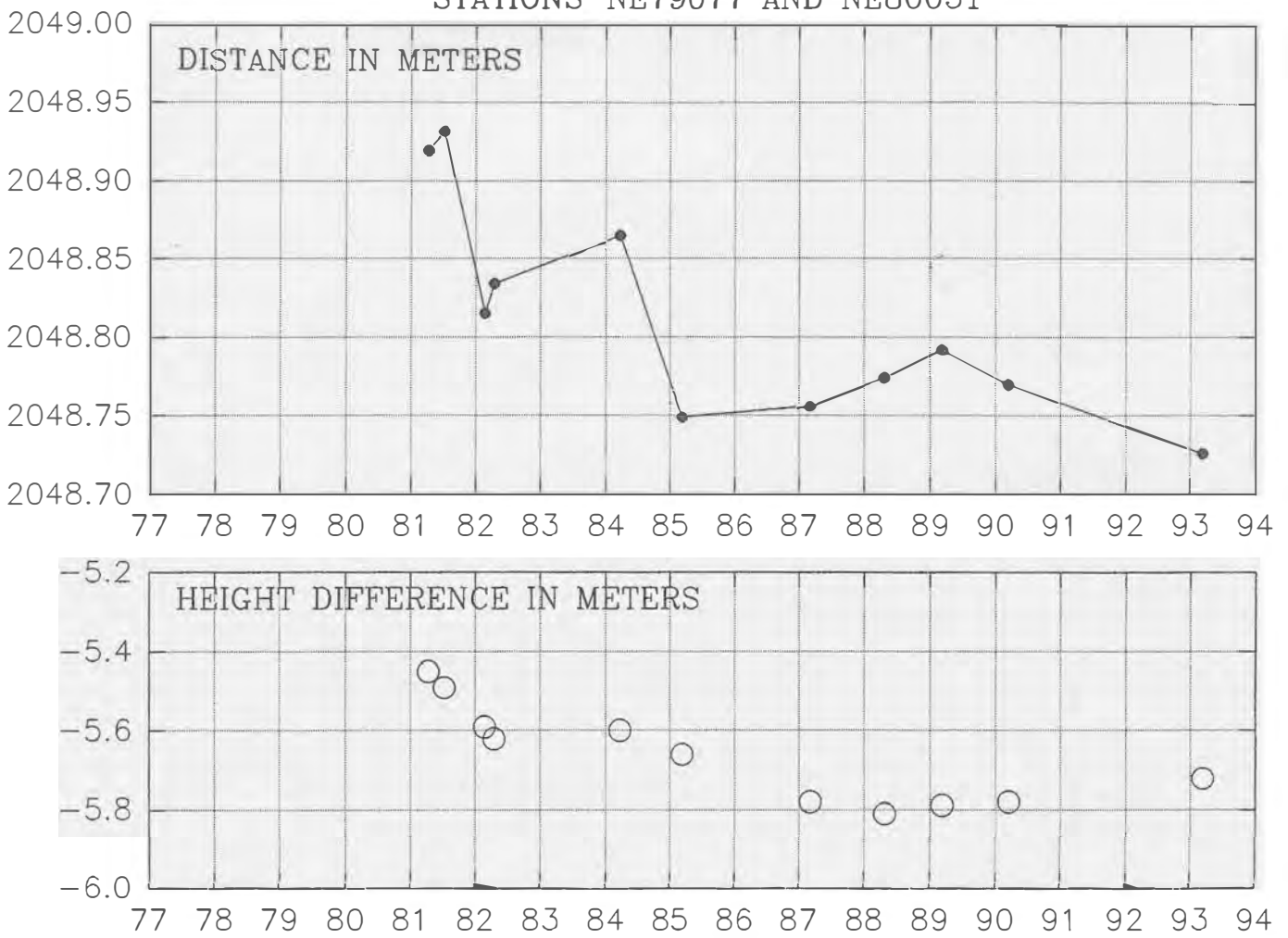


Fig. 14e

STATIONS NE79077 AND NE80052

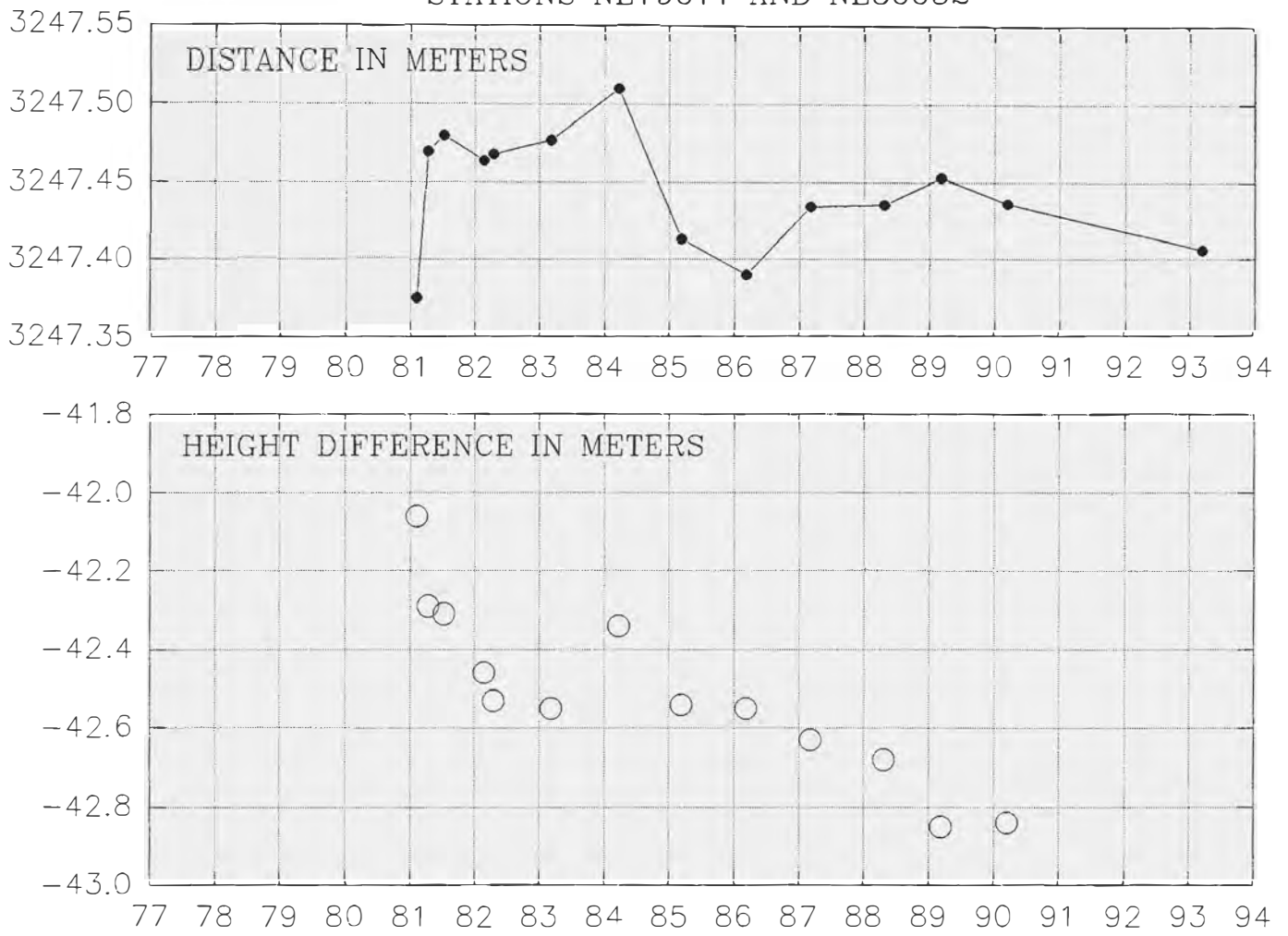


Fig. 14d

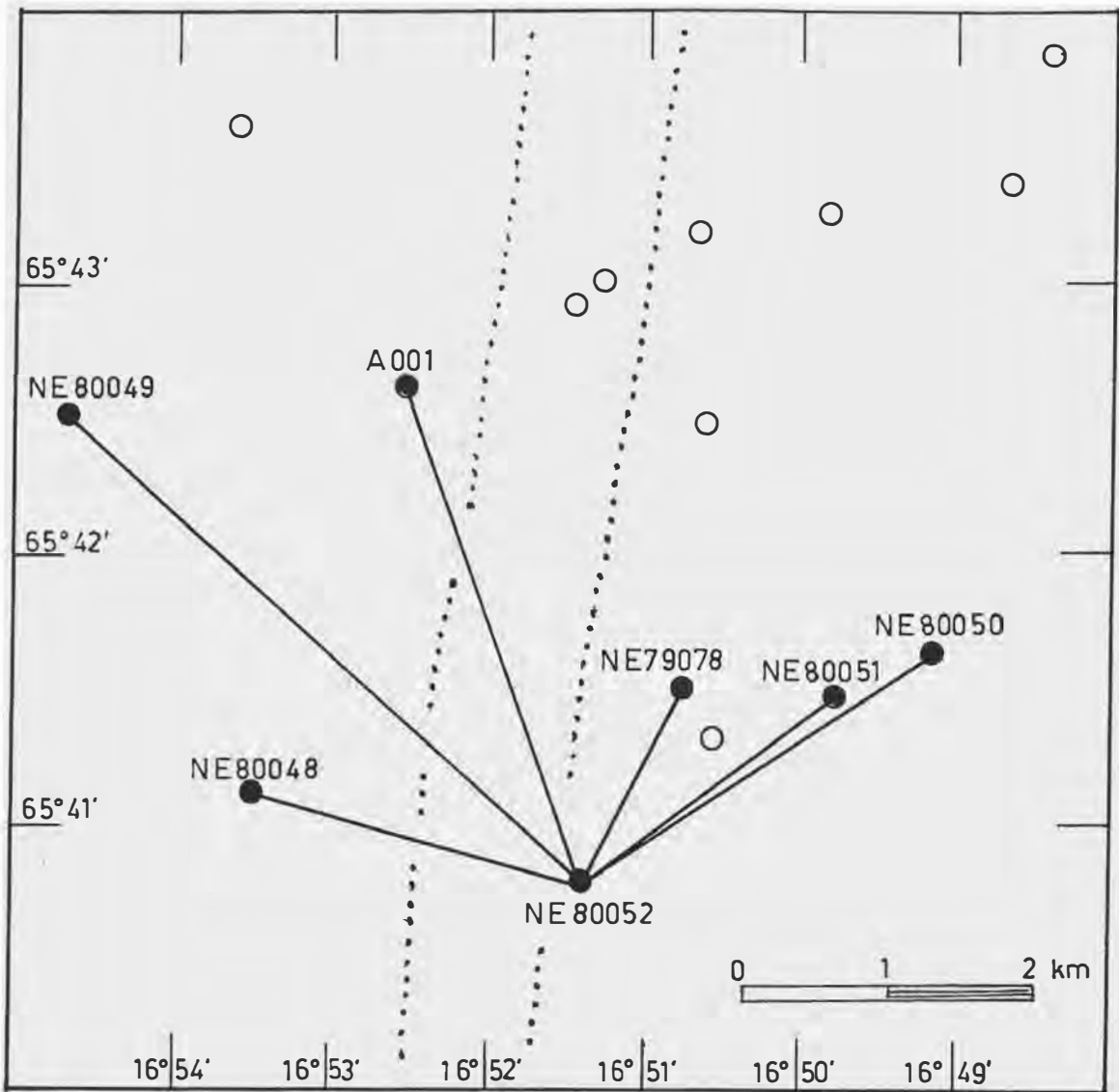


Fig. 15

Lines from station NE80052 which have been measured at least nine times from 1980 to 1993. Another line is included in Fig. 14. Figs 15a to 15f show measured slope distances and elevation differences at times of measurements. See Fig. 2 for further explanation.

STATIONS NE80052 AND A001

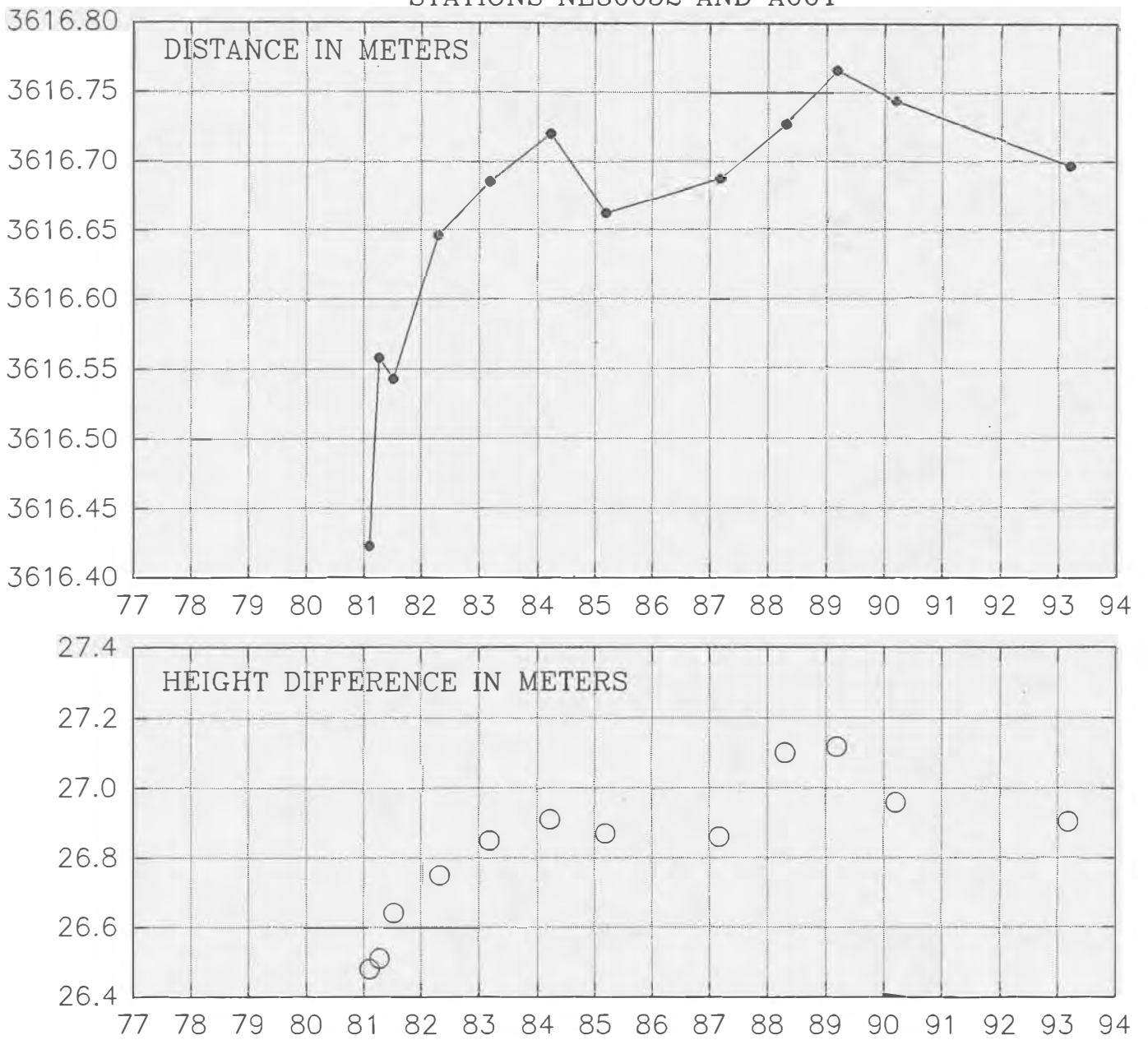


Fig. 15a

STATIONS NE80052 AND NE79078

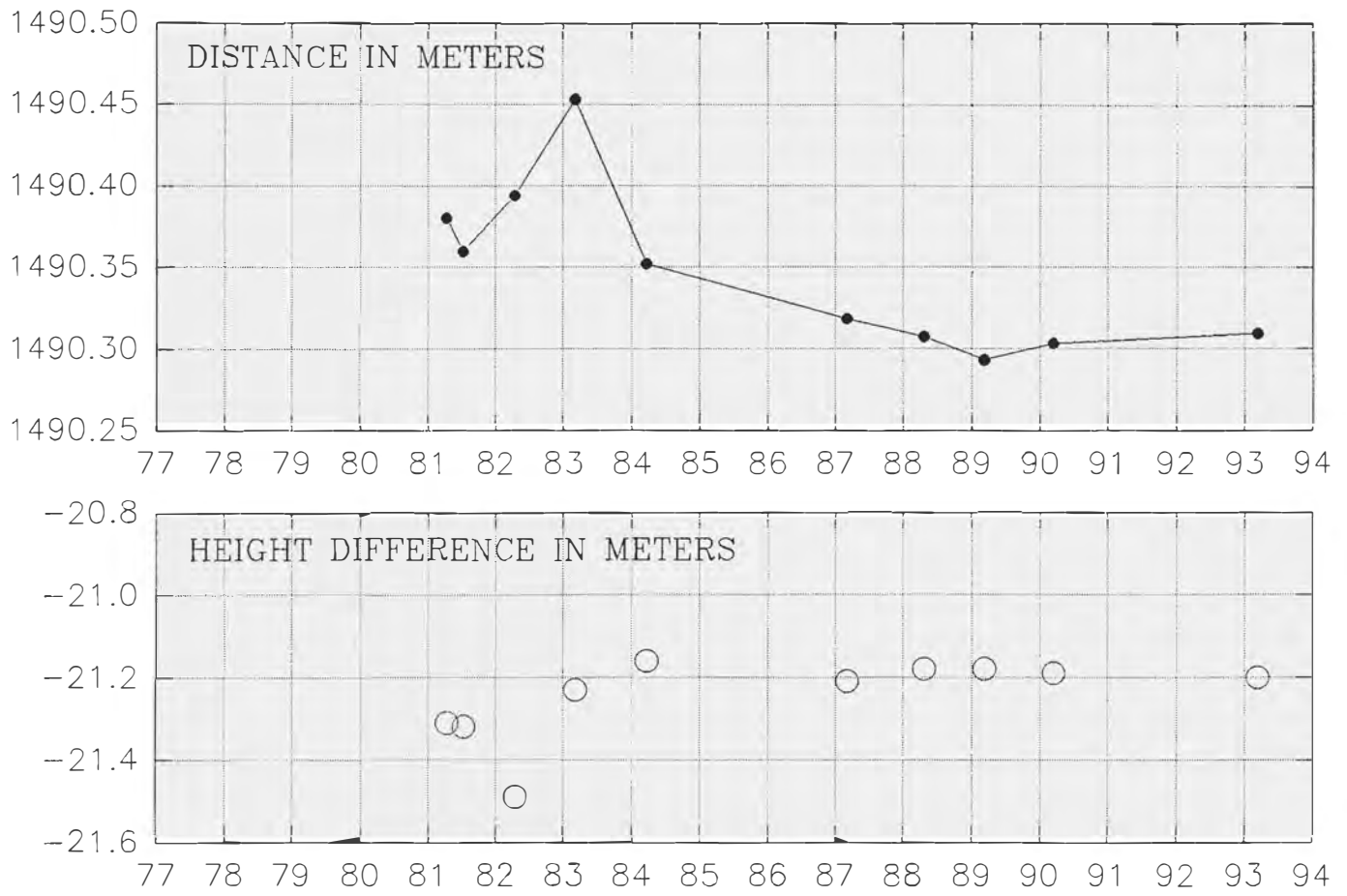


Fig. 15b

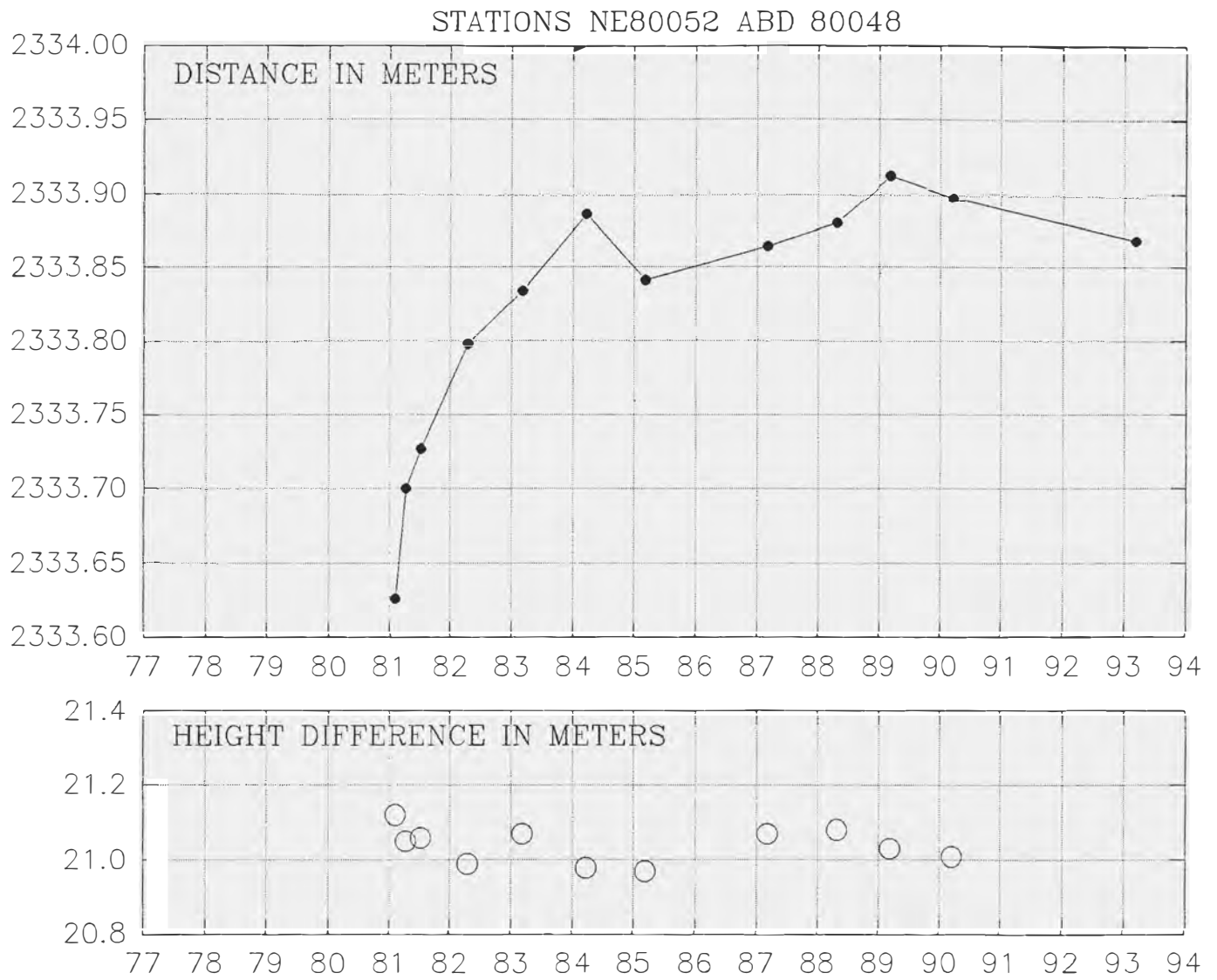


Fig. 15c

STATIONS NE80052 AND NE80049

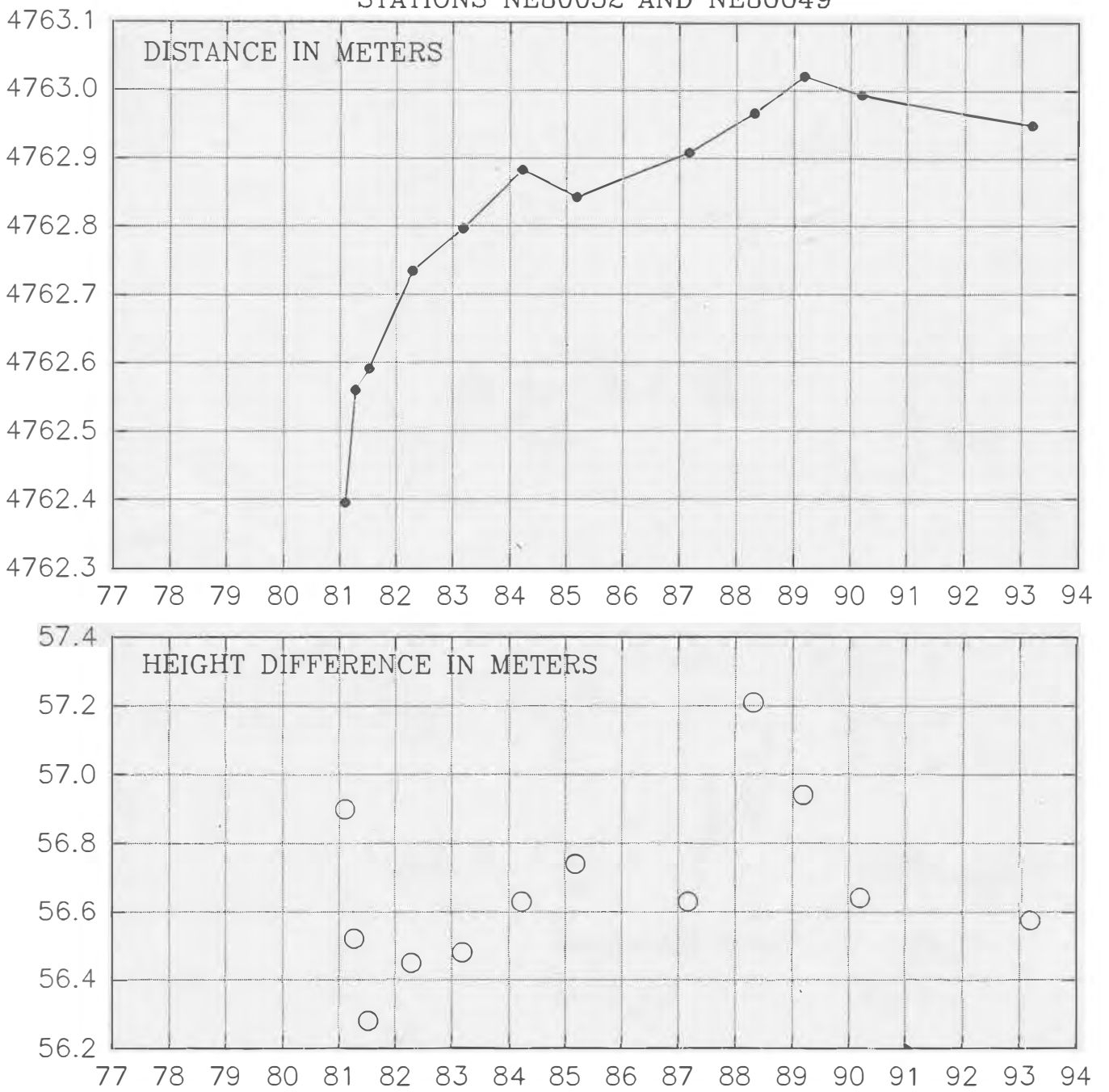


Fig. 15d

STATIONS NE80052 AND NE80050

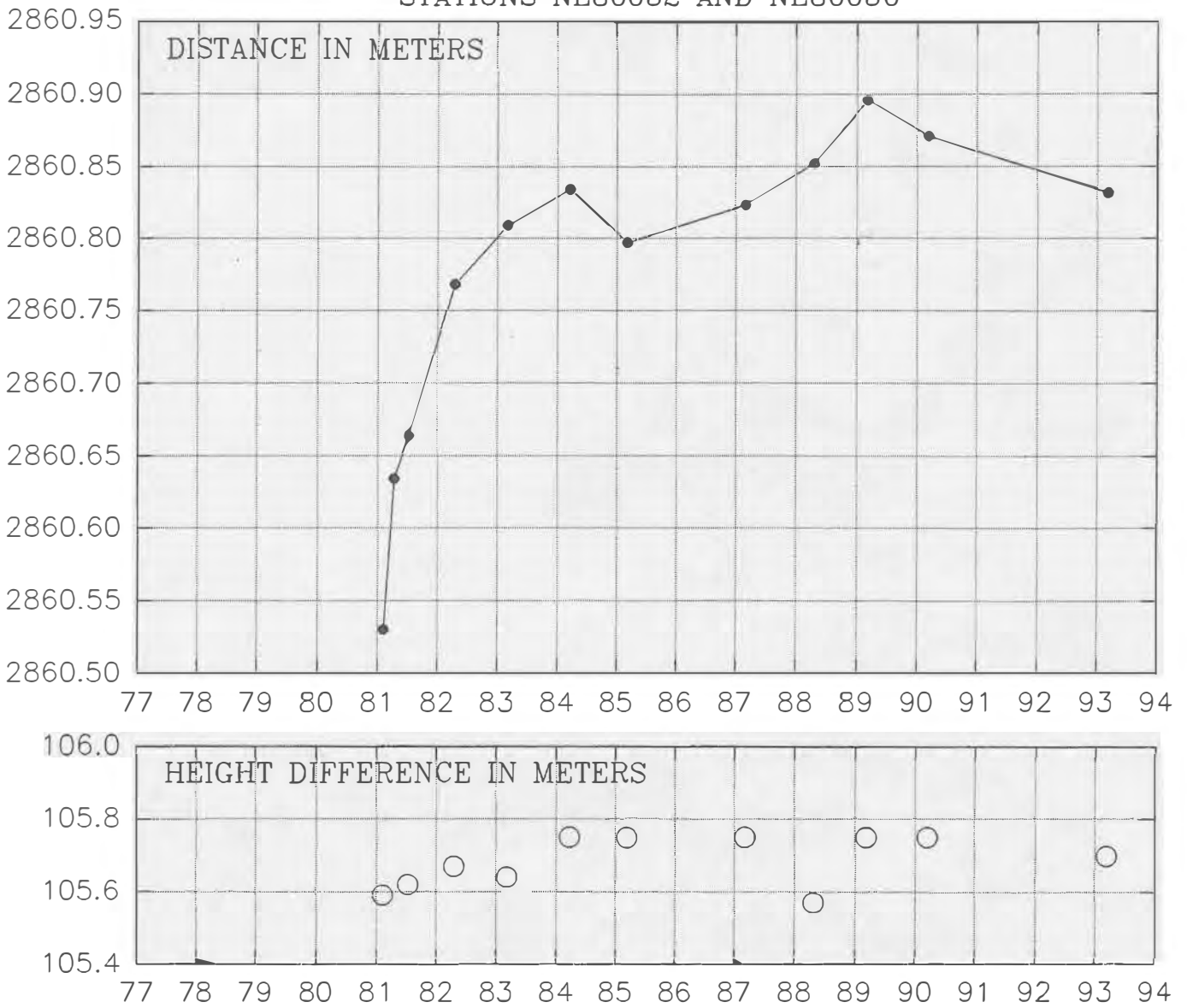


Fig. 15e

STATIONS NE80052 AND NE80051

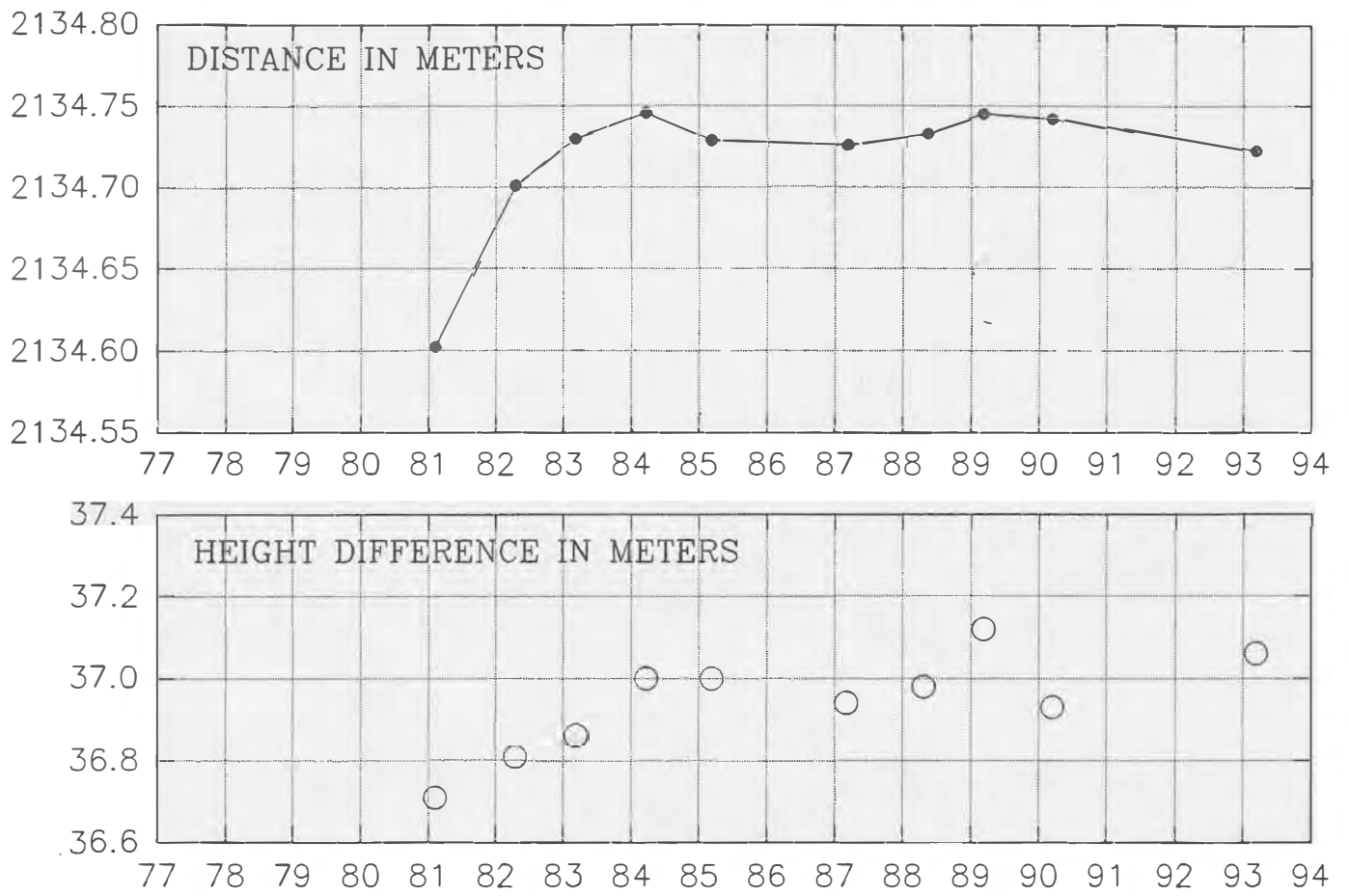


Fig. 15f