MAGNETOTELLURIC DATA ACROSS THE BATTLE MOUNTAIN-EUREKA AND CARLIN TRENDS, NEAR BATTLE MOUNTAIN, NEVADA

by

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Open-File Report 01-228
On-line edition

2001

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

[1] **Denver, Colorado**

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INTRODUCTION

Many Sediment-hosted gold deposits occur along linear trends in northern Nevada. The distribution and genesis of these deposits along the Battle Mountain-Eureka and Carlin gold trends is not fully understood. In general, most models agree that regional structures played an important role in the spatial distribution of these deposits (e.g. Arehart and others, 1993; Ilchik and Barton, 1997; Radtke, 1985; Shawe, 1991; Sillitoe and Bonham, 1990; Tosdal, 1998). To investigate crustal structures that may be related to the genesis of gold deposits along these trends, a regional southwest-northeast profile of magnetotelluric (MT) soundings was acquired in 1996, 1997, 1999, and 2000 (line MT4-MT4', Figure 1). Resistivity modeling of the MT data can be used to infer the deep resistivity structure of the crust to help investigate possible tectonic controls on the emplacement of mineral deposits along these linear trends. The purpose of this report is to release the MT sounding data, and no interpretation of the data is included.

MAGNETOTELLURIC METHOD

The magnetotelluric (MT) method is a passive surface geophysical technique, which uses the earth's natural electromagnetic fields to investigate the electrical resistivity structure of the subsurface. The resistivity of geologic units is largely dependent upon their fluid content, porosity, degree of fracturing, temperature, and conductive mineral content (Keller, 1989). Saline fluids within the pore spaces and fracture openings can reduce resistivities in a resistive rock matrix. Also, resistivity can be lowered by the presence of conductive clay minerals, carbon, and metallic mineralization. It is common for altered volcanic rocks to contain authigenic minerals that have resistivities ten times lower than those of the surrounding rocks (Nelson and Anderson, 1992). Increased temperatures cause higher ionic mobility and mineral activation energy, reducing rock resistivities significantly. Unaltered, unfractured igneous rocks are normally very resistive (typically 1,000 ohm-m or greater), whereas fault zones will show low resistivity (less than 100 ohm-m) when they are comprised of rocks fractured enough to have hosted fluid transport and consequent mineralogical alteration (Eberhart-Phillips and others, 1995). Carbonate rocks are moderately to highly resistive (hundreds

to thousands of ohm-m) dependent upon their fluid content, porosity, fracturing, and impurities. Marine shales, mudstones, and clay-rich alluvium are normally very conductive (a few ohm-m to tens of ohm-m). Unaltered, metamorphic rocks (non-graphitic) are moderately to highly resistive (hundreds to thousands of ohm-m). Tables of electrical resistivity for a variety of rocks, minerals and geological environments may be found in Keller (1987) and Palacky (1987).

The MT method can be used to probe the crust from depths of tens of meters to depths of tens of kilometers (Vozoff, 1991). Natural variations of the Earth's magnetic and electric field are measured and recorded at each MT station. The main frequency bands used by the MT method are 10,000 Hz to 1 Hz from worldwide lightning activity and 1 Hz to 0.0001 Hz from geomagnetic micro-pulsations. The natural electric and magnetic fields propagate vertically in the earth because the very large resistivity contrast between the air and the earth causes a vertical refraction of both fields transmitted into the earth (Vozoff, 1972).

The natural electric and magnetic fields are recorded in two orthogonal, horizontal directions. The vertical magnetic field ("tipper") is also recorded. The resulting time-series signals are used to derive earth tensor apparent resistivities and phases by first converting them to complex cross-spectra using FFT (fast-Fourier-transform) techniques. Least-squares, cross-spectral analysis (Bendat and Piersol, 1971) is used to solve for a tensor-transfer function that relates the observed electric fields to the magnetic fields under the assumption that the Earth consists of a two-input, two-output, linear system with the magnetic fields as input and the electric fields as output (Rodriguez and others, 1996). Prior to conversion to apparent resistivity and phase, the tensor is normally rotated into principal directions that correspond to the direction of maximum and minimum apparent resistivity. For a two-dimensional (2-D) Earth, the MT fields can be de-coupled into transverse electric (TE) and transverse magnetic (TM) modes; 2-D modeling is generally done to fit both modes. When the geology satisfies the 2-D assumption, the MT data for the TE mode is assumed to represent the situation when the electric field is along the geologic strike, and the data for the TM mode is assumed to represent the situation when the electric field is across strike. The MT method is well suited for studying complicated geological environments because the electric and magnetic relations are sensitive to vertical and horizontal variations in resistivity. The method is capable of establishing whether the electromagnetic fields are

responding to subsurface terranes of effectively 1-, 2-, or 3-dimensions. An introduction to the MT method and references for a more advanced understanding are contained in Dobrin and Savit (1988) and Vozoff (1991).

MAGNETOTELLURIC SURVEY

Twenty-three MT soundings were located along or near profile MT4-MT4' (Figure 1) with spacing that varied from 2 to 13.5 kilometers. The profile orientation is roughly perpendicular to the Battle Mountain-Eureka and Carlin trends. Only stations 24B–28B were collected with the U.S. Geological Survey's truck-mounted MT system (Stanley, 1978). All other stations were collected with a portable EMI MT-1 system (EMI, 1996). Horizontal electric fields were sensed using an L-shaped, three-electrode array with dipole lengths of 30 m except for stations 24B–28B where a dipole length of 37.5 m was used with the truck-mounted MT system. The orthogonal, horizontal magnetic fields in the direction of the electric-field measurement array were sensed using permalloy-cored induction coils (Stanley and Tinkler, 1983). Frequencies sampled ranged from 200 to 0.002 Hz using single station recordings of both orthogonal horizontal components of the electric and magnetic fields, along with the vertical magnetic field at all stations except 24B–28B. Sampling this frequency range in previous areas of widely varying geology has allowed us to probe the crust from depths of hundreds of meters to depths of tens of kilometers.

The recorded time-series data were transformed to the frequency domain and Fourier analyzed to determine a two-dimensional apparent resistivity and phase tensor at each site. The data were rotated to maximum and minimum apparent resistivity directions so that propagation modes for the signals were decoupled into TE and TM modes. Local reference sensors to help reduce bias in the impedance determinations due to instrument or environmental noise (Gamble and others, 1979a; Clarke and others, 1983) were used at all stations except 24B–28B and 98. Although true remote reference techniques were not used in our survey, we did sort cross-power files to select optimal signal-to-noise data sets (see Appendix).

The effects of near-surface resistivity anomalies cause "static shifts" (Sternberg and others, 1988) in the data. Static shifts of this data set ranged from 0.0 to 0.8 of a log

decade. Only stations 14, 23, 25A, 26A, and 27B had static shifts of 0.4 of a log decade or greater. The remainder of the stations had an average of 0.2 of a log decade static shift.

MAGNETOTELLURIC DATA

The following table shows twenty-three magnetotelluric (MT) station locations (from southwest to northeast). Coordinates are referenced to the 1866 Clarke spheroid and North American 1927 Western United States datum. Longitude and latitude format below is decimal degrees. Elevation is in meters.

Station	Longitude	Latitude	Elev(m)
98	-117.23117	40.44410	1440
12	-117.12441	40.44999	1430
13	-117.05447	40.46508	1420
14	-116.98314	40.49695	1390
15	-116.95895	40.47327	1430
16	-116.94524	40.51559	1360
19	-116.89245	40.51839	1390
20	-116.86685	40.52878	1350
22	-116.84852	40.55662	1340
23	-116.82223	40.56811	1350
21	-116.80062	40.53557	1400
24A	-116.79907	40.58977	1340
25A	-116.78090	40.61226	1400
71	-116.76773	40.69609	1350
26A	-116.70164	40.66617	1450
27A	-116.54826	40.73778	1410
28A	-116.44901	40.78003	1420
1	-116.33037	40.79034	1550
24B	-116.29118	40.79805	1650
25B	-116.25092	40.79475	1770
26B	-116.22477	40.82100	1600
27B	-116.18810	40.80681	1600
28B	-116.15437	40.80115	1600

The figures in the Appendix represent the field-processed MT data for each station after the time series data were converted to the frequency domain and the tensor-transfer function was rotated into principal directions as described above in the “Magnetotelluric Method” section.

For each station, nine separate graph plots are given:

1. Apparent Resistivity for the rotated maximum (x symbol) and minimum (o symbol) modes
2. Impedance Phase for the rotated maximum (x symbol) and minimum (o symbol) modes
3. Rotation Angle for the impedance tensor (corresponds to the direction of maximum apparent resistivity)
4. Impedance Skew for the impedance tensor
5. Multiple Coherency for the rotated maximum (x symbol) and minimum (o symbol) modes of the electric field
6. Impedance Polar Plots (at 12 selected frequencies)
7. Tipper Magnitude for the vertical magnetic field
8. Tipper Strike for the vertical magnetic field, and
9. HzHx (x symbol) and HzHy (o symbol) Coherency

Error bars that appear on the Apparent Resistivity, Impedance Phase, Skew, Tipper Magnitude, and Tipper Strike plots represent probable errors within one standard deviation of the sample variance (Gamble and others, 1979b).

Apparent resistivity is a measure of the magnitude of the electric field strength over the magnetic field strength for a given frequency. The impedance phase is proportional to the slope of the apparent resistivity curve on a log-log scale, but from a baseline at -45 degrees (Vozoff, 1991). A measure of the dimensionality for MT data is provided by the impedance skew of the impedance tensor (Vozoff, 1972). If the effective measured resistivity response to the geology beneath a MT station is truly 1-D or 2-D, then the skew will be zero. Both instrument and environmental sources of noise contribute to non-zero skew values, but are typically small (about 0.1) for relatively low noise level recordings. Higher skews (above 0.2) are an indication of either 3-D resistivity responses to the geology or higher levels of noise. Man-made electrical noise, such as power lines, power generators, moving vehicles and trains can have a negative effect on MT data quality. All these local disturbances produce an incoherent noise mainly affecting frequencies above 1 Hz. Other man-made electrical noise, such as direct current electric trains and active cathodic protection of pipelines produce coherent electromagnetic signals mainly affecting frequencies below 1 Hz.

In the survey area, noise from a number of small power lines and small moving vehicles was negligible at distances of 0.4 km and greater from the noise source. Power line levels

were measured at each site and were typically less than 20% of the maximum recordable signals. Noise from larger power lines, power generators, pipelines, railroads, and steam-driven trains, mostly near mining operations, was negligible at least 5 km from them. Recordings were not made when noise from moving vehicles affected the magnetic signals. Local lightning, wind, and rainstorms can also degrade data quality, but these were avoided by not recording during active thunderstorm periods. Wind noise was minimized by burying the magnetic induction coils.

Predicted values of the electric field can be computed from the measured values of the magnetic field (Vozoff, 1991). The coherence of the predicted electric field with the measured electric field is a measure of the signal-to-noise ratio provided in the multiple coherency plot. Values are normalized between 0 and 1, where values at 0.5 signify signal levels equal to noise levels. For this data set, coherencies were generally at an acceptable level, except at times in the "dead band" (0.1 to 1 Hz) and at times in the lower frequencies (0.002 to 0.1). The lower frequency ionospheric signals are related to sunspot activity whose levels typically follow an 11-year cycle. The sunspot activity was near the lowest level of the cycle during the 1996 and 1997 surveys, and was near the highest level in the 1999 and 2000 surveys.

The figures in the Appendix represent the field-processed MT data at each station, which includes some data scatter and poor signal-to-noise ratios. Our only effort at removing noisy data points was to visually inspect and select the best signal-to-noise field data to combine into the final data plots.

The impedance polar plots provide a measure of the MT data dimensionality (Reddy and others, 1977). For 1-D resistivity structures, the principal impedance polar diagram (dashed line) is a circle. For 2-D or 3-D resistivity structures, the principal impedance polar diagram (dashed line) elongates either parallel or perpendicular to strike direction. Over resistors, the principal impedance polar diagram elongates perpendicular to strike direction and over conductors, the principal impedance polar diagram elongates parallel to strike direction. Also, for 2-D resistivity structures, the additional impedance polar diagram (solid line) attains the shape of a symmetric clover leaf. For 3-D resistivity structures, the additional impedance polar diagram (solid line) elongates in one direction and its amplitude is comparable to that of the principal impedance polar diagram

(dashed line). Sites whose polar plots indicated 3-D character in the lower frequencies were MT stations 98, 13, 14, 19-21, 71, 26A-28A, 1, 24B, 26B, and 27B (Figure 1).

The tipper can be solved for when the vertical component of the magnetic field is measured. The tipper magnitude is a measure of the tipping of the magnetic field out of the horizontal plane (Vozoff, 1991). The magnitude is zero for the 1-D case and typically increases between 0.1 to 0.5, and rarely as great as 1, as it responds to vertical and sub-vertical structures. The tipper strike is typically used to help resolve the 90-degree ambiguity in the impedance rotation angle. The vertical component of the magnetic field was measured at all MT stations except 24B-28B. The tipper magnitude of these stations was typically 0.1 to 0.4 over the lower frequencies indicating vertical structure at depth. Stations 13, 25A, and 26A had even larger tipper magnitudes (over 0.5) in the lower frquencies indicating nearby vertical structure at depth. The HzHx and HzHy coherency is a measure of the signal-to-noise ratio of the vertical magnetic field with respect to each of the orthogonal horizontal magnetic field directions. Values are normalized between 0 and 1, where values at 0.5 signify signal levels equal to noise levels. These three-component magnetic field coherencies provide a check on the signal-to-noise ratio of the measured values in the tipper magnitude and tipper strike plots.

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APPENDIX

MAGNETOTELLURIC DATA PLOTS

For all stations except 24B–28B, there are nine separate graph plots:

1. Apparent Resistivity for the rotated maximum (x symbol) and minimum (o symbol) modes
2. Impedance Phase for the rotated maximum (x symbol) and minimum (o symbol) modes
3. Rotation Angle for the impedance tensor (corresponds to the direction of maximum apparent resistivity)
4. Impedance Skew for the impedance tensor
5. Multiple Coherency for the rotated maximum (x symbol) and minimum (o symbol) modes of the electric field
6. Impedance Polar Plots (at 12 selected frequencies)
7. Tipper Magnitude for the vertical magnetic field
8. Tipper Strike for the vertical magnetic field, and
9. HzHx (x symbol) and HzHy (o symbol) Coherency

Stations 24B–28B have only the first six graph plots above, since the vertical magnetic field data (Tipper, Hz) was not acquired. Refer to the “Magnetotelluric Data” section in this report for an explanation of these plots.

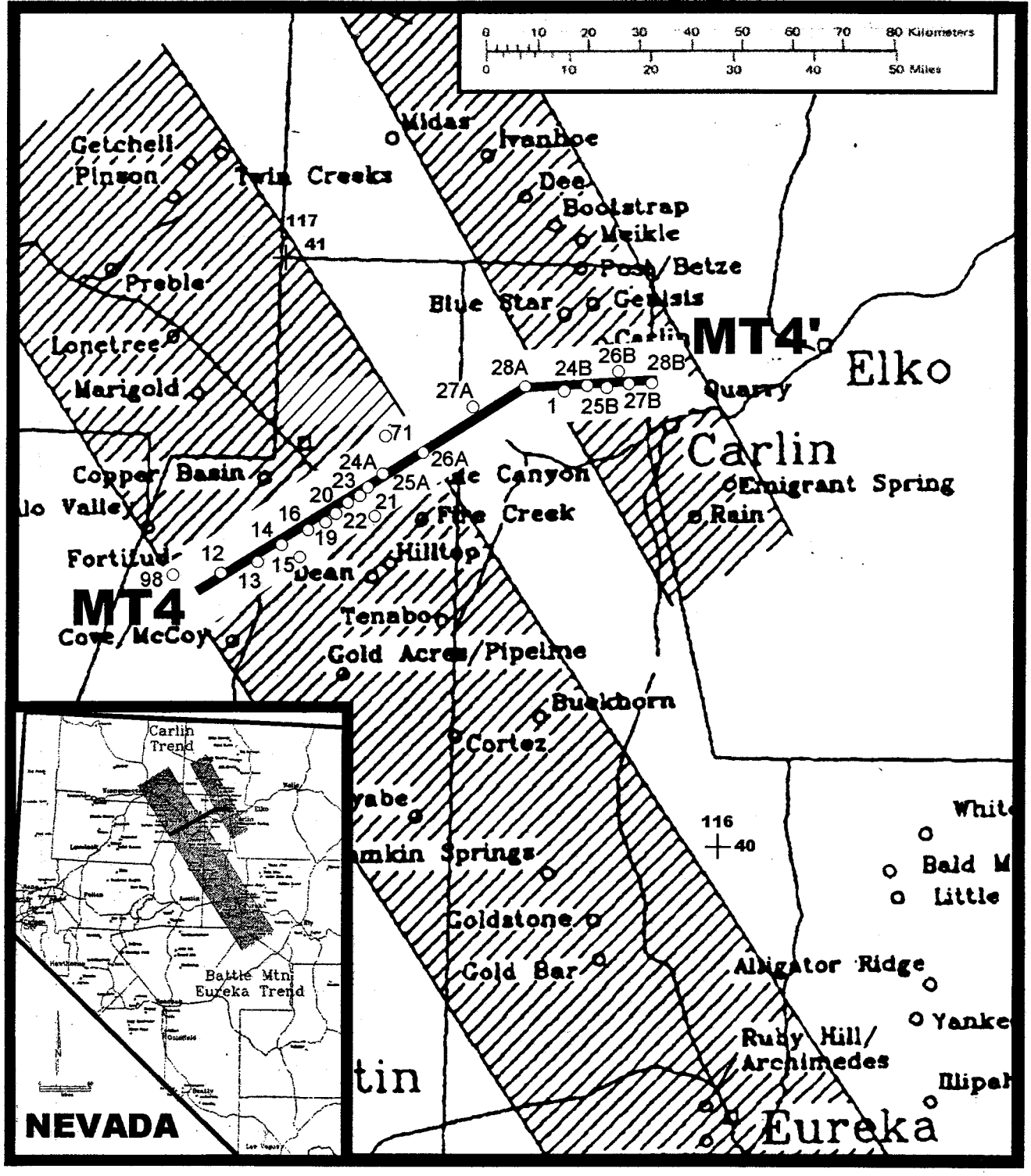
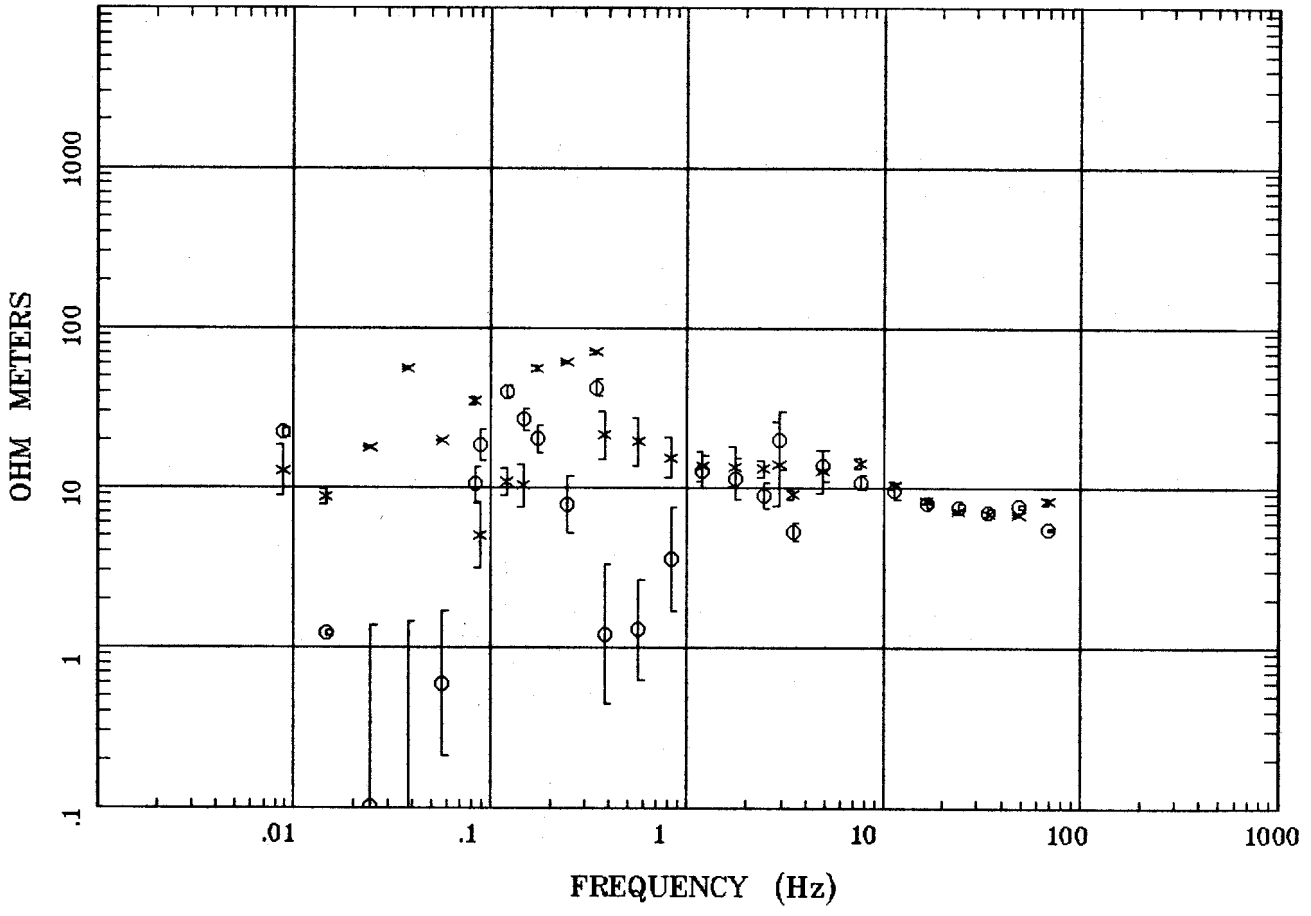


Figure 1. Index map. Magnetotelluric transect (MT4-MT4′) acquired in 1996, 1997, 1999, and 2000 in northeastern Nevada. Shaded zones are two northwest-trending mineralized belts in northeastern Nevada, the well-known Carlin trend and the Battle Mountain-Eureka trend. Base map adapted from Struhsacker and others (1996).

Station 98

APPARENT RESISTIVITY

Fish Creek Mtns, NV 100k



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Station 98

IMPEDANCE PHASE

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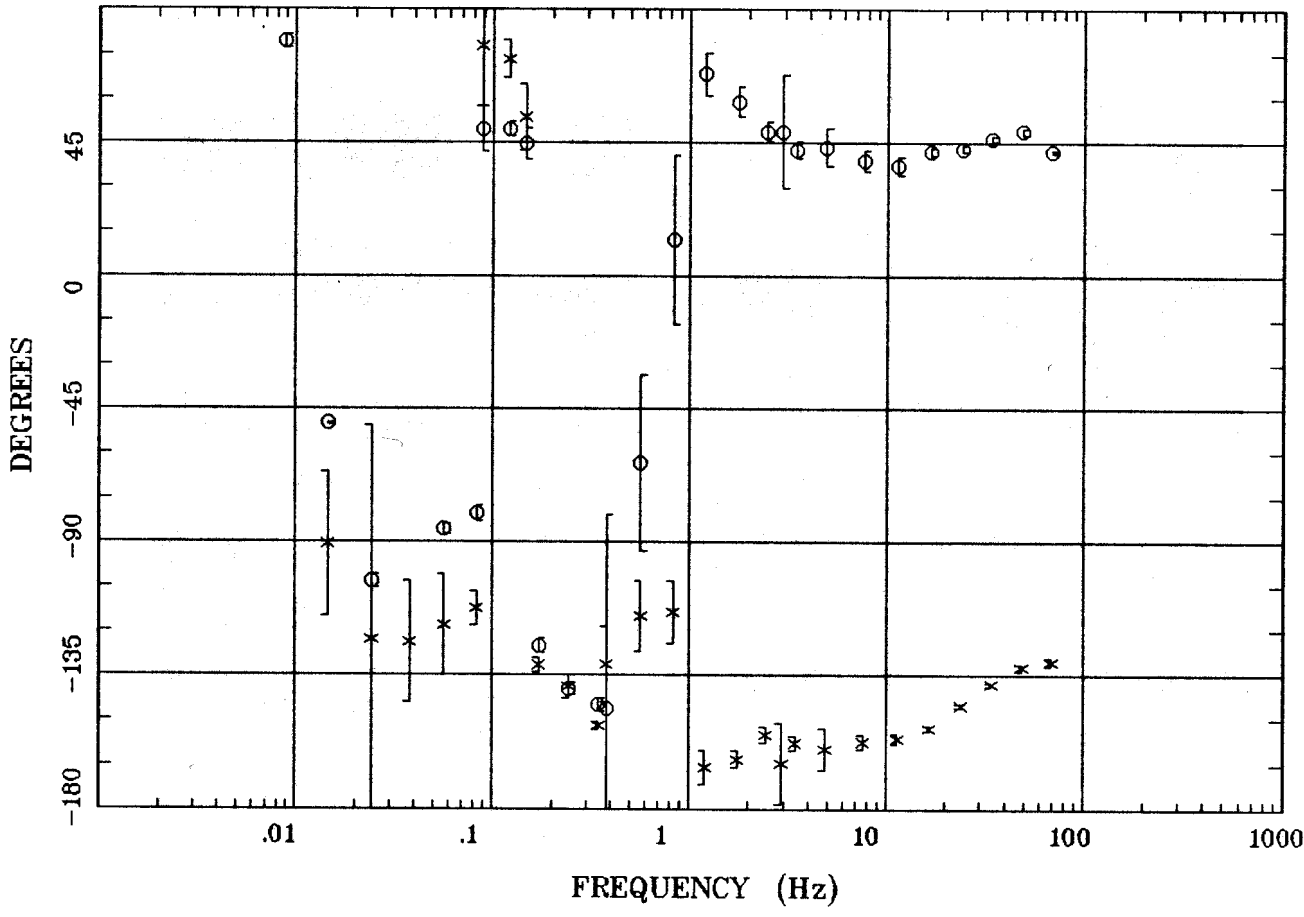

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Station 98

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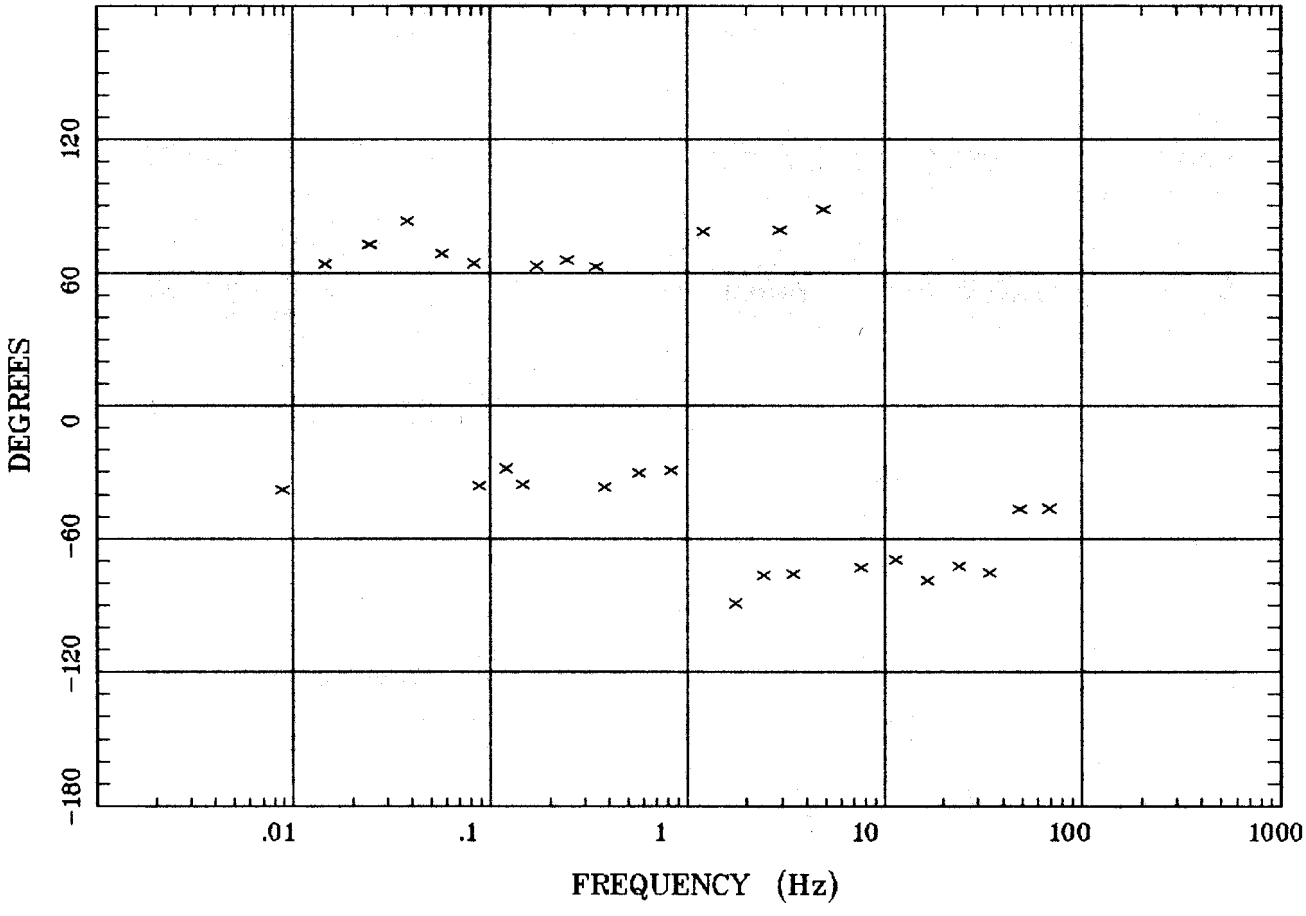

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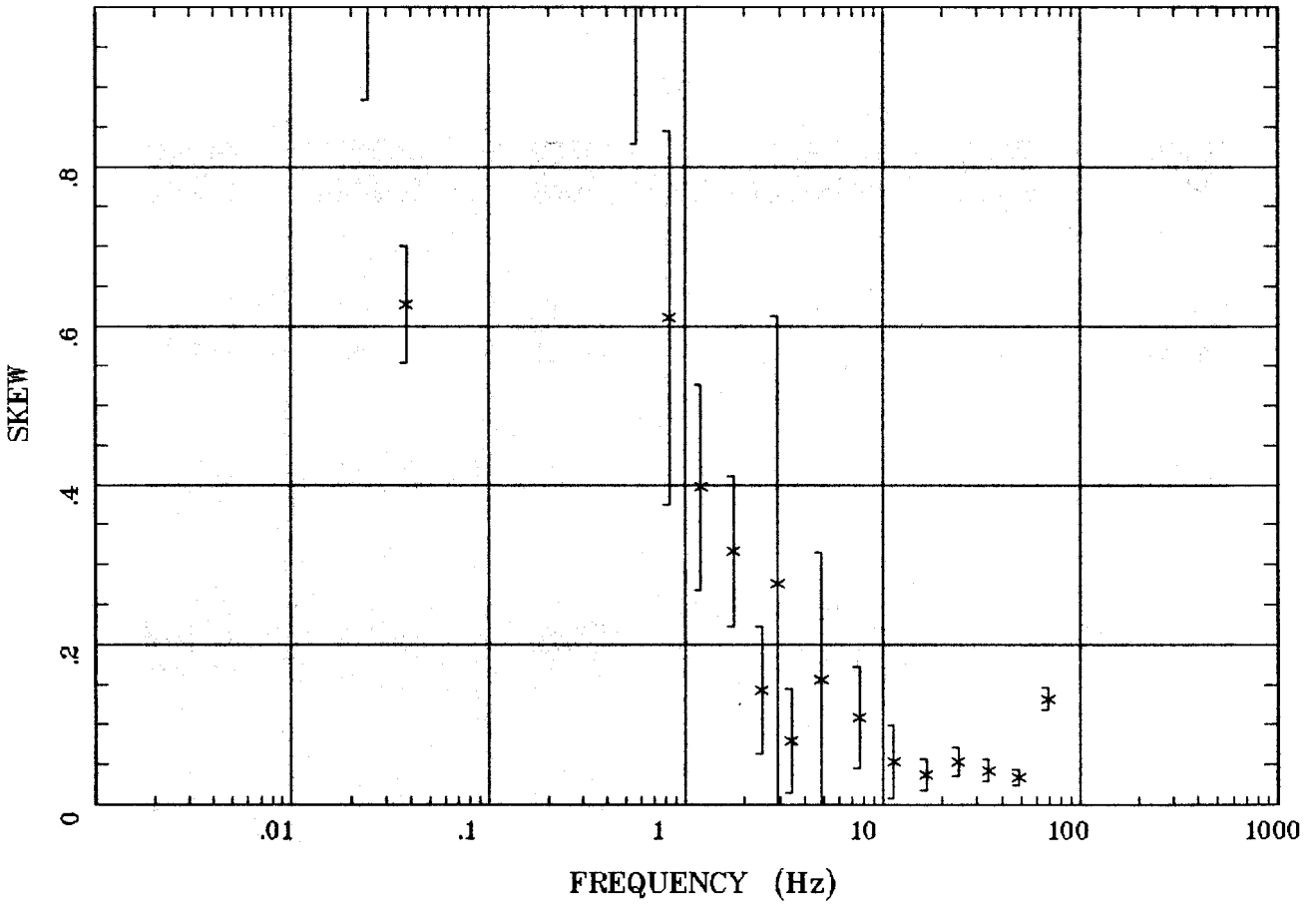

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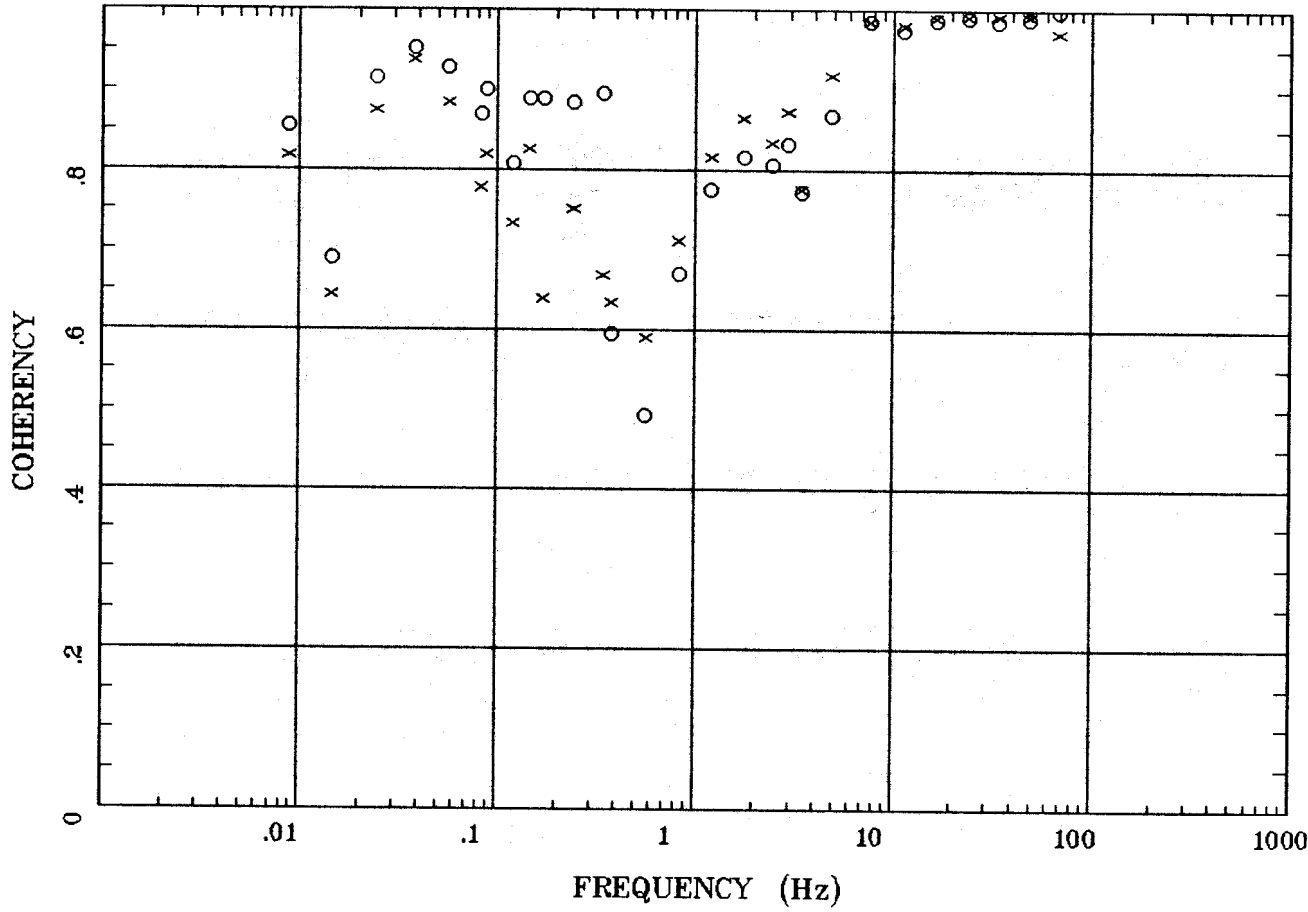
E MULT Coh.

Fish Creek Mtns, NV 100k



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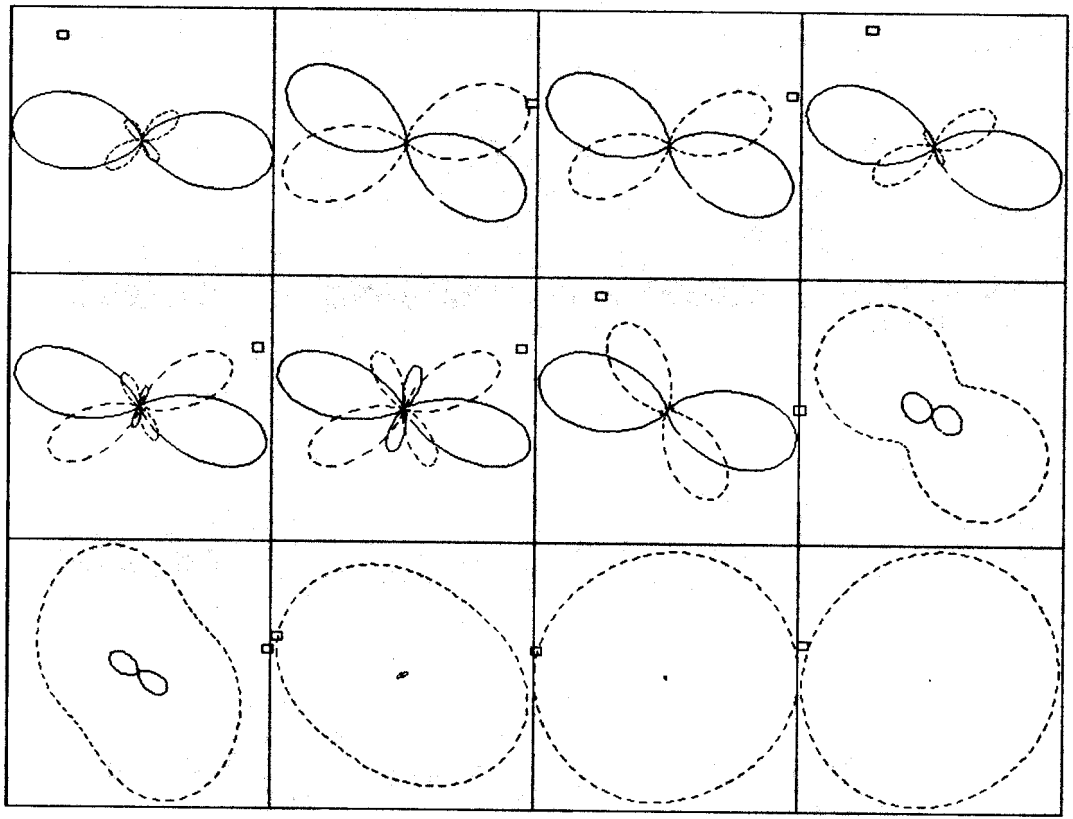
POLAR PLOTS

Fish Creek Mtns, NV 100k



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.172 Hz	.345 Hz	.566 Hz	1.758 Hz
2.930 Hz	7.617 Hz	16.602 Hz	34.375 Hz

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Survey Co:USGS

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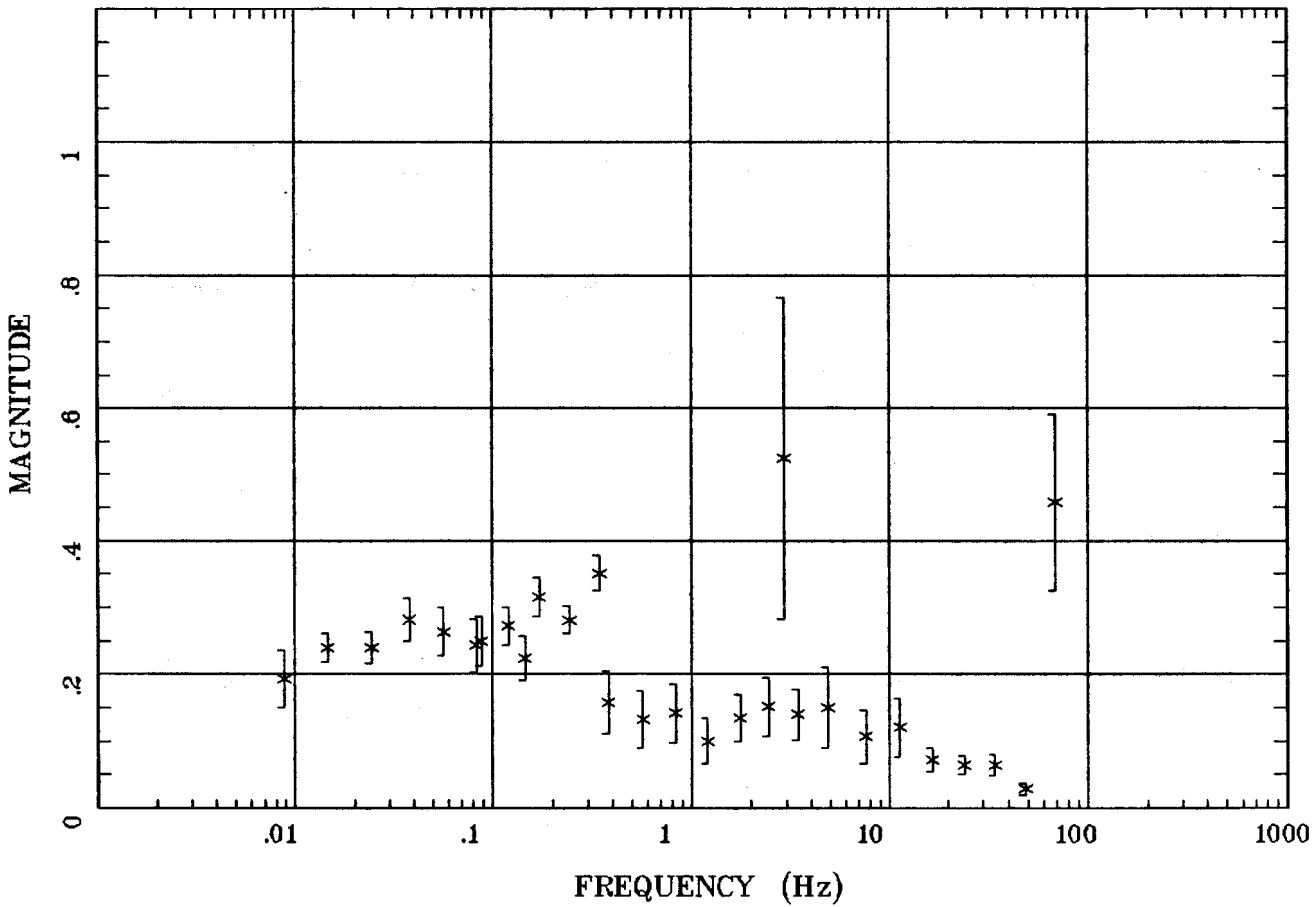
Station 98

TIPPER MAGNITUDE

Fish Creek Mtns, NV 100k



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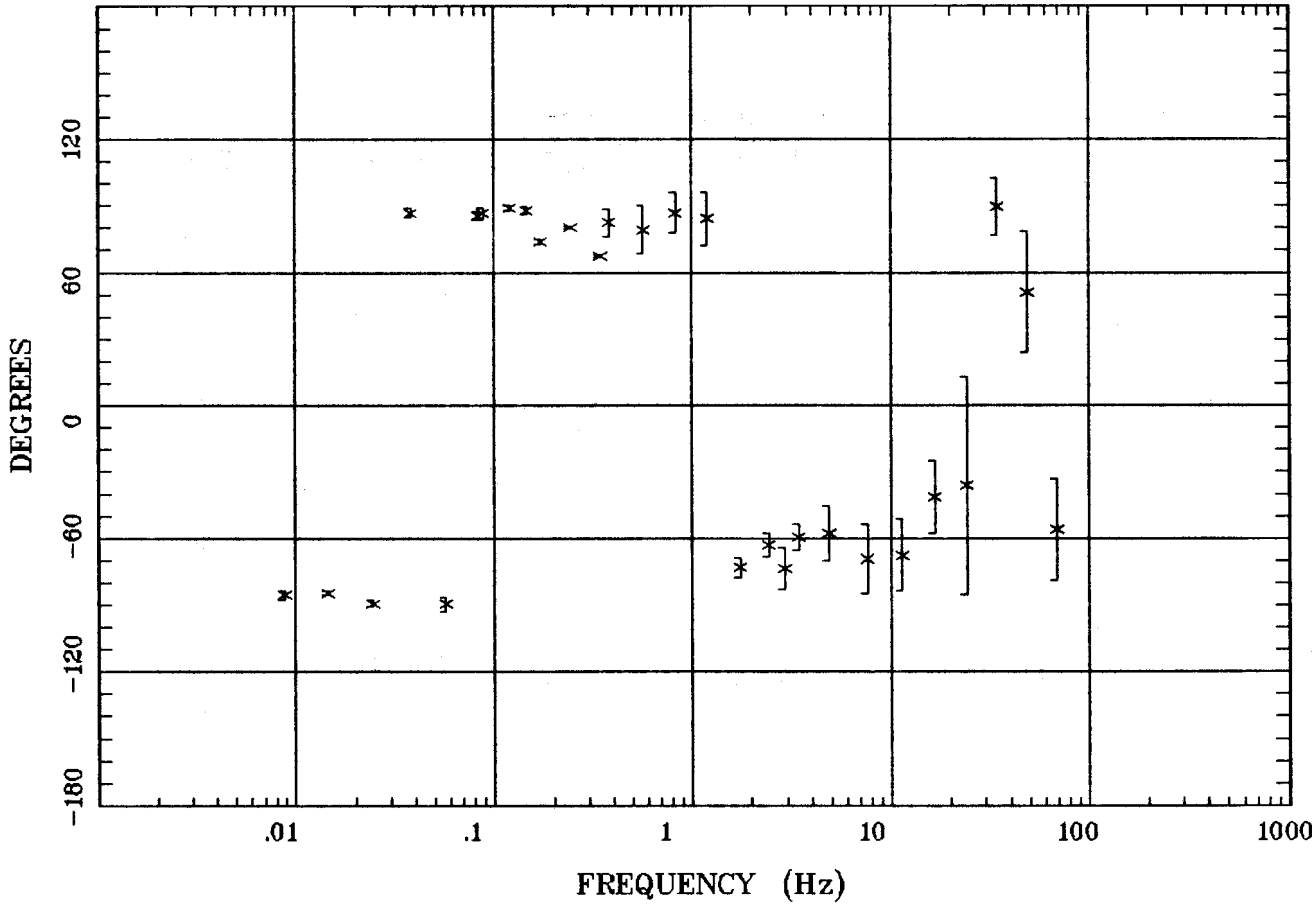
Station 98

TIPPER STRIKE

Fish Creek Mtns, NV 100k



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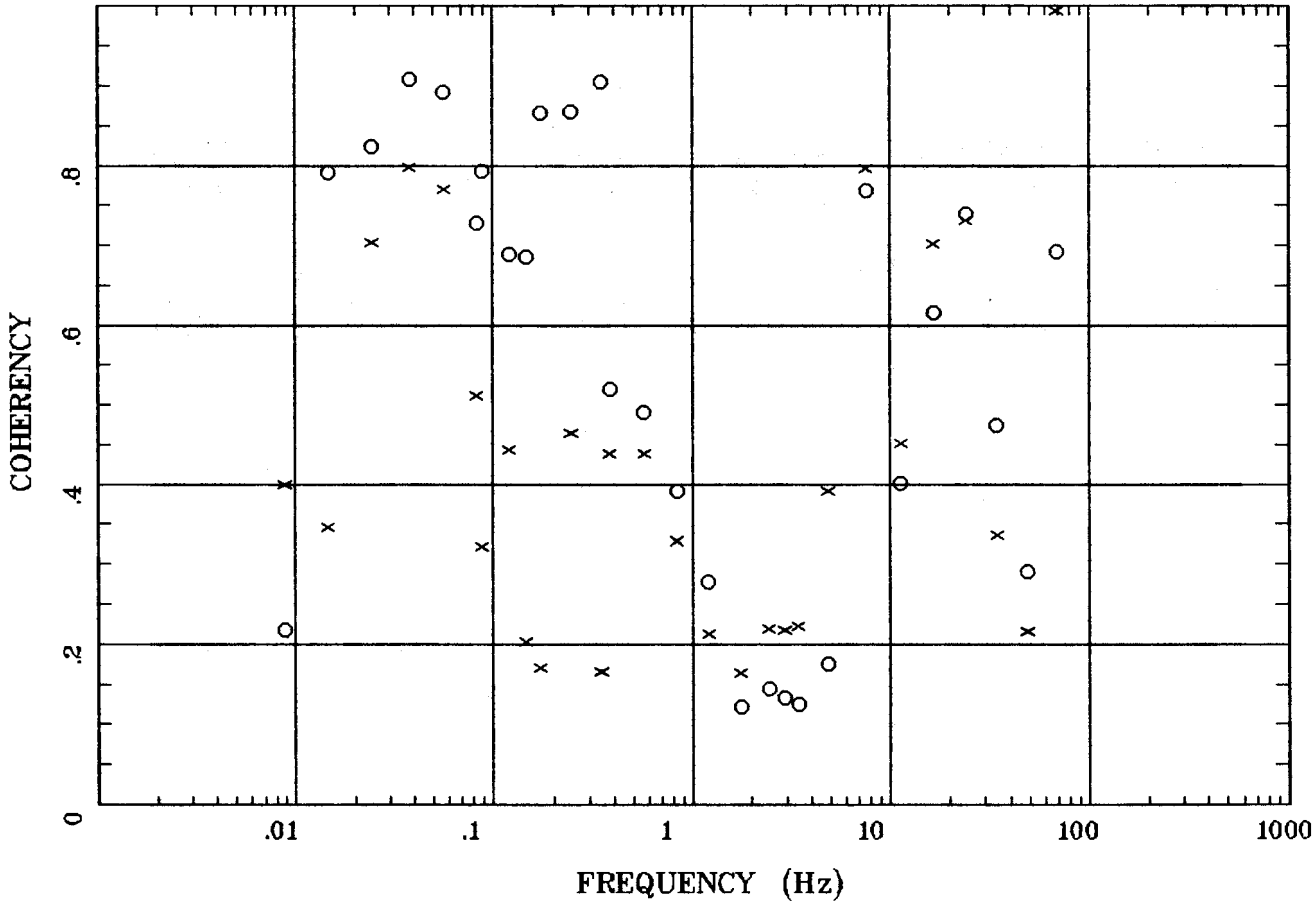
HzHx.x Coh HzHy.o

Fish Creek Mtns, NV 100k



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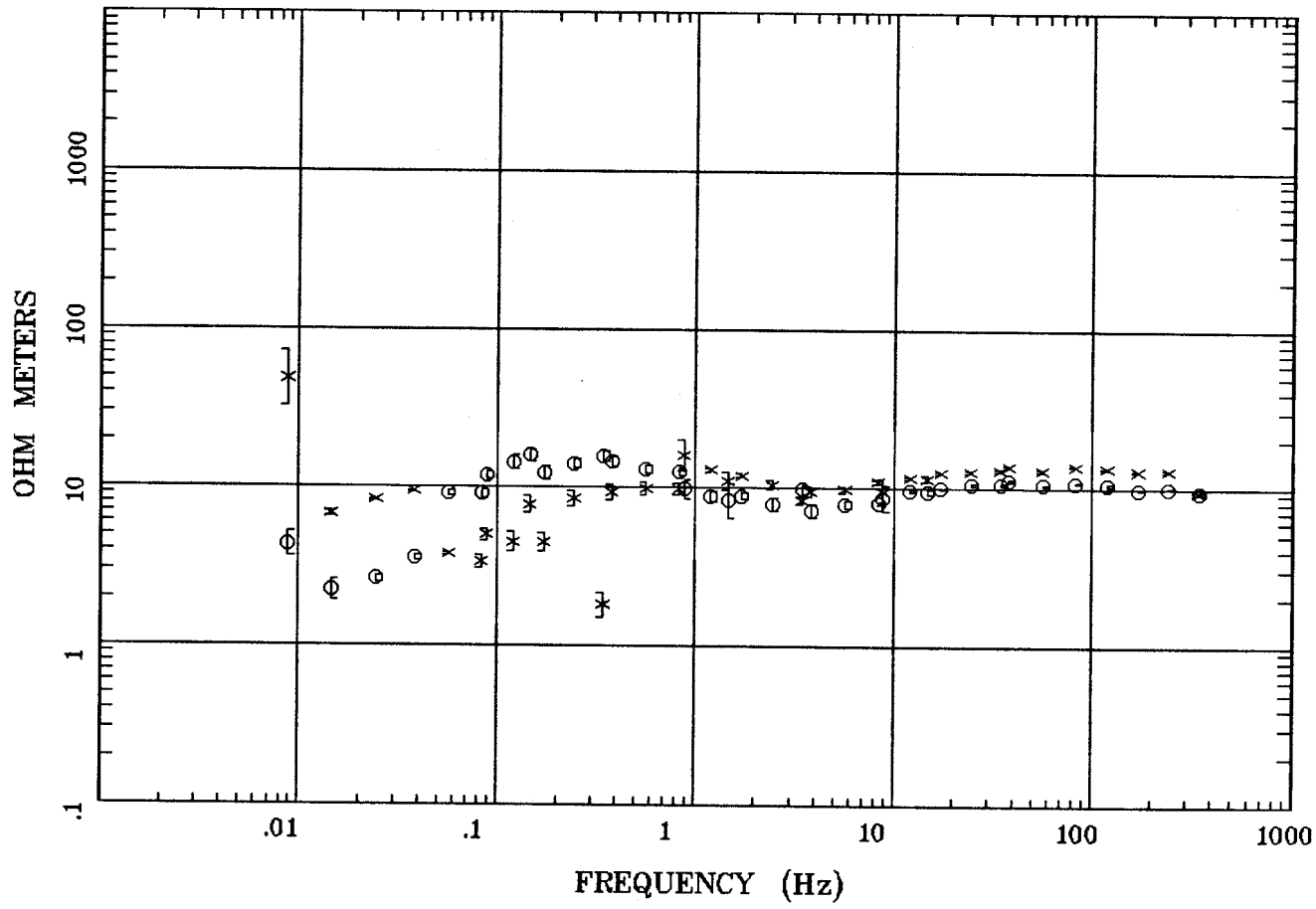

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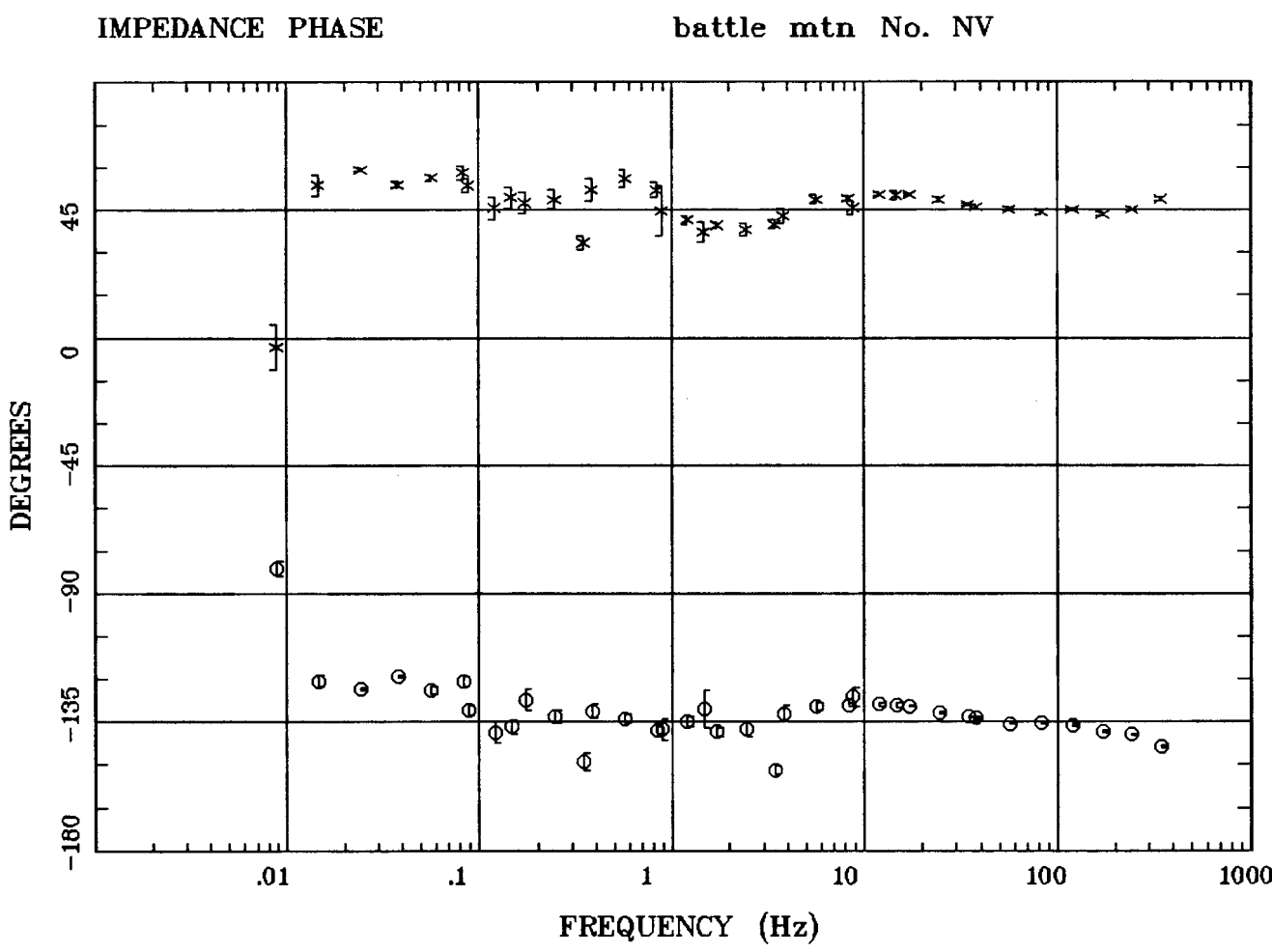

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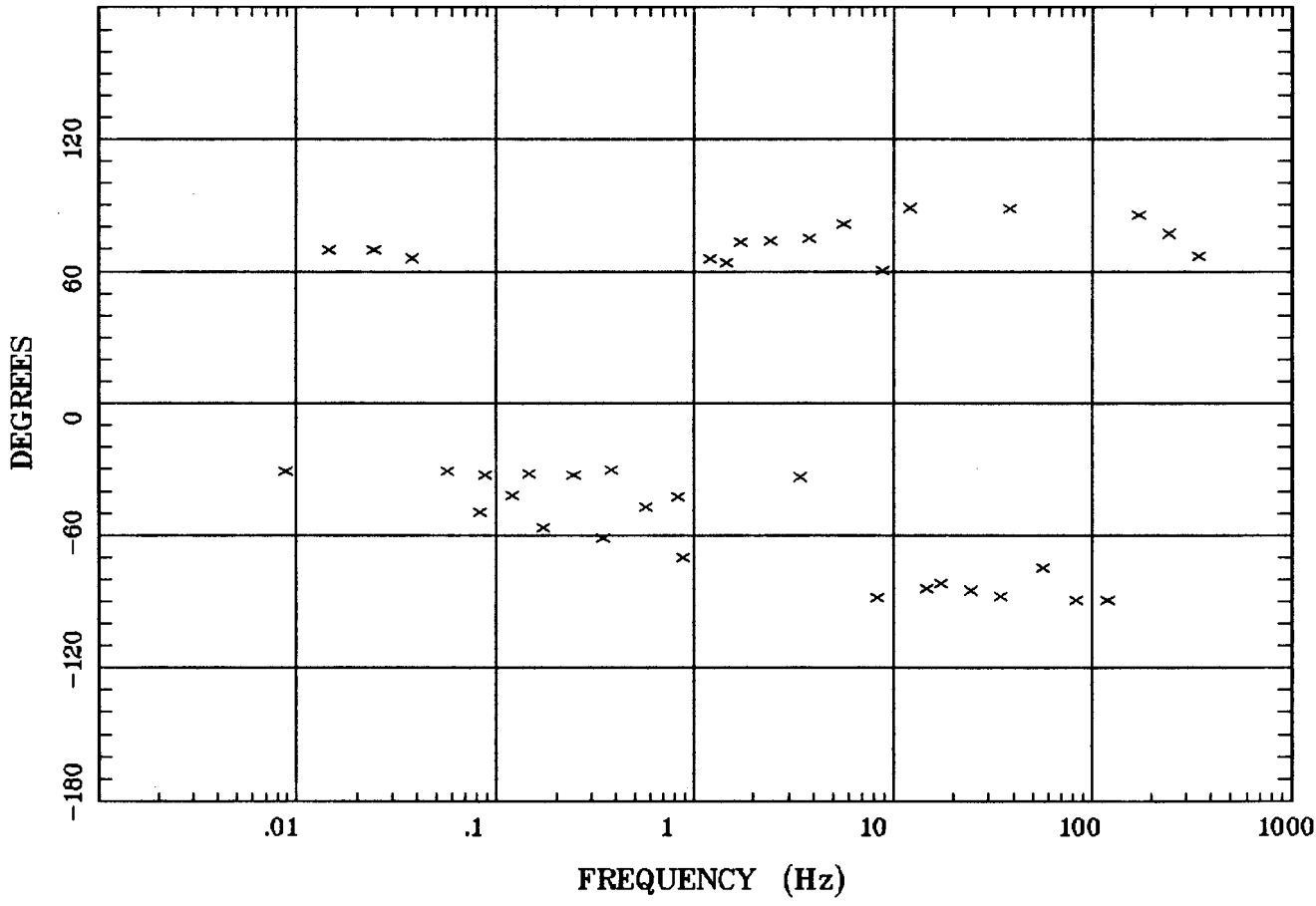
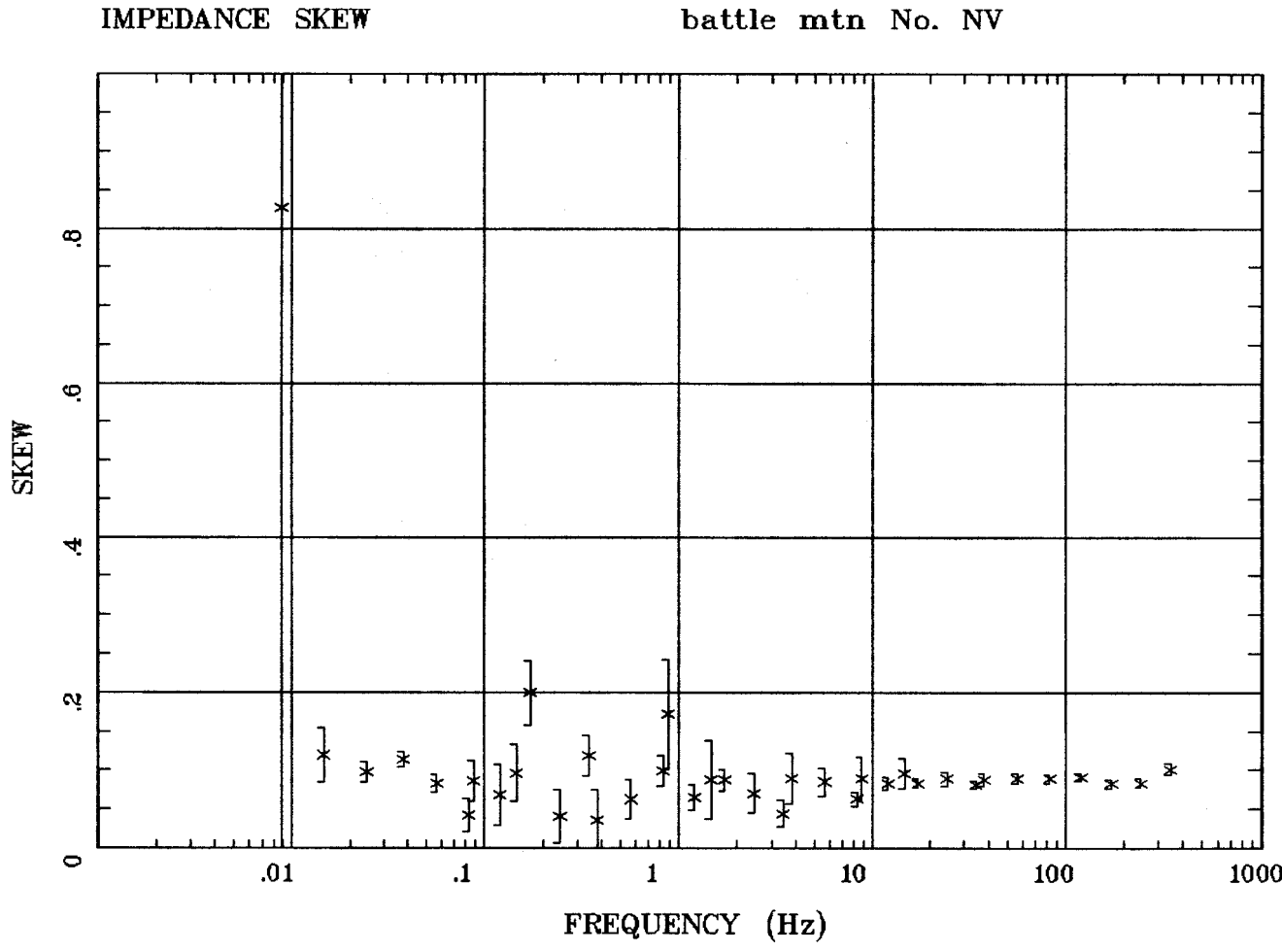
Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE battle mtn No. NV



Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

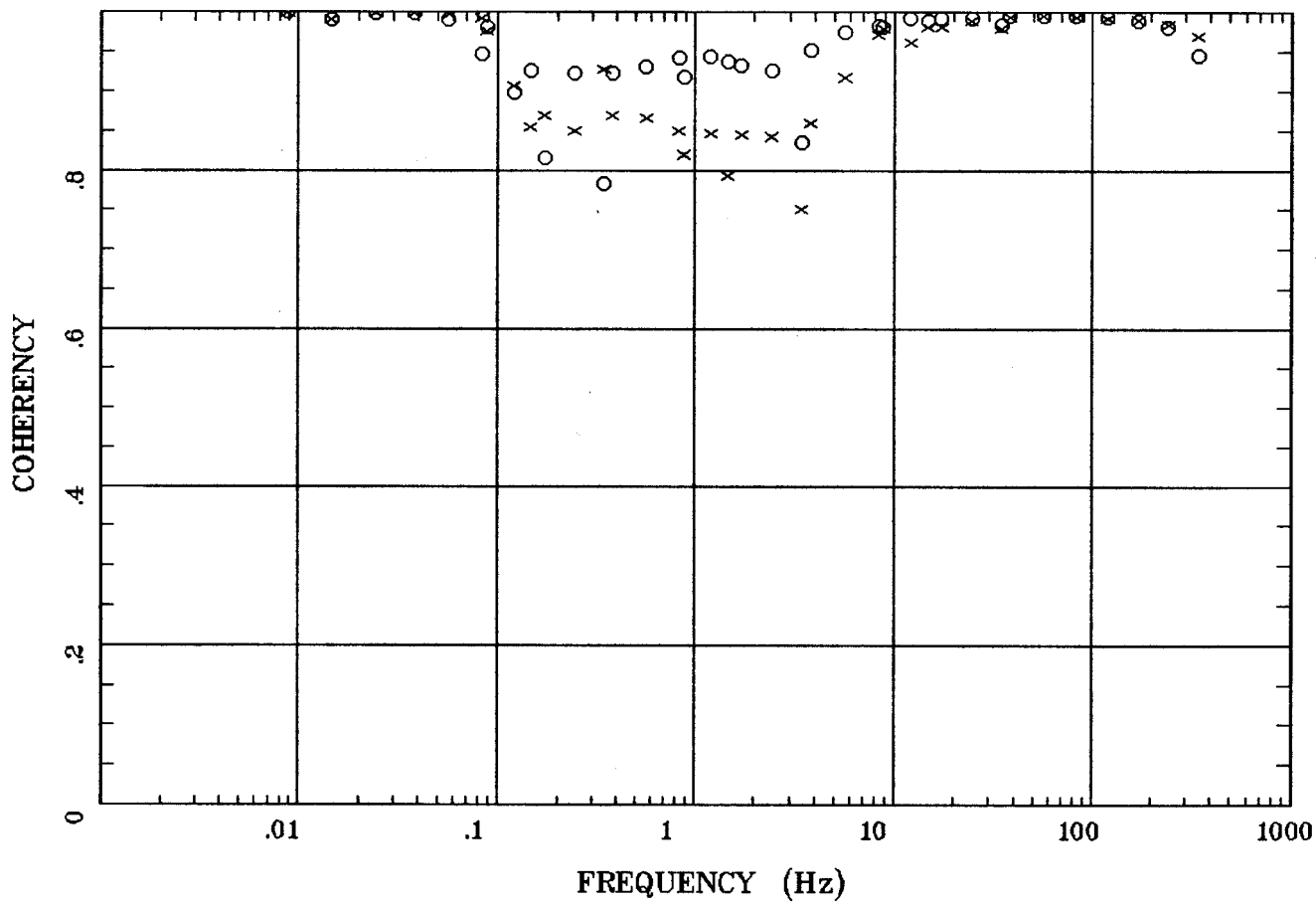
Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

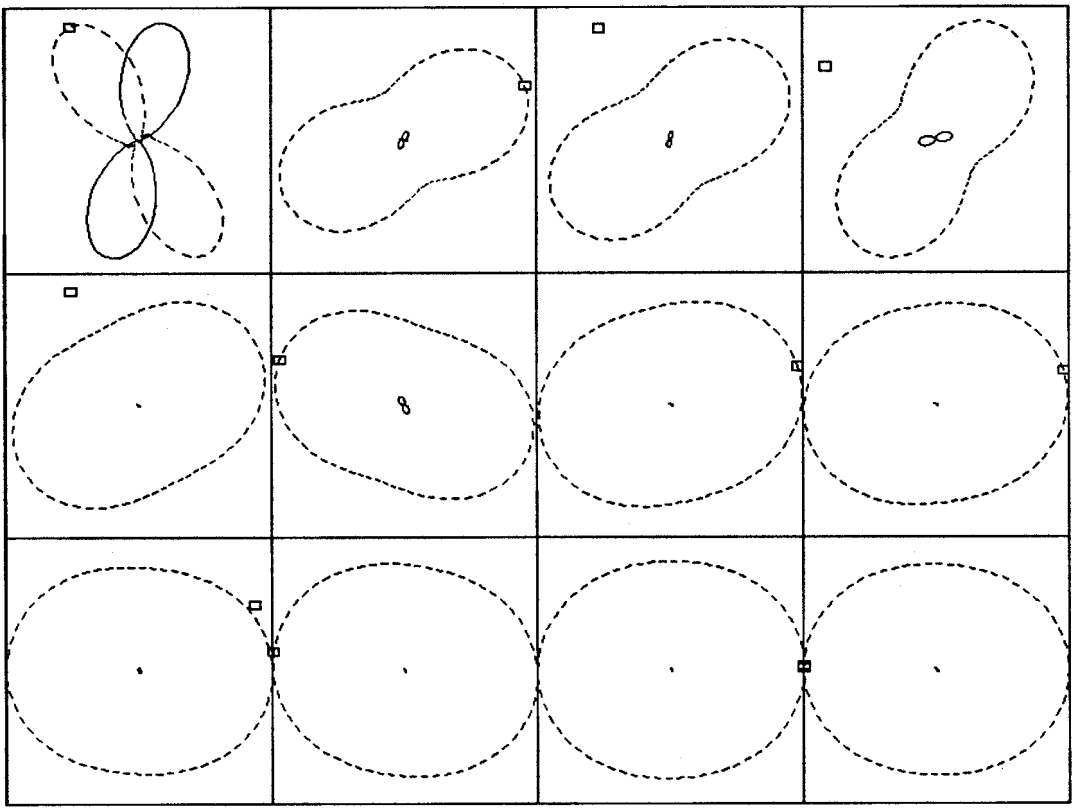
E MULT Coh. battle mtn No. NV



Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS battle mtn No. NV



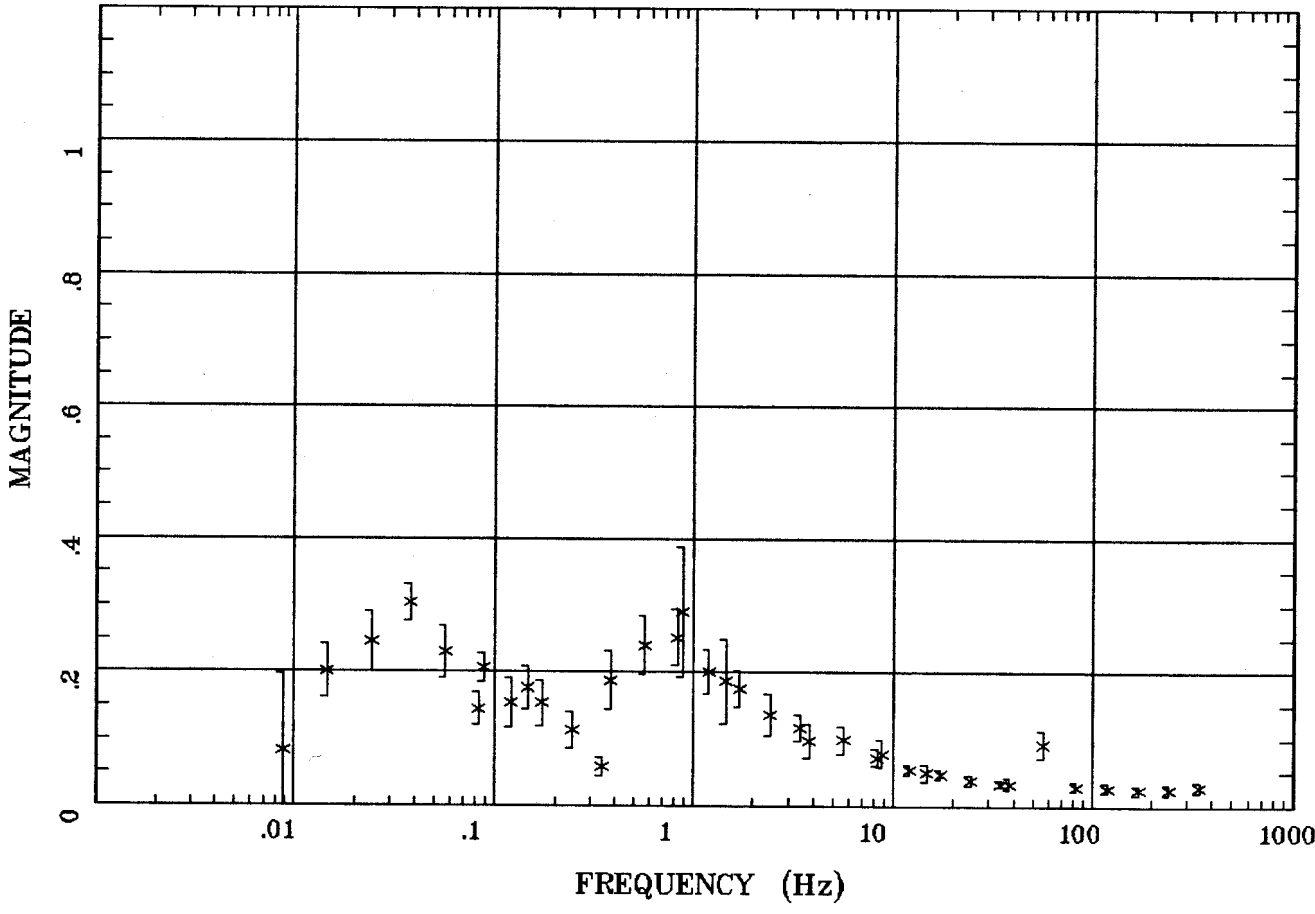
.0088 Hz	.0381 Hz	.0879 Hz	.172 Hz
.381 Hz	.879 Hz	1.719 Hz	3.809 Hz
8.789 Hz	17.188 Hz	38.086 Hz	120 Hz

Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE

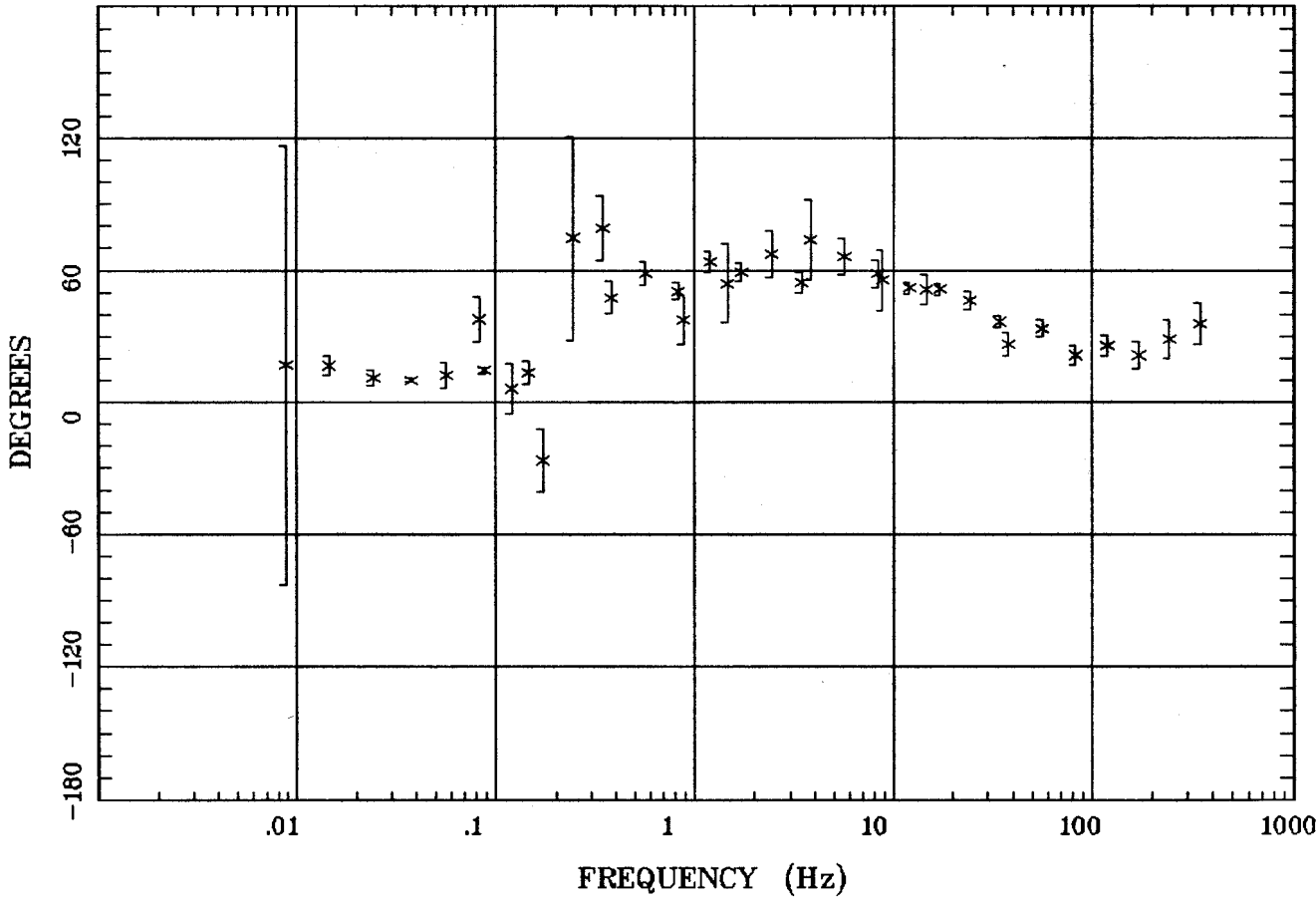
battle mtn No. NV



Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

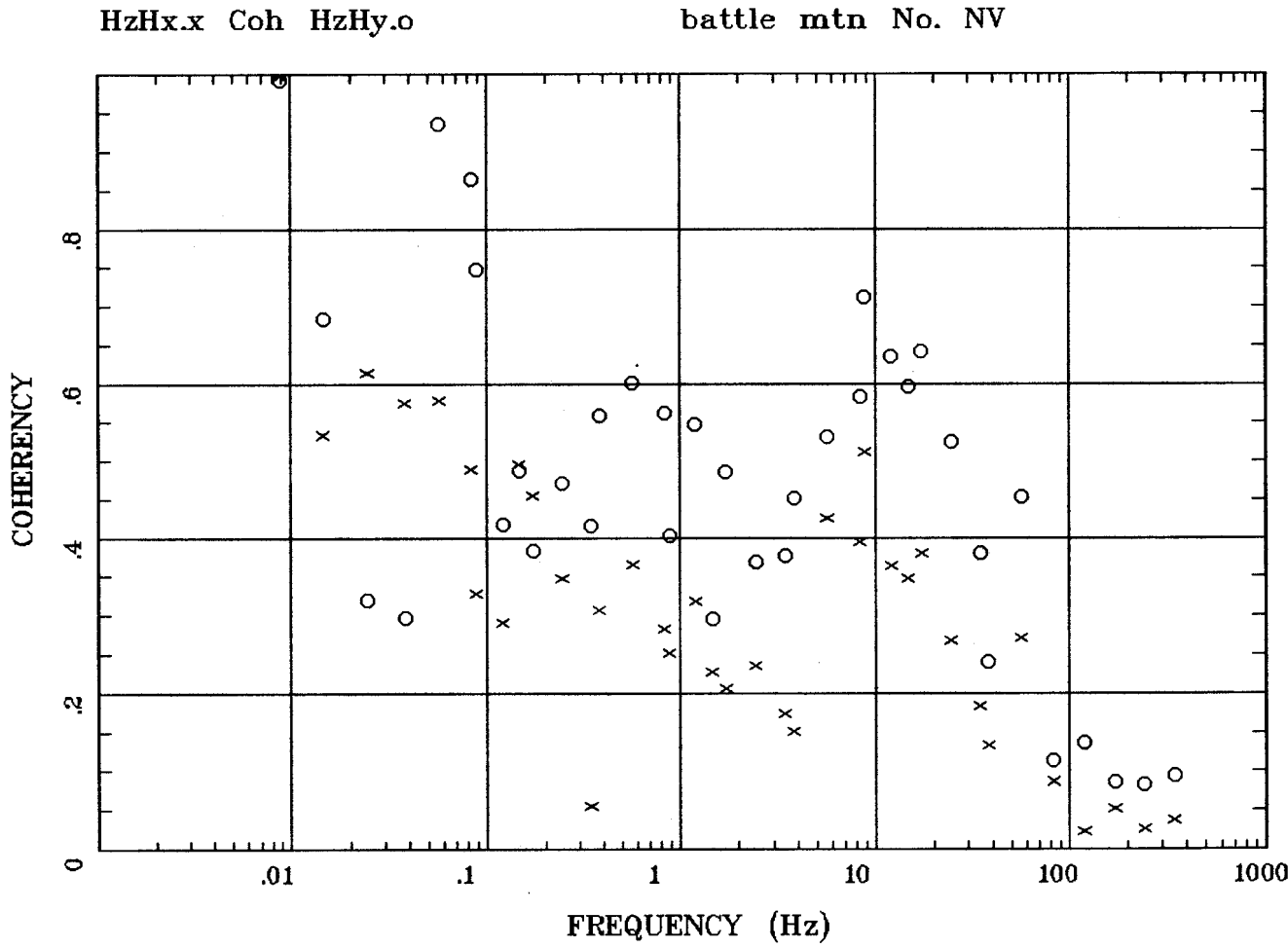
Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE battle mtn No. NV



Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

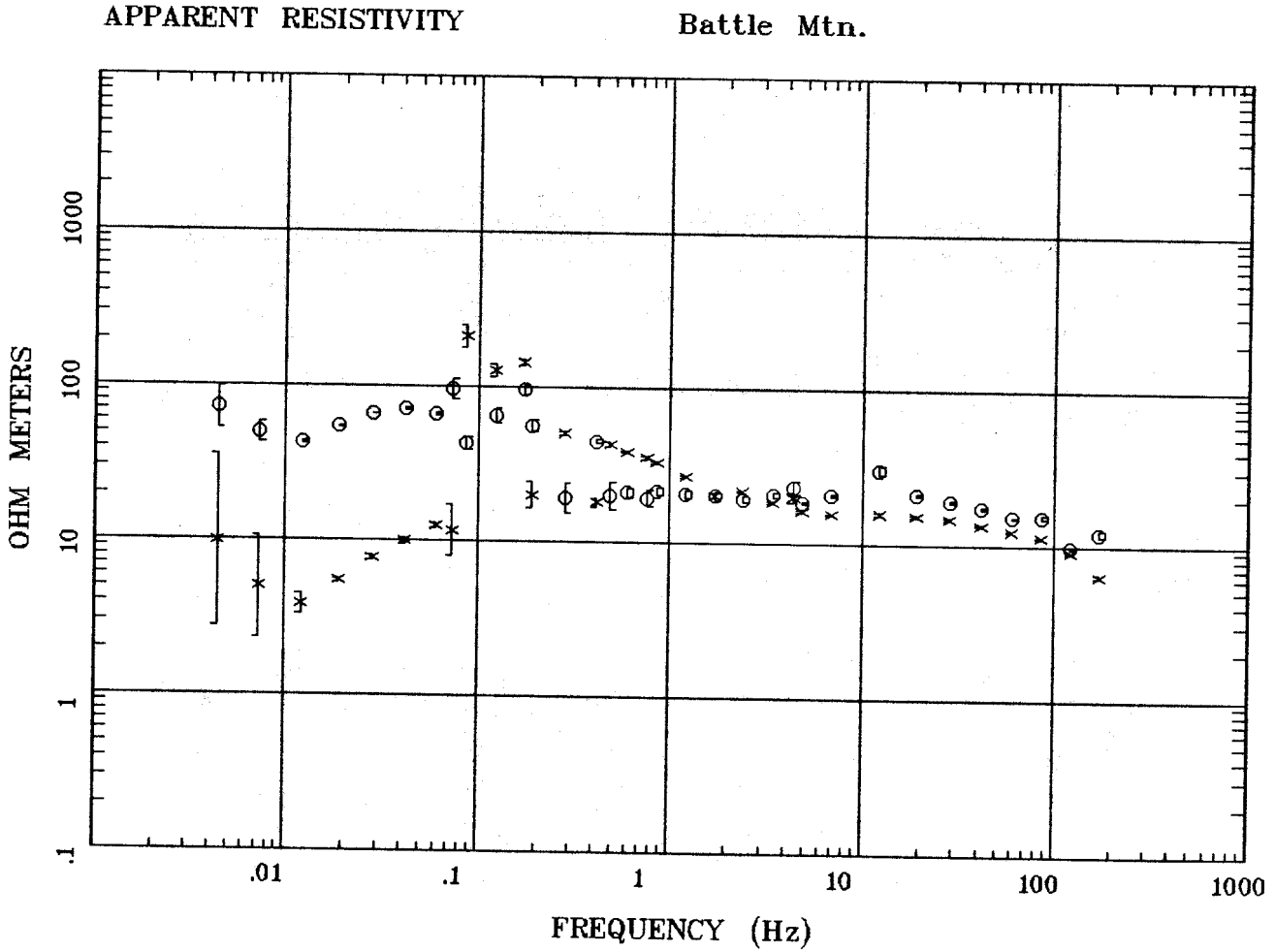
Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: e-field local ref
Acquired: 17:0 Jul 09, 1997
Survey Co:

Rotation:
Filename: nna12.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:51 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

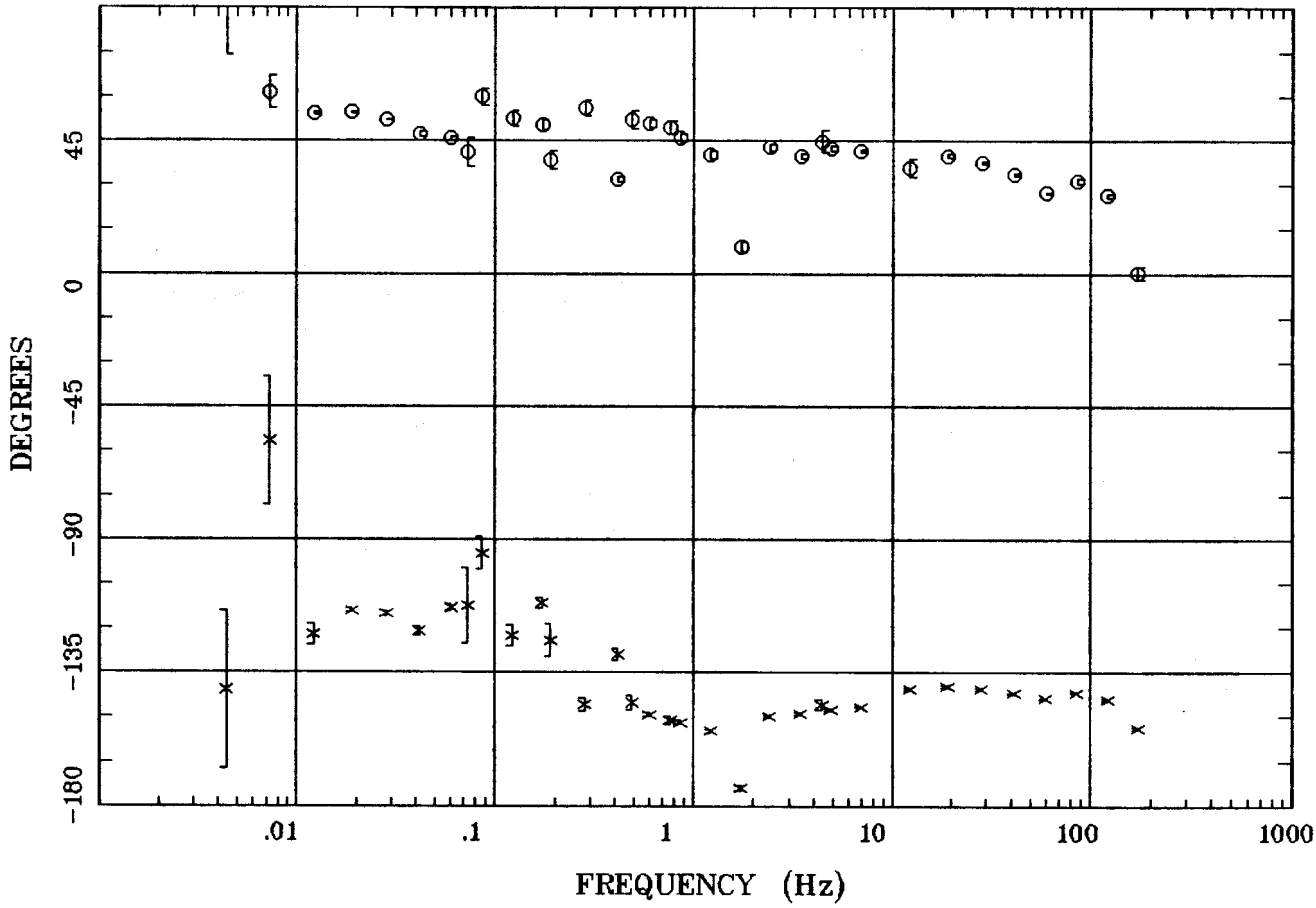
Station 13



Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

IMPEDANCE PHASE Battle Mtn.



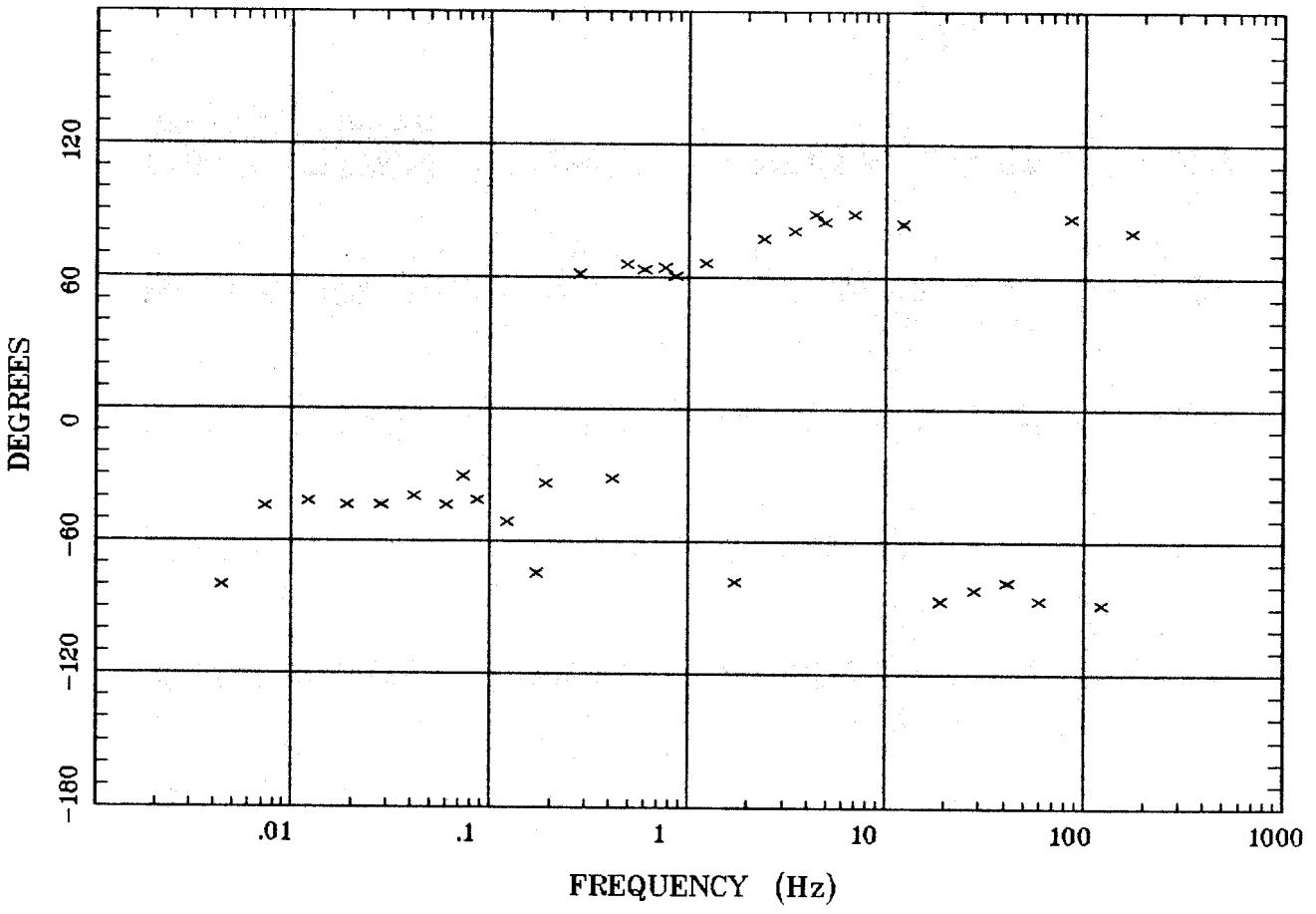
Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 13

ROTATION ANGLE

Battle Mtn.

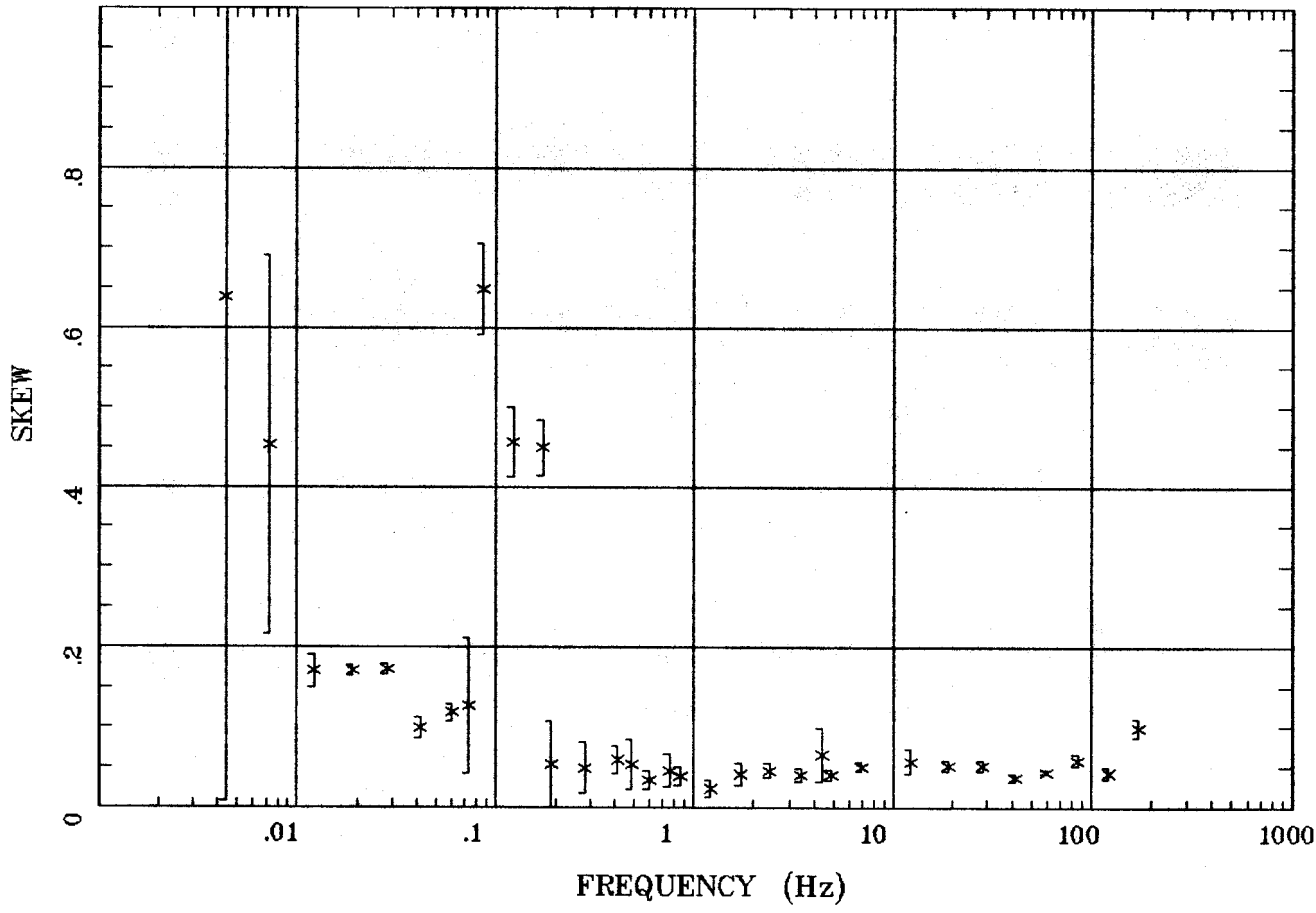


Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

Battle Mtn.

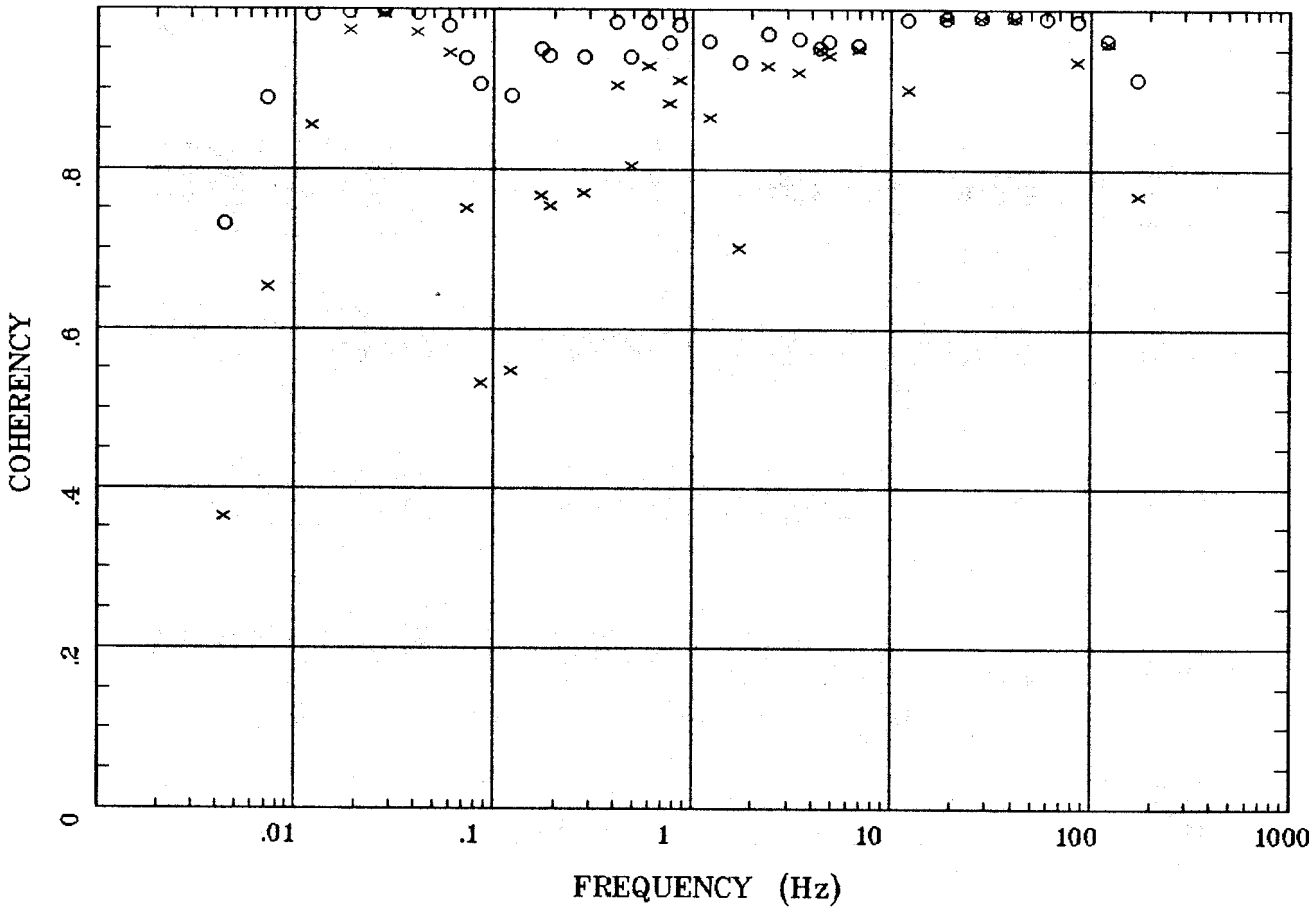


Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 13

E MULT Coh. Battle Mtn.

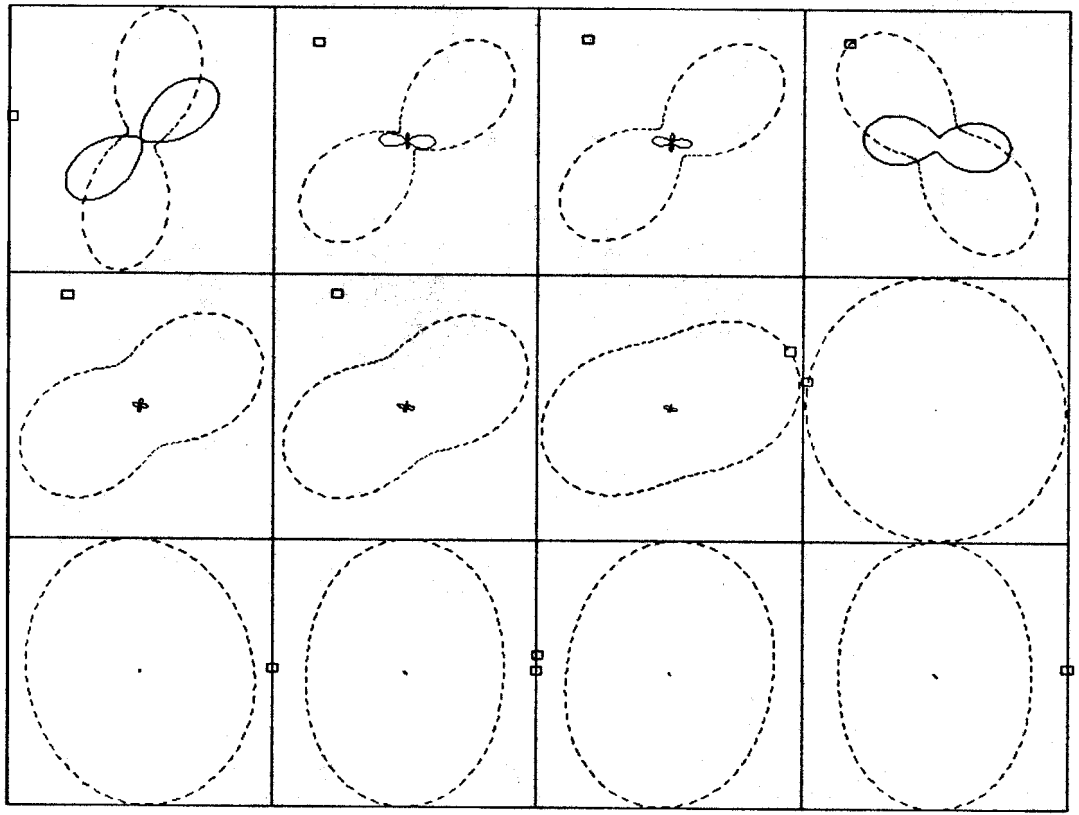


Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.



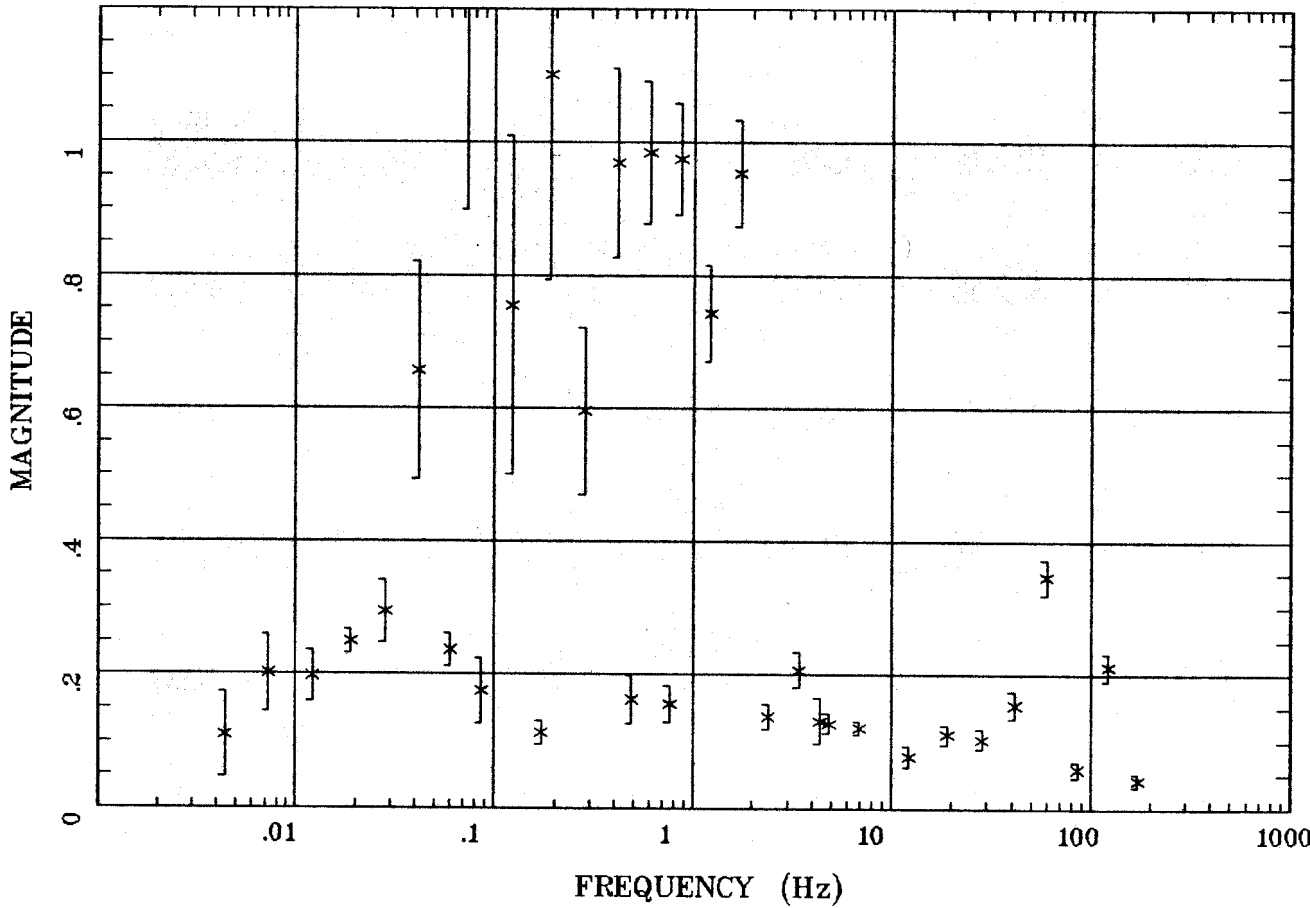
.0044 Hz	.0122 Hz	.0415 Hz	.0859 Hz
.190 Hz	.415 Hz	.762 Hz	1.724 Hz
4.394 Hz	6.894 Hz	28.320 Hz	85.938 Hz

Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

TIPPER MAGNITUDE

Battle Mtn.



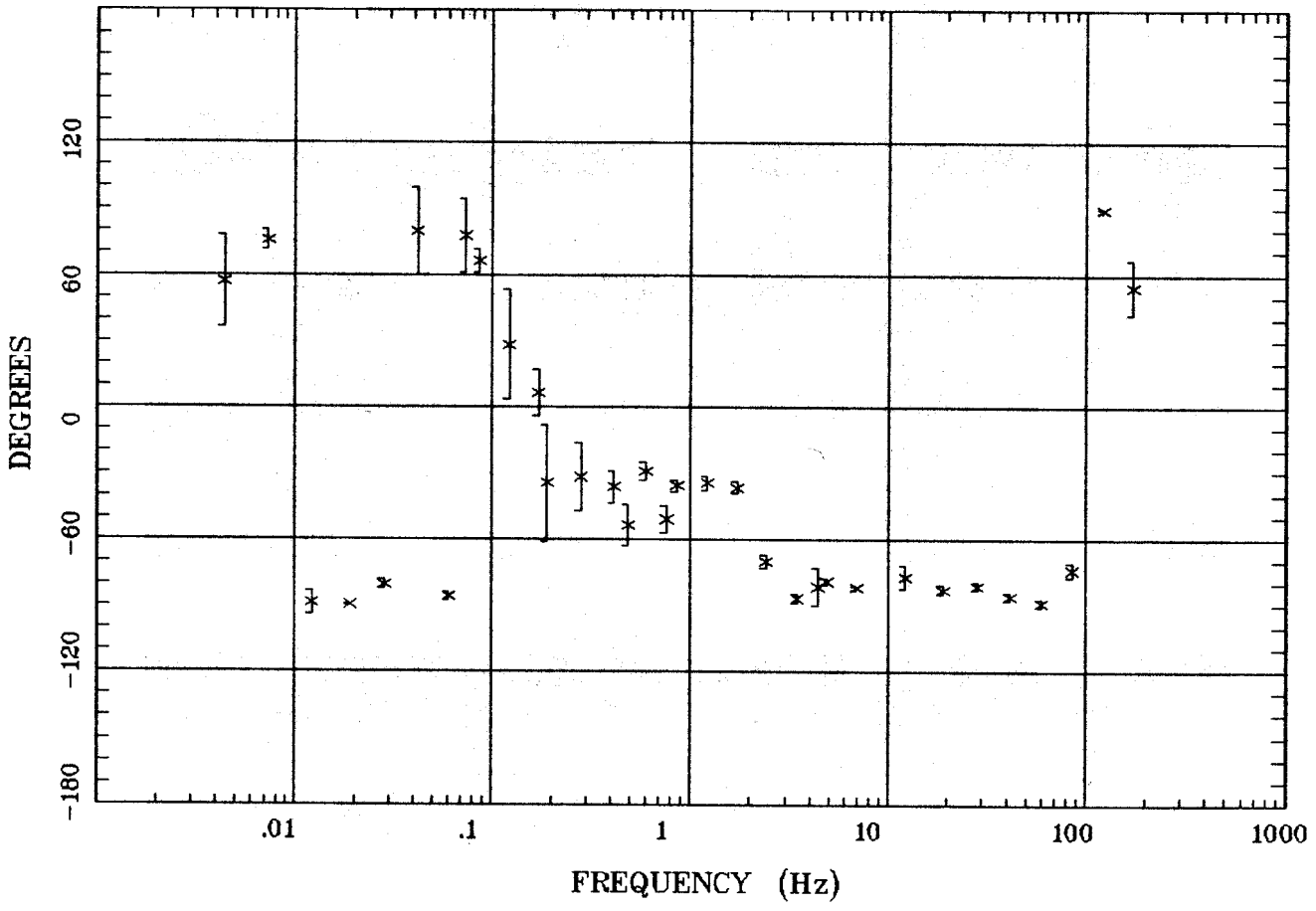
Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 13

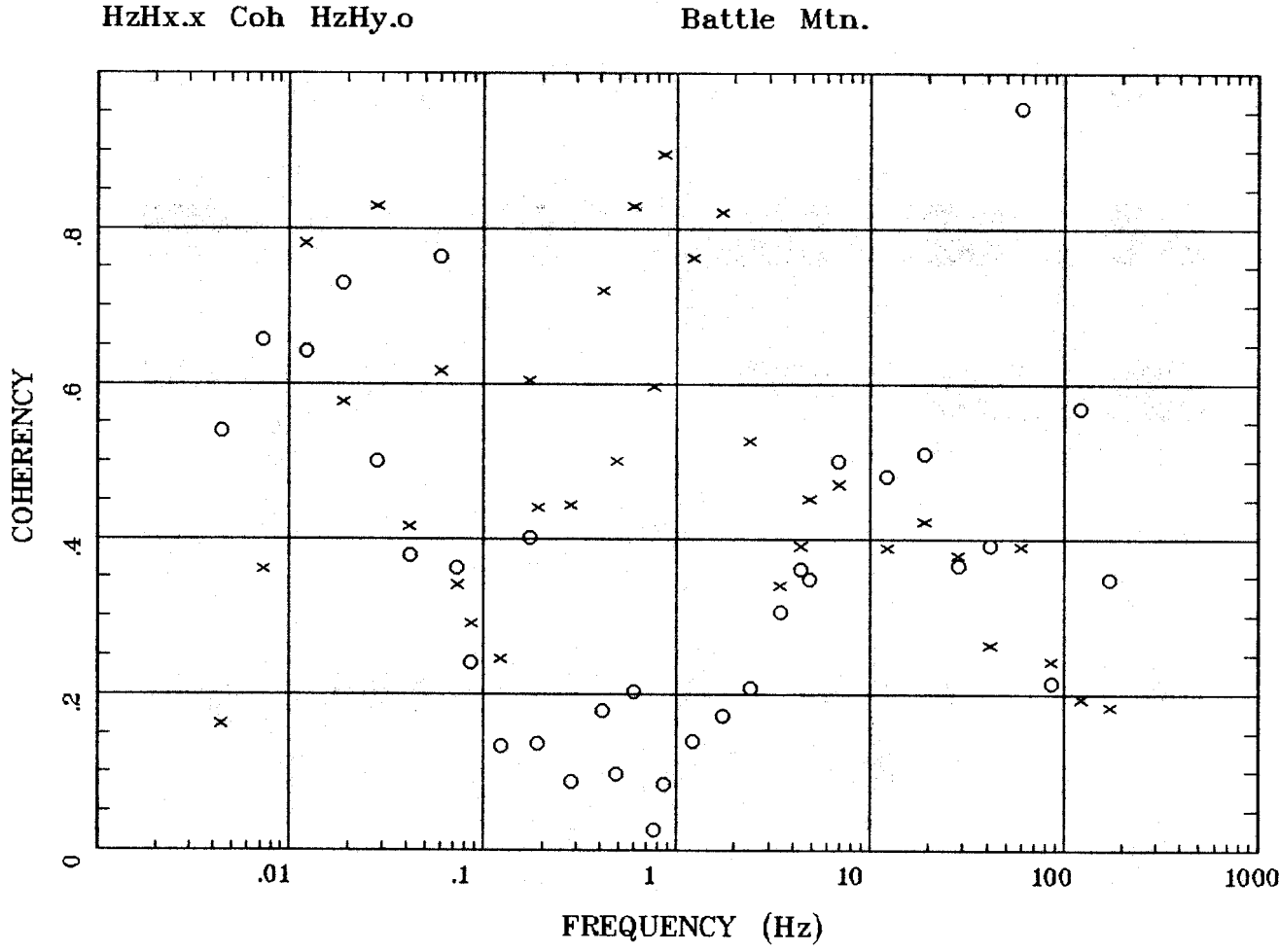
TIPPER STRIKE

Battle Mtn.



Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

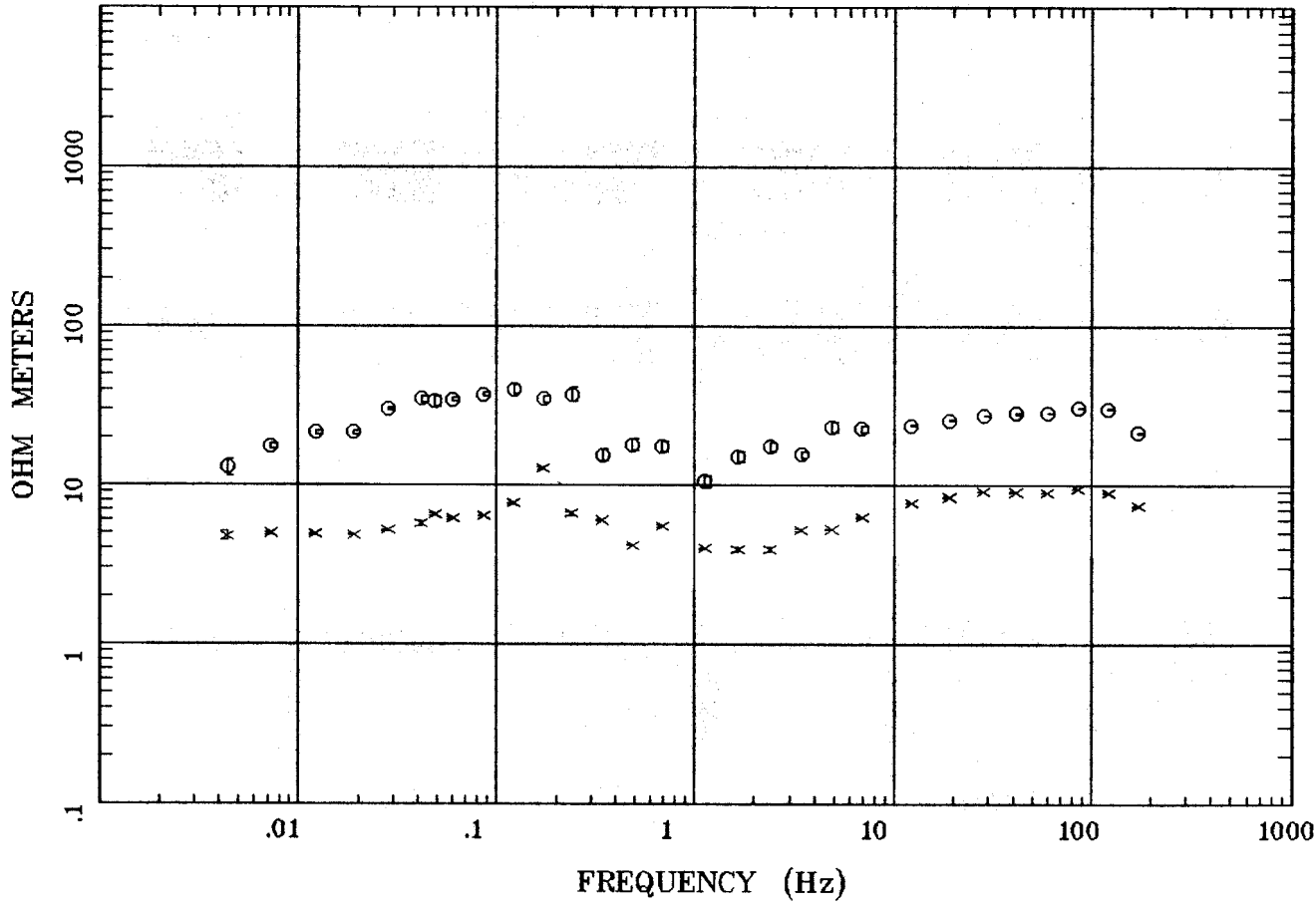


Client:
Remote: E local ref.
Acquired: 09:4 Jul 16, 1997
Survey Co:

Rotation:
Filename: nn13a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:26 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 14

APPARENT RESISTIVITY Battle Mtn.



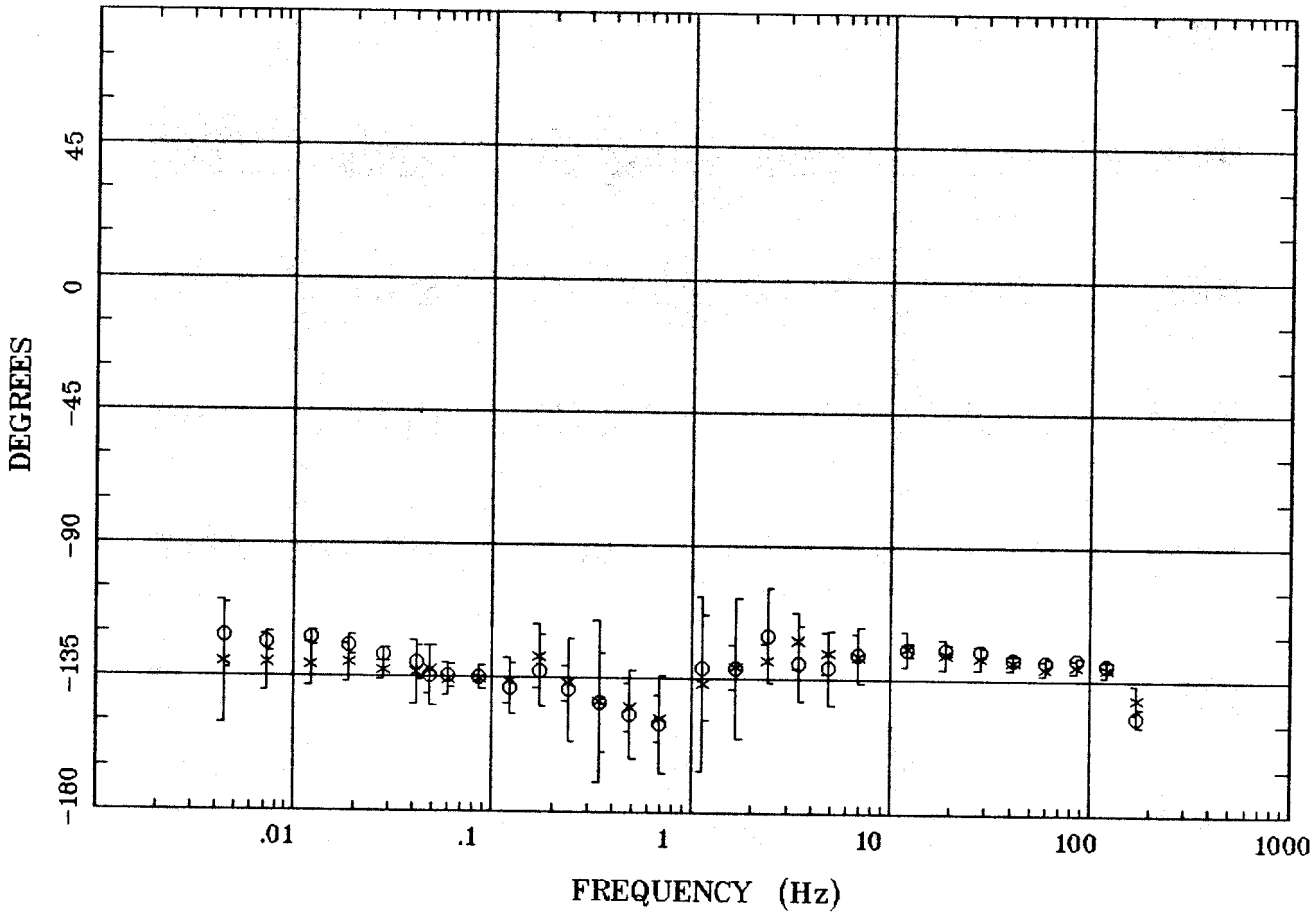
Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 14

IMPEDANCE PHASE

Battle Mtn.

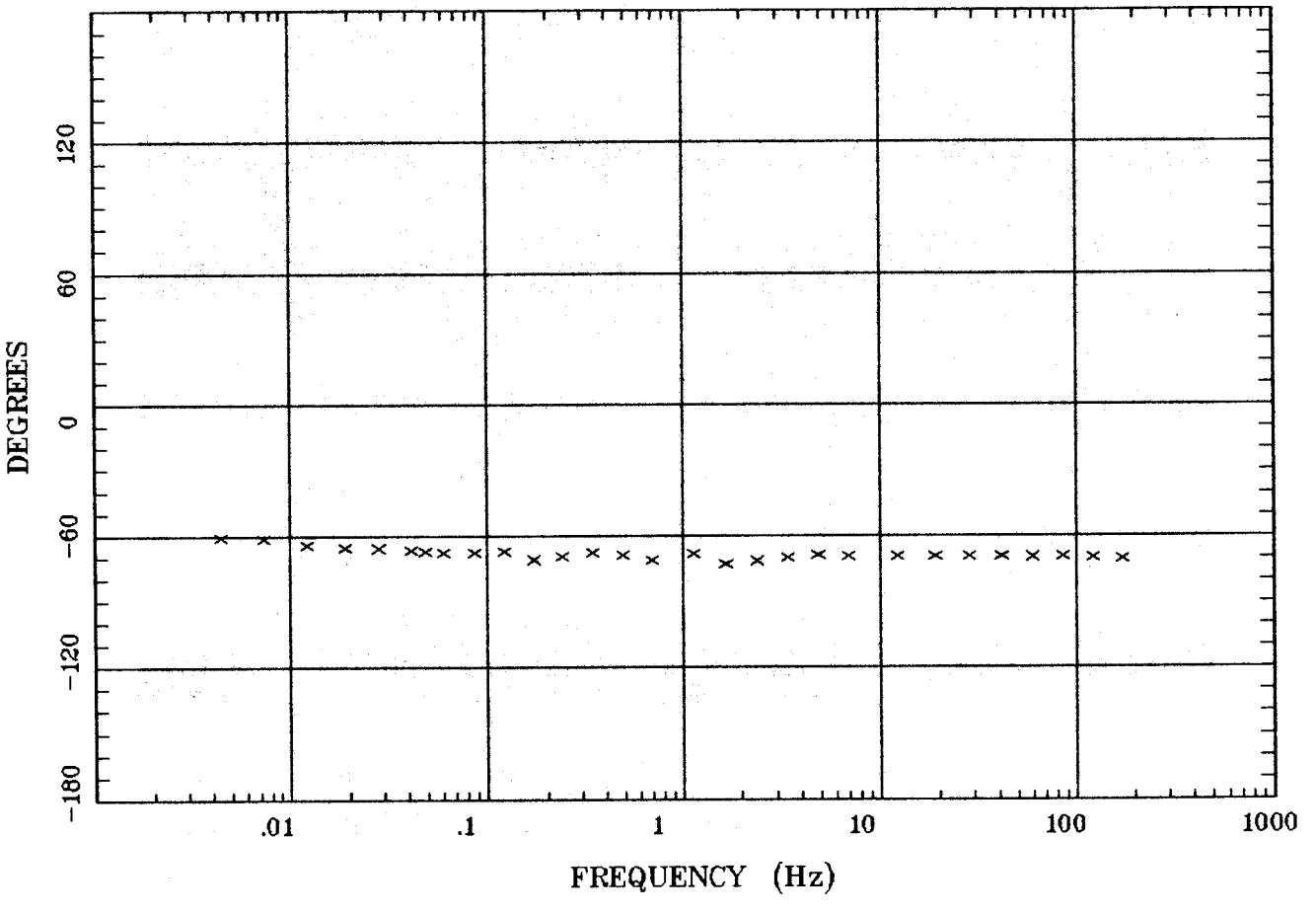


Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE

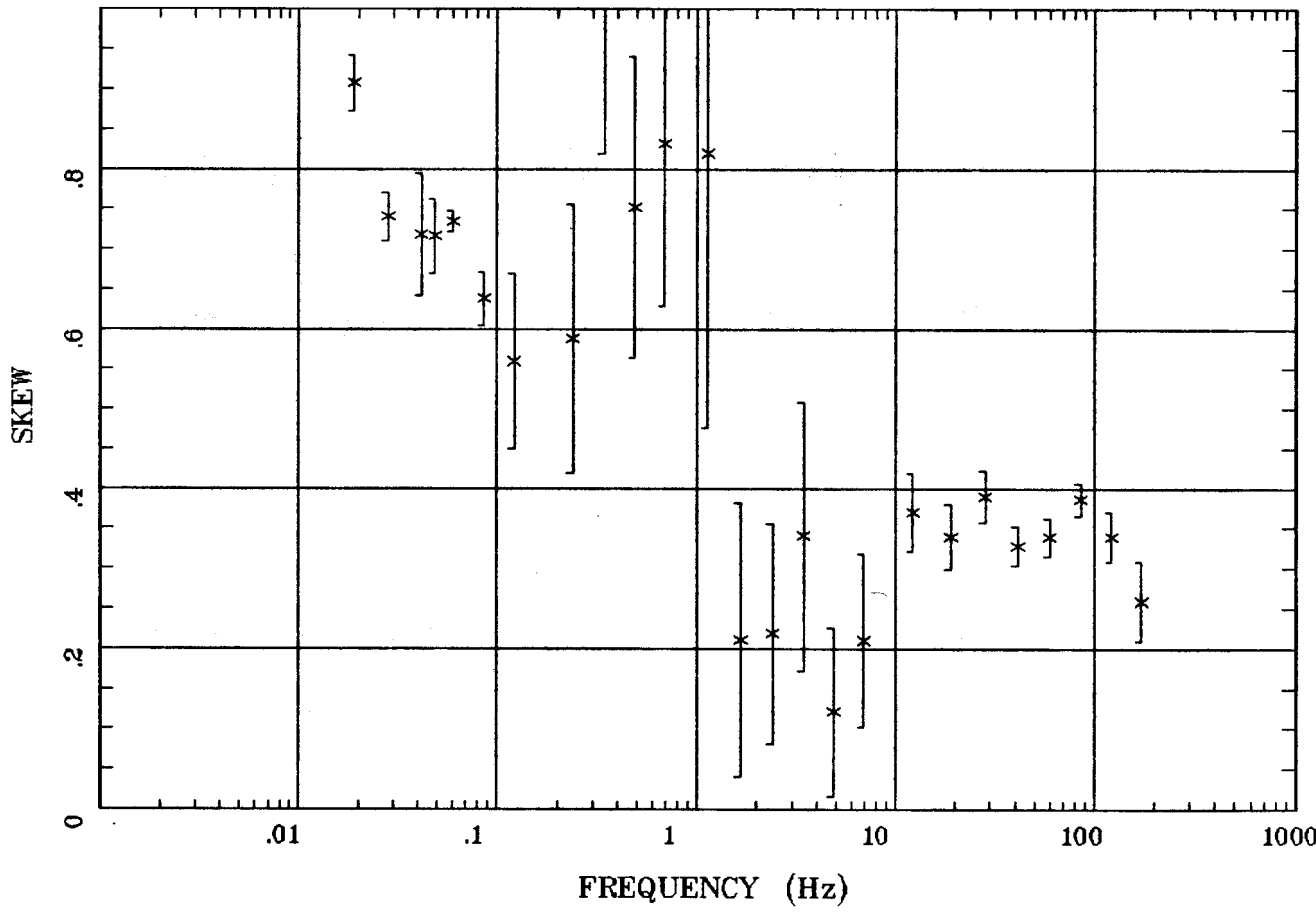
Battle Mtn.



Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

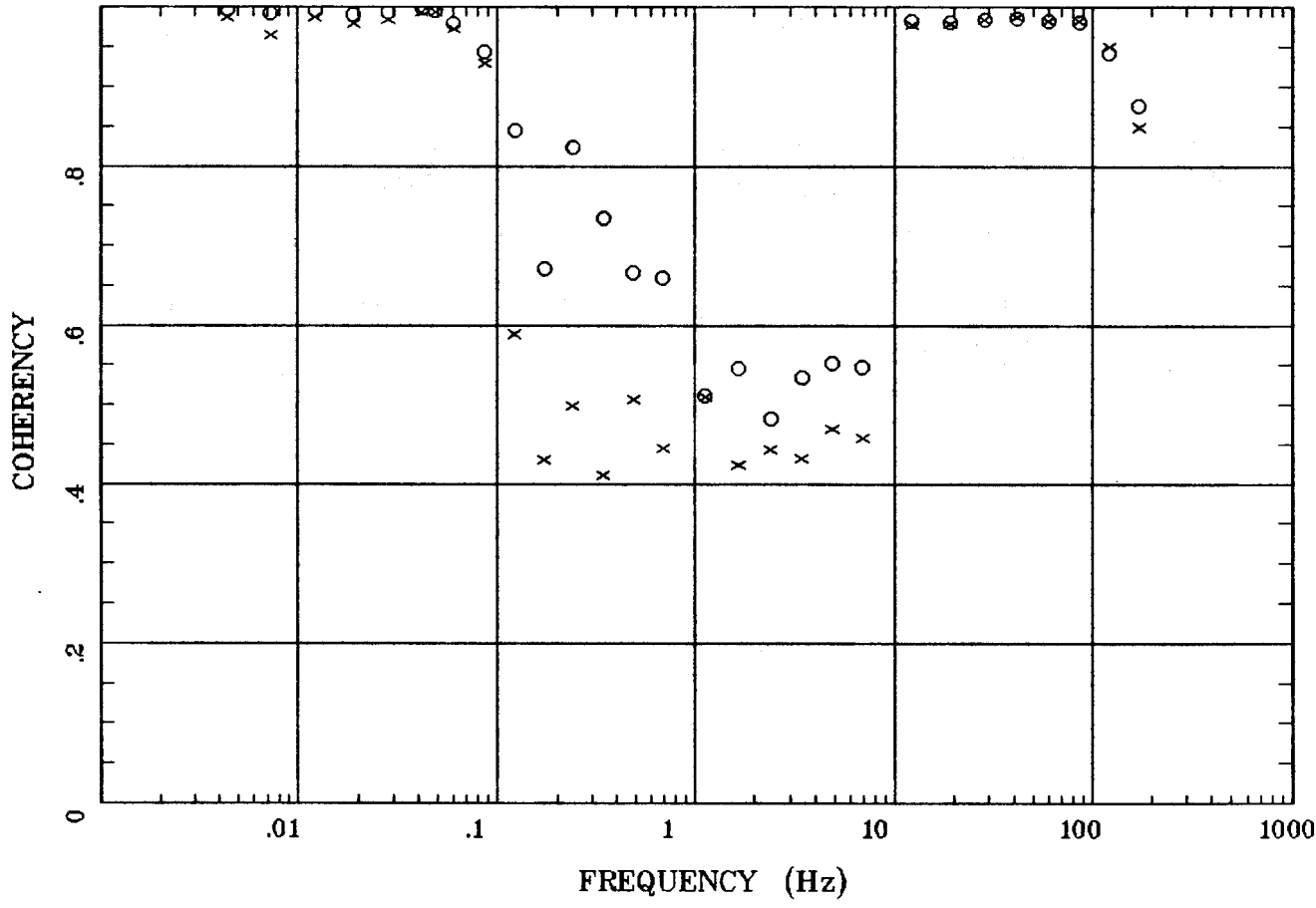
IMPEDANCE SKEW Battle Mtn.



Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

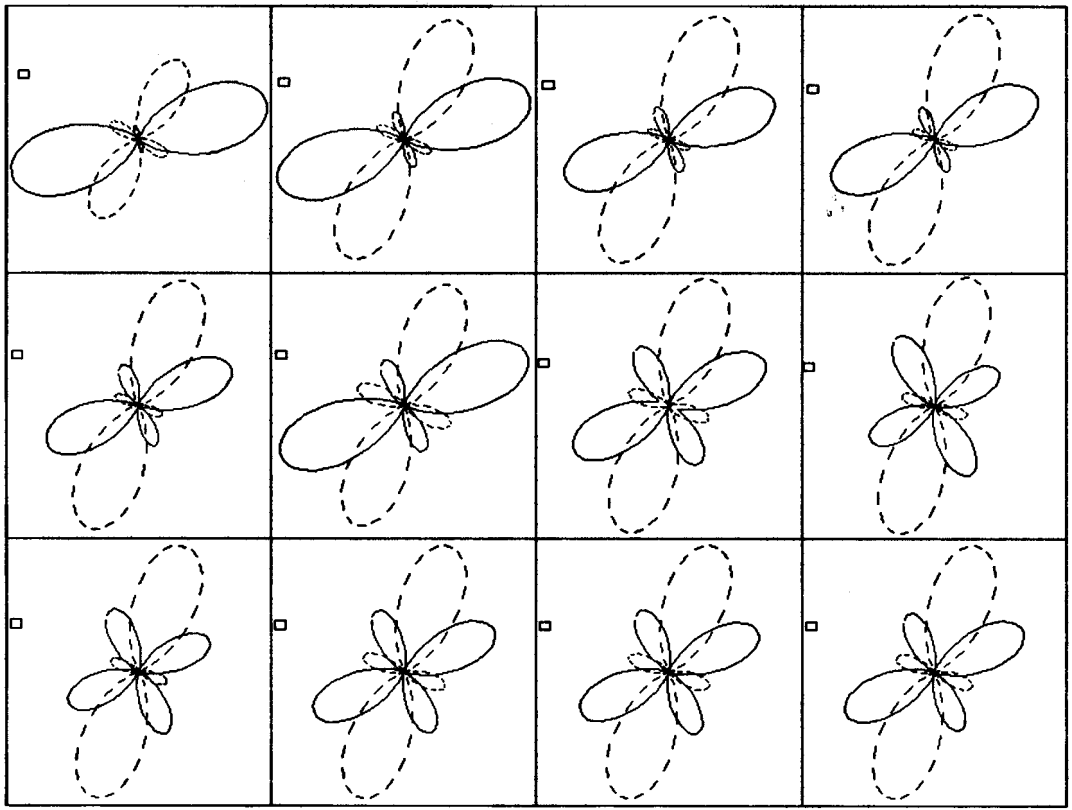
E MULT Coh. Battle Mtn.



Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

POLAR PLOTS Battle Mtn.

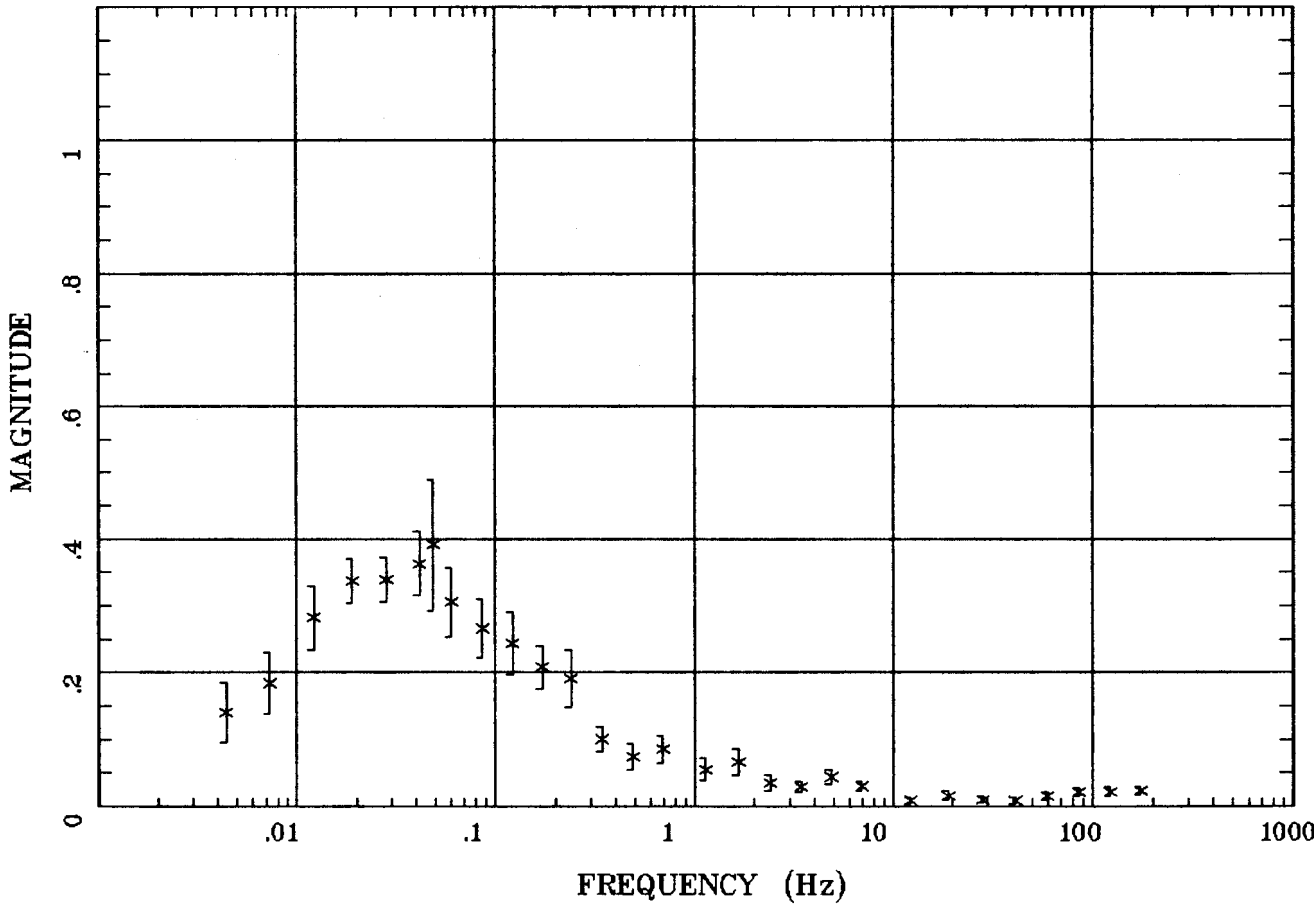


.0044 Hz	.0122 Hz	.0283 Hz	.0601 Hz
.122 Hz	.344 Hz	.689 Hz	1.660 Hz
4.883 Hz	12.207 Hz	41.504 Hz	85.938 Hz

Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

TIPPER MAGNITUDE Battle Mtn.

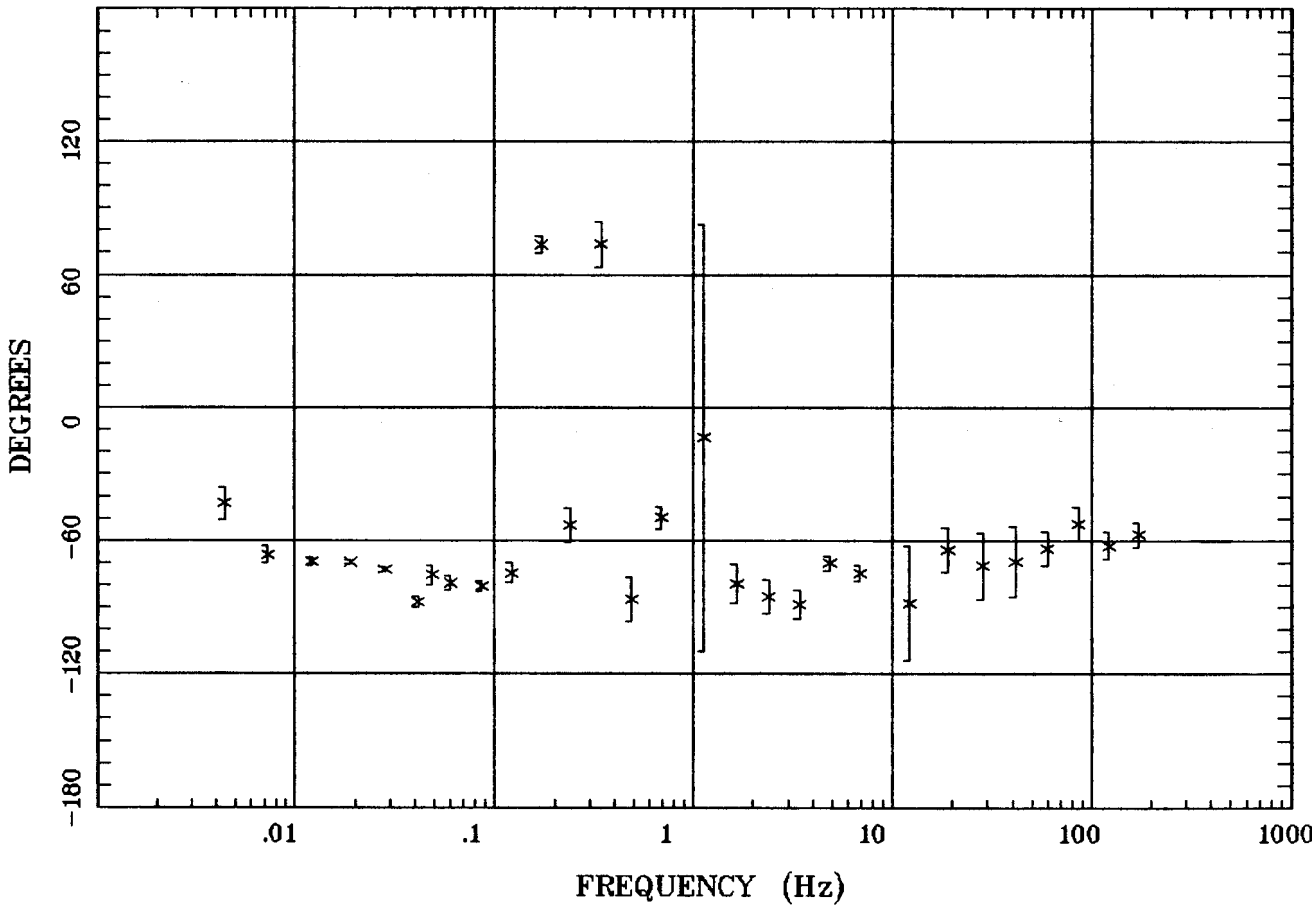


Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

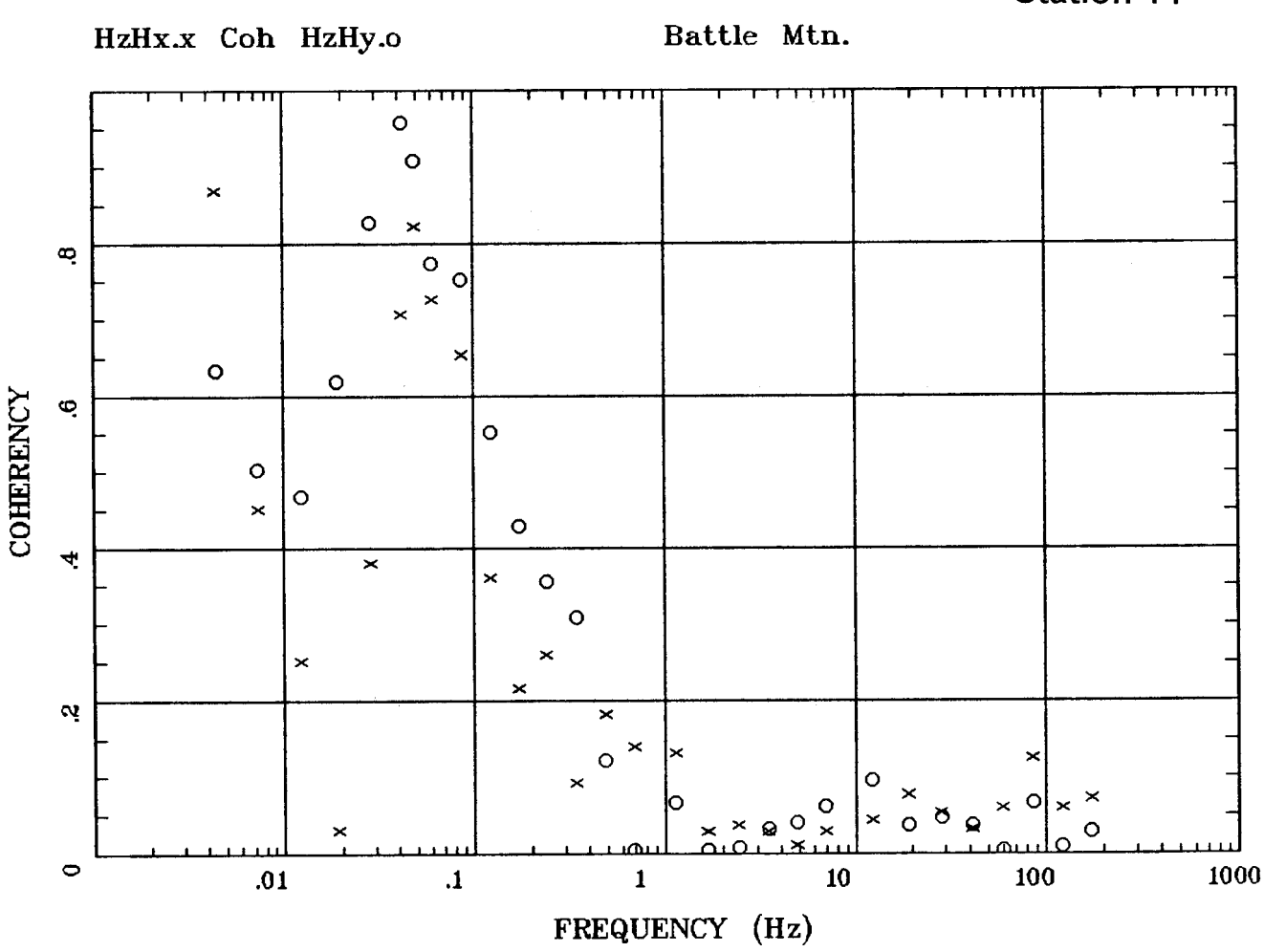
TIPPER STRIKE

Battle Mtn.



Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

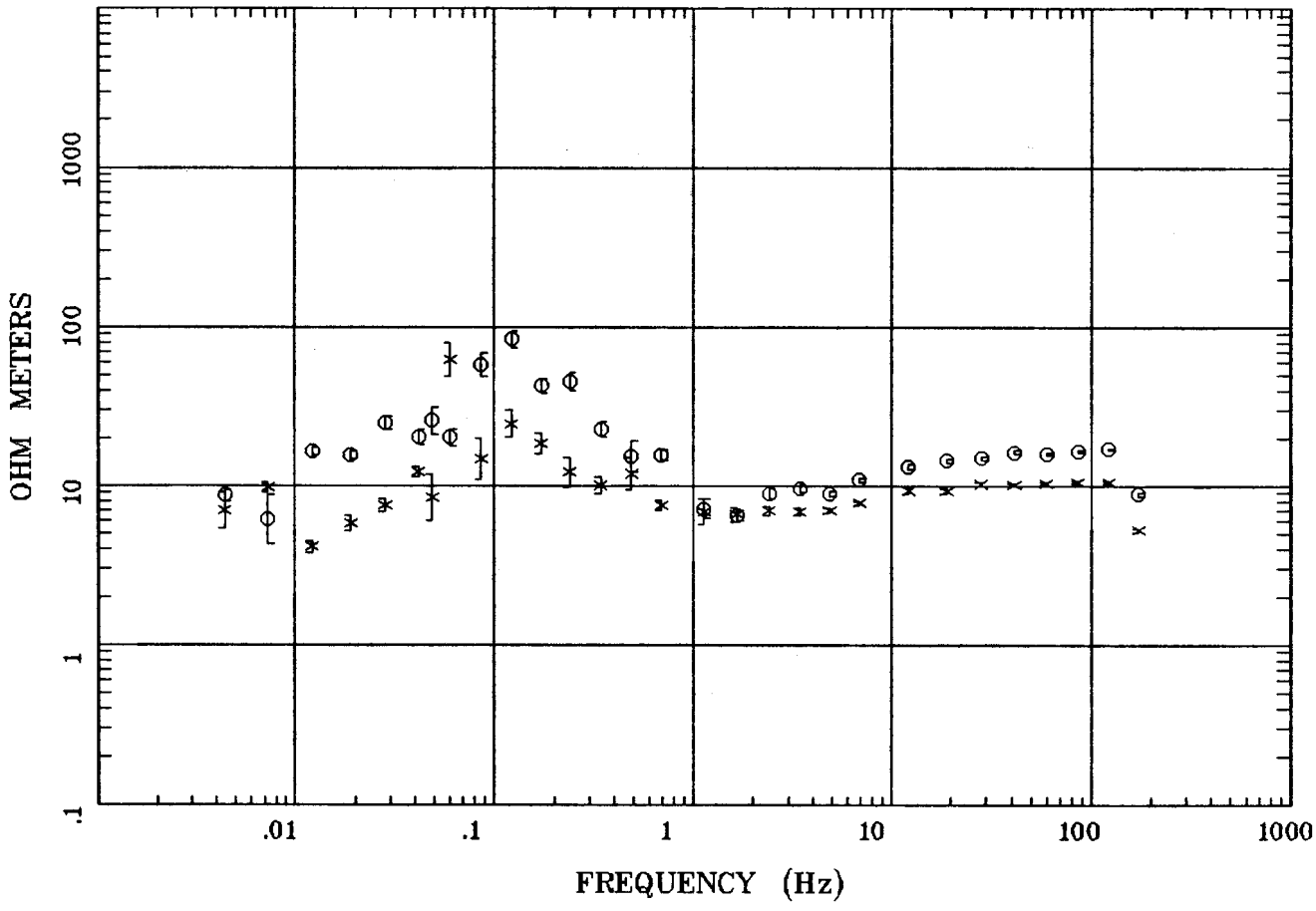
Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 10:0 Jul 17, 1997
Survey Co:

Rotation:
Filename: nn14.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:27 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

APPARENT RESISTIVITY ...Battle Mtn...

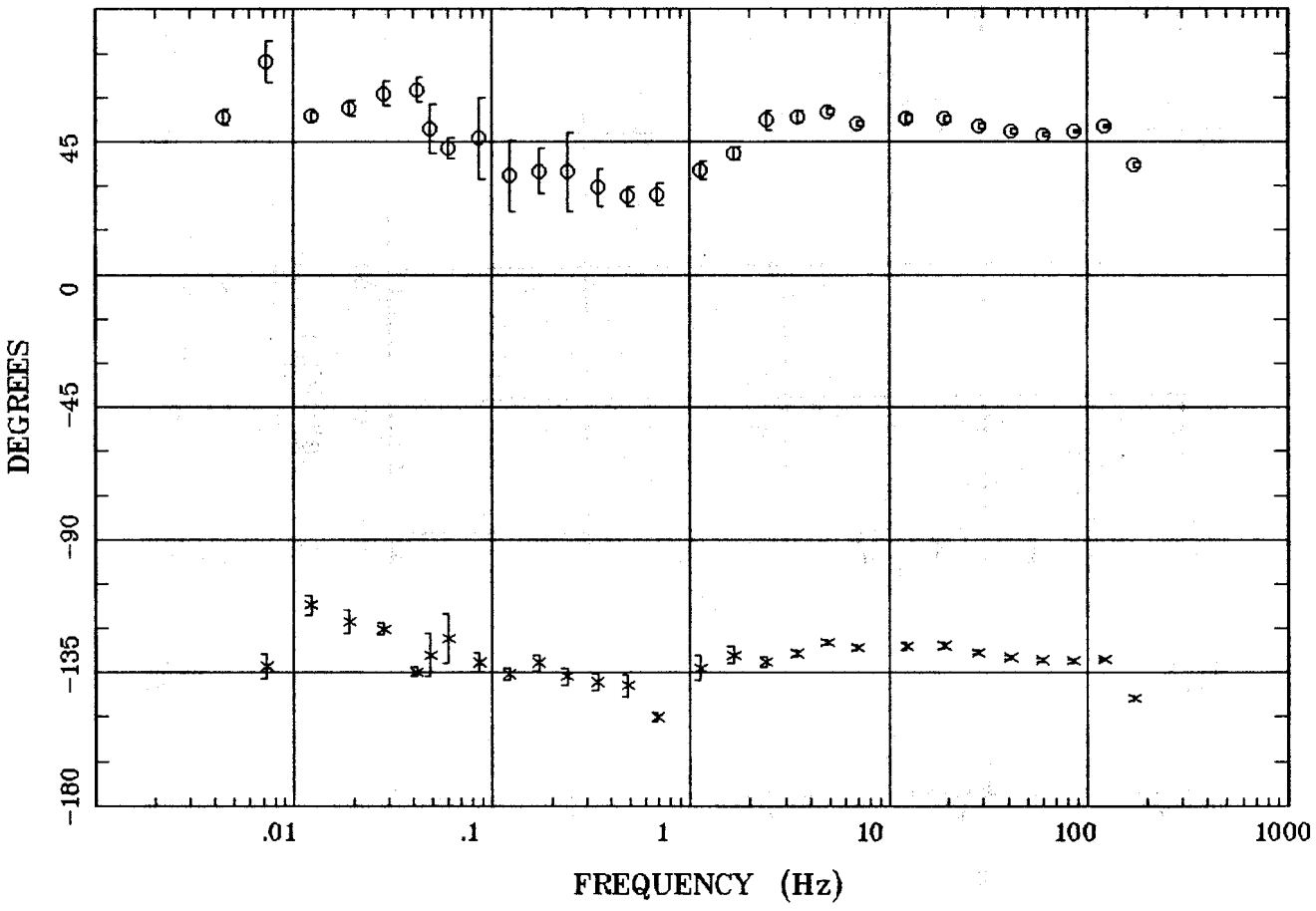


Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:28 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 15

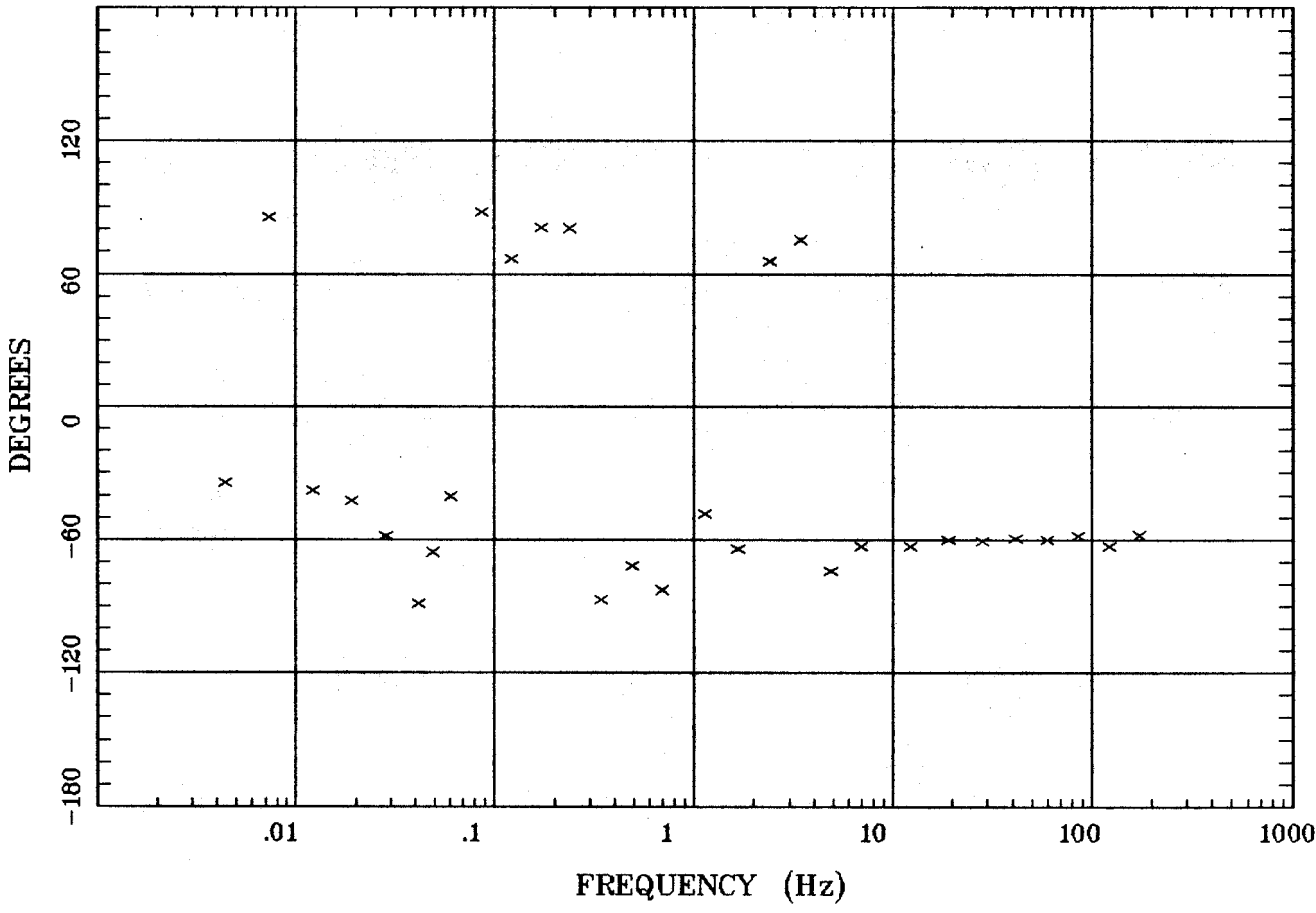
IMPEDANCE PHASE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

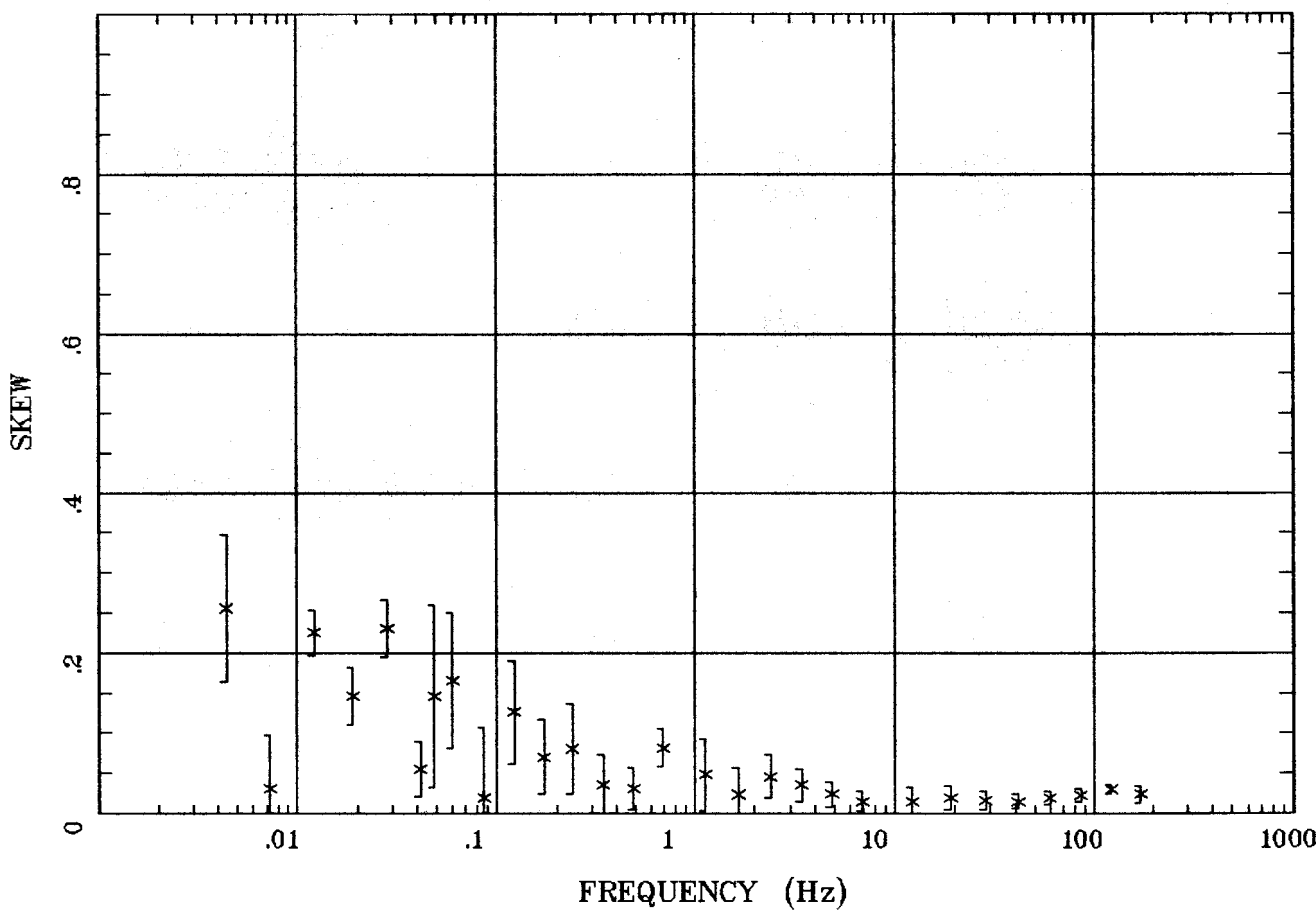
ROTATION ANGLE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

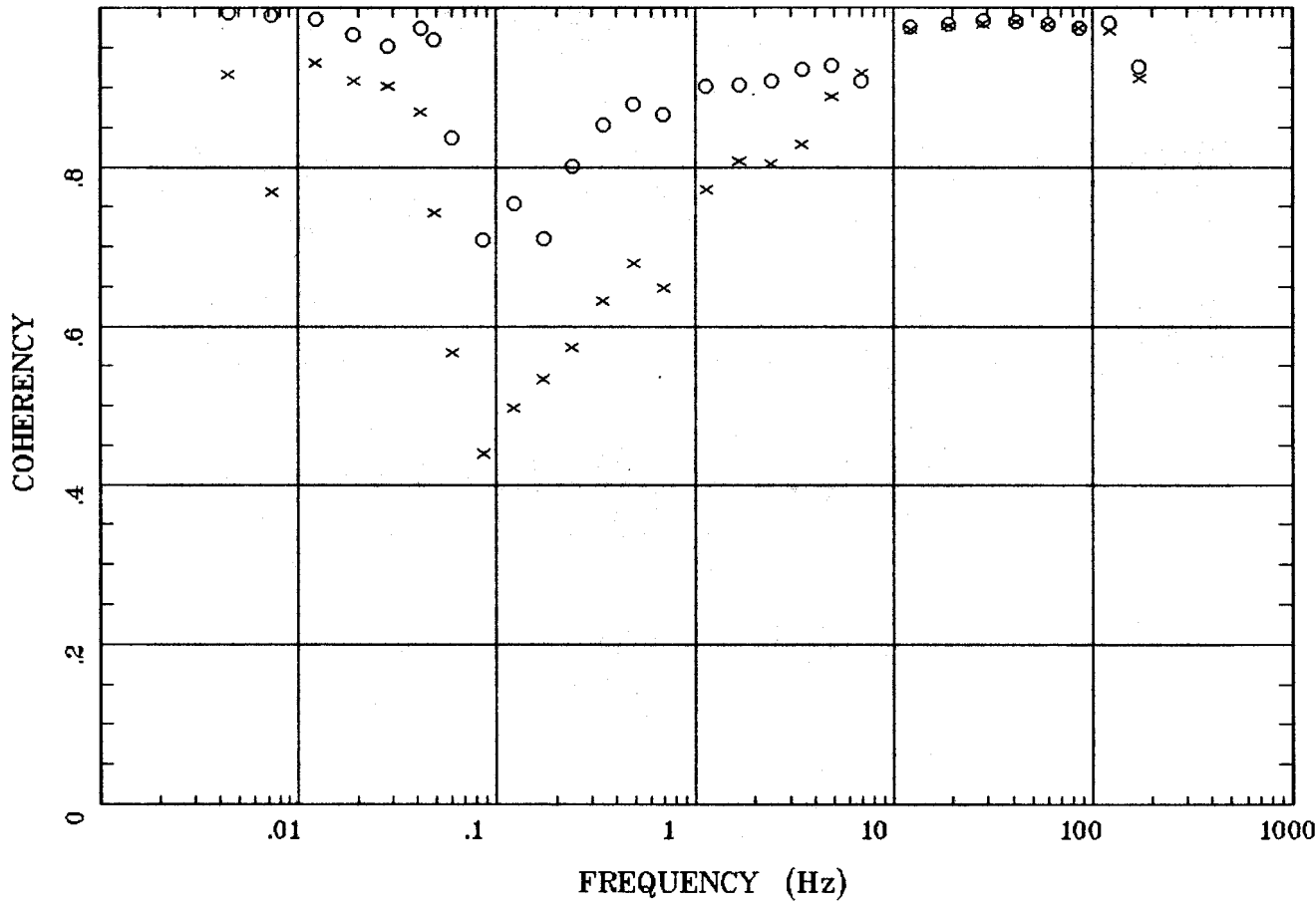
IMPEDANCE SKEW ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

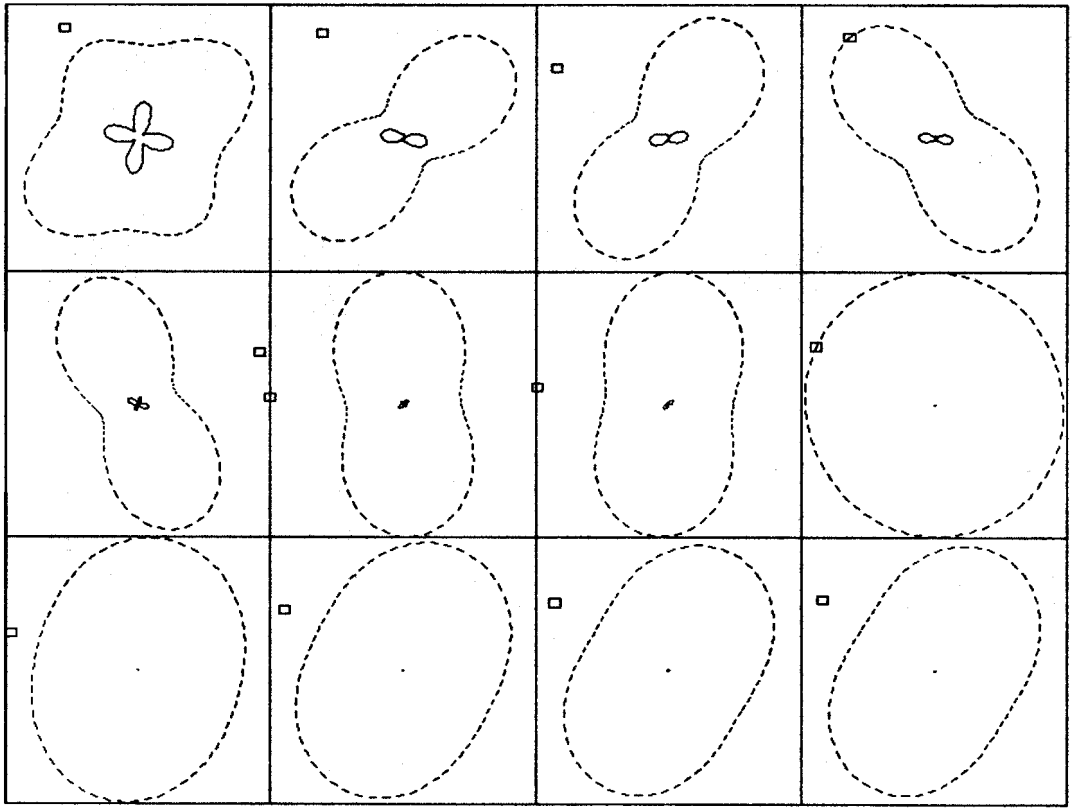
E MULT Coh. ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS ...Battle Mtn...

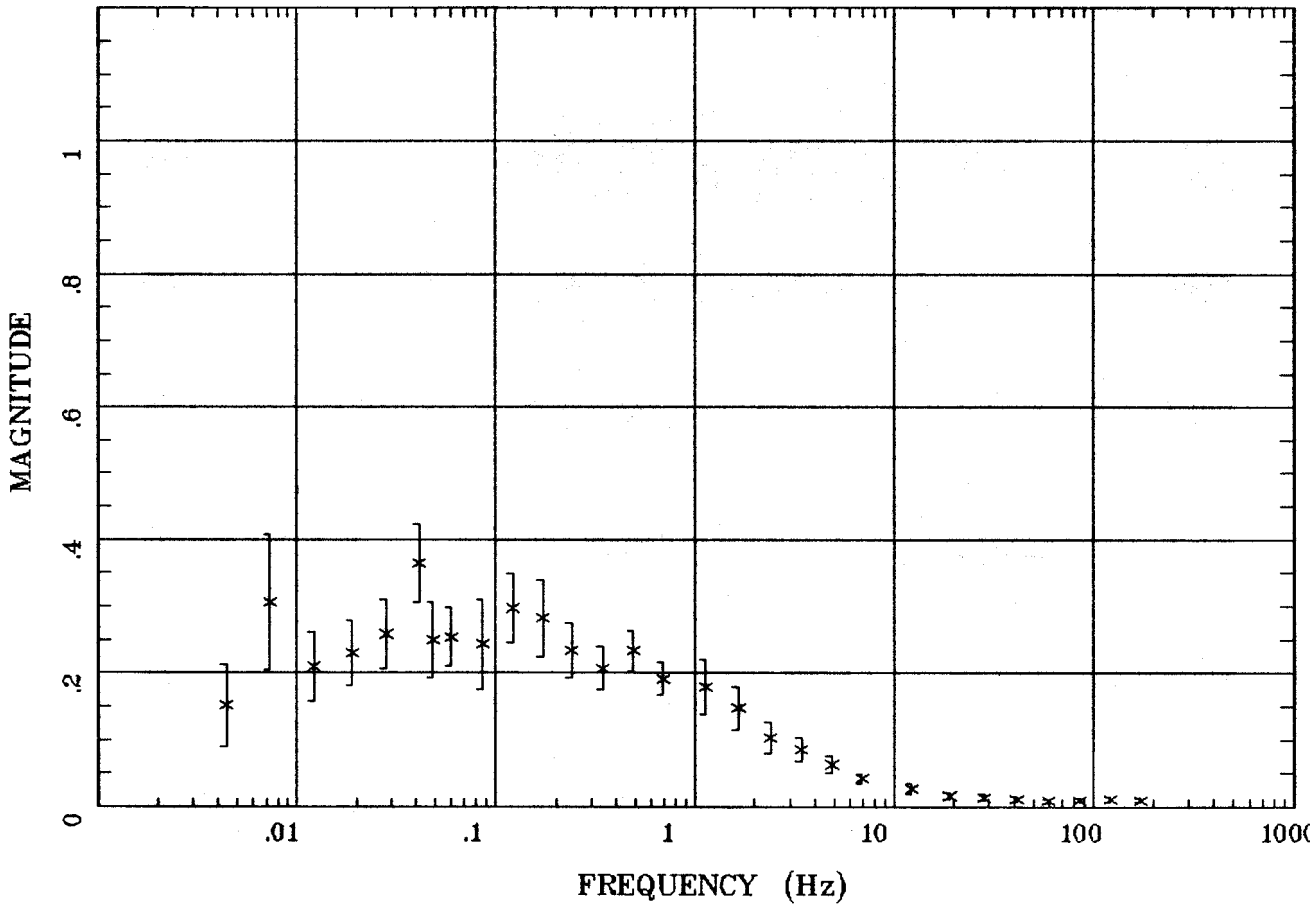


.0044 Hz	.0122 Hz	.0283 Hz	.0601 Hz
.122 Hz	.344 Hz	.689 Hz	1.660 Hz
4.883 Hz	12.207 Hz	41.504 Hz	85.938 Hz

Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

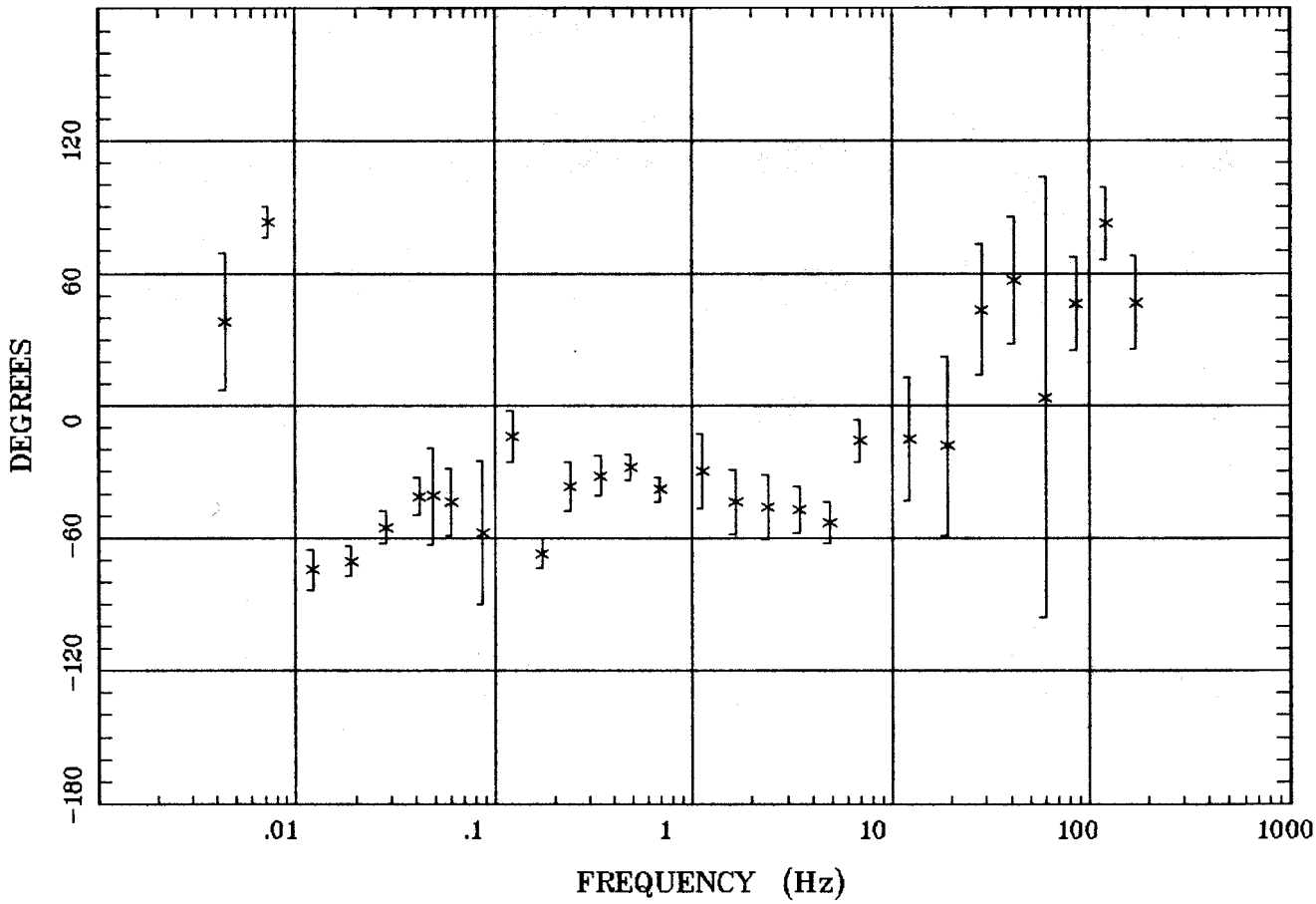
TIPPER MAGNITUDE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

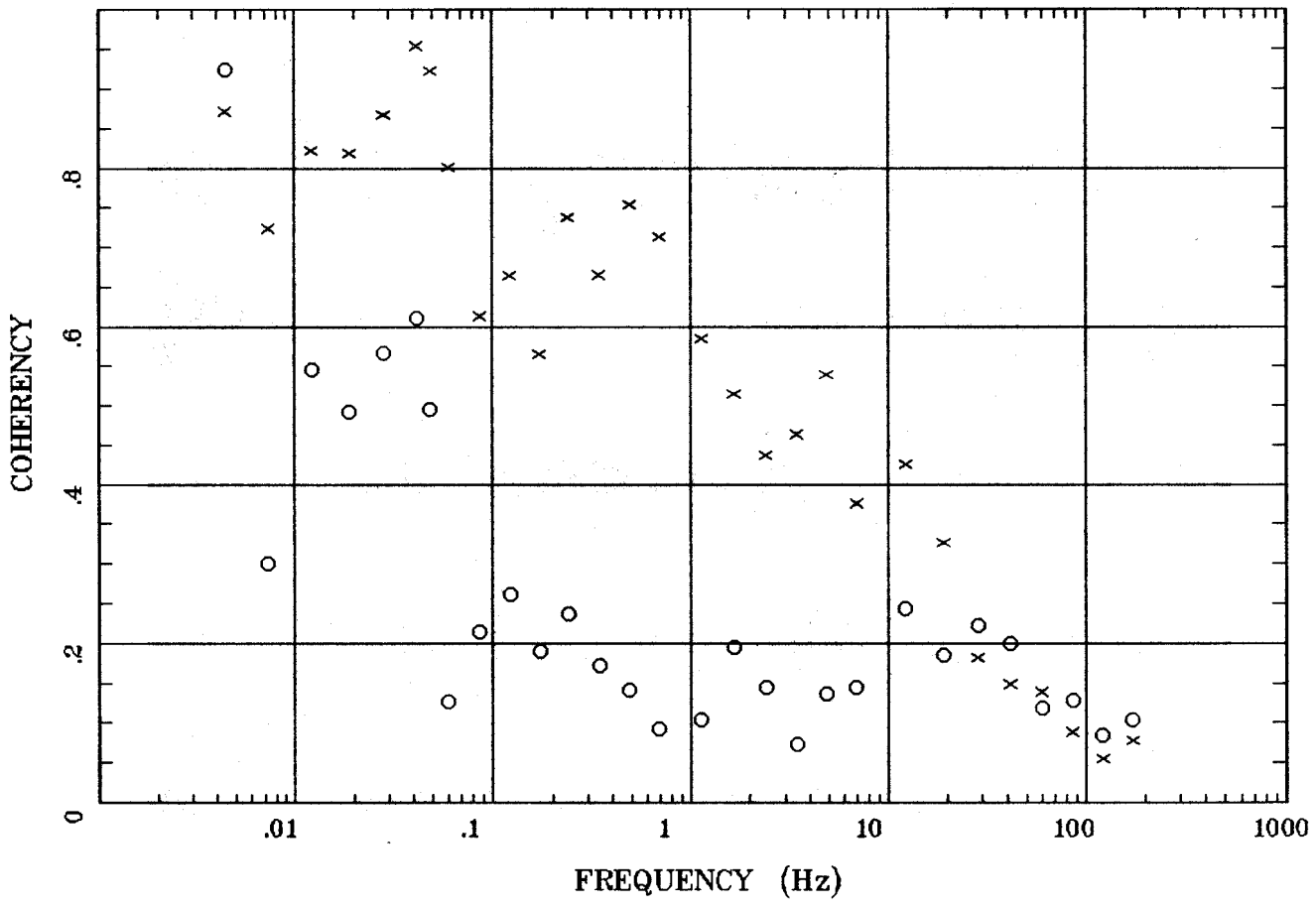
Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

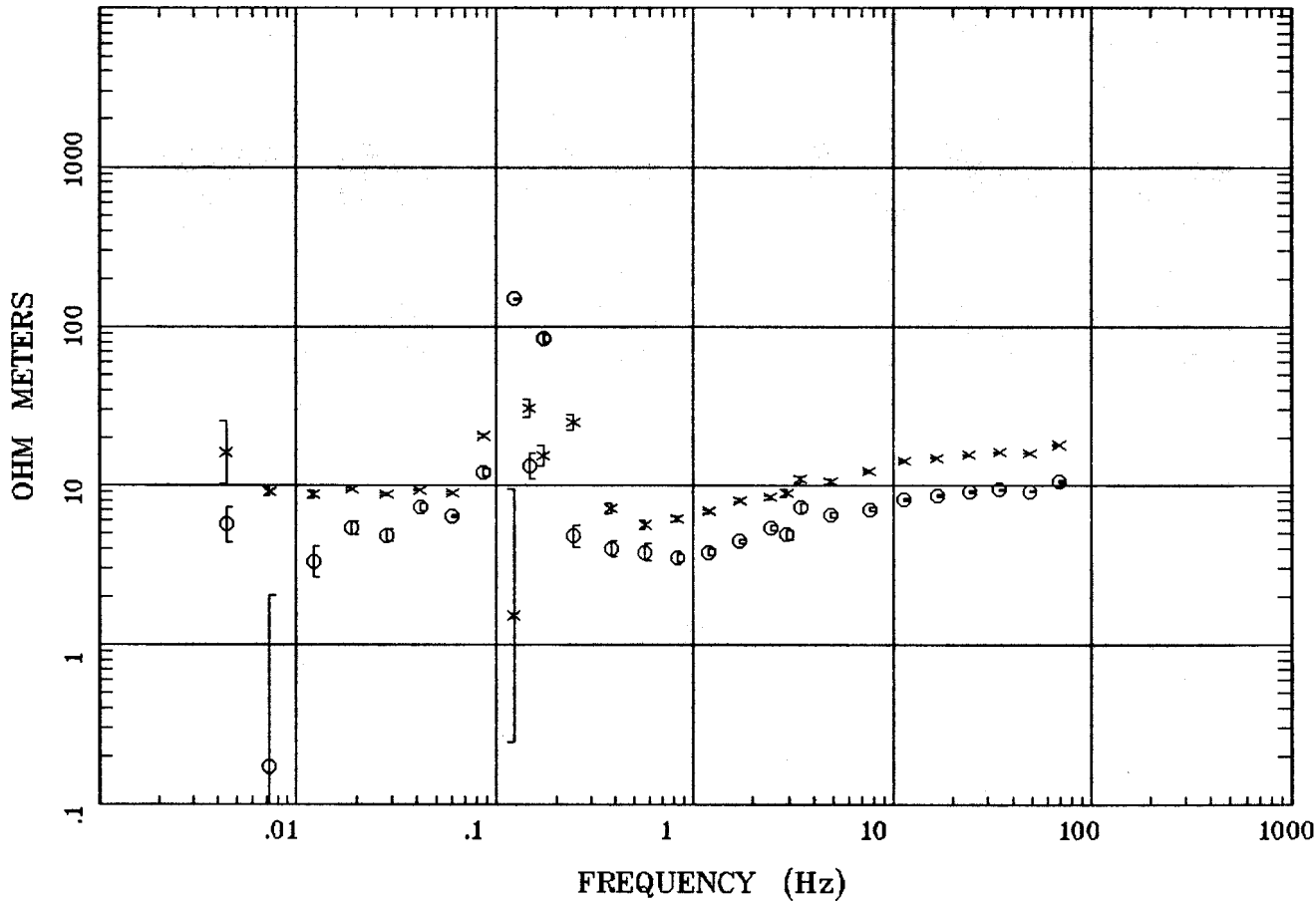
Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 09:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn15c.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:29 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

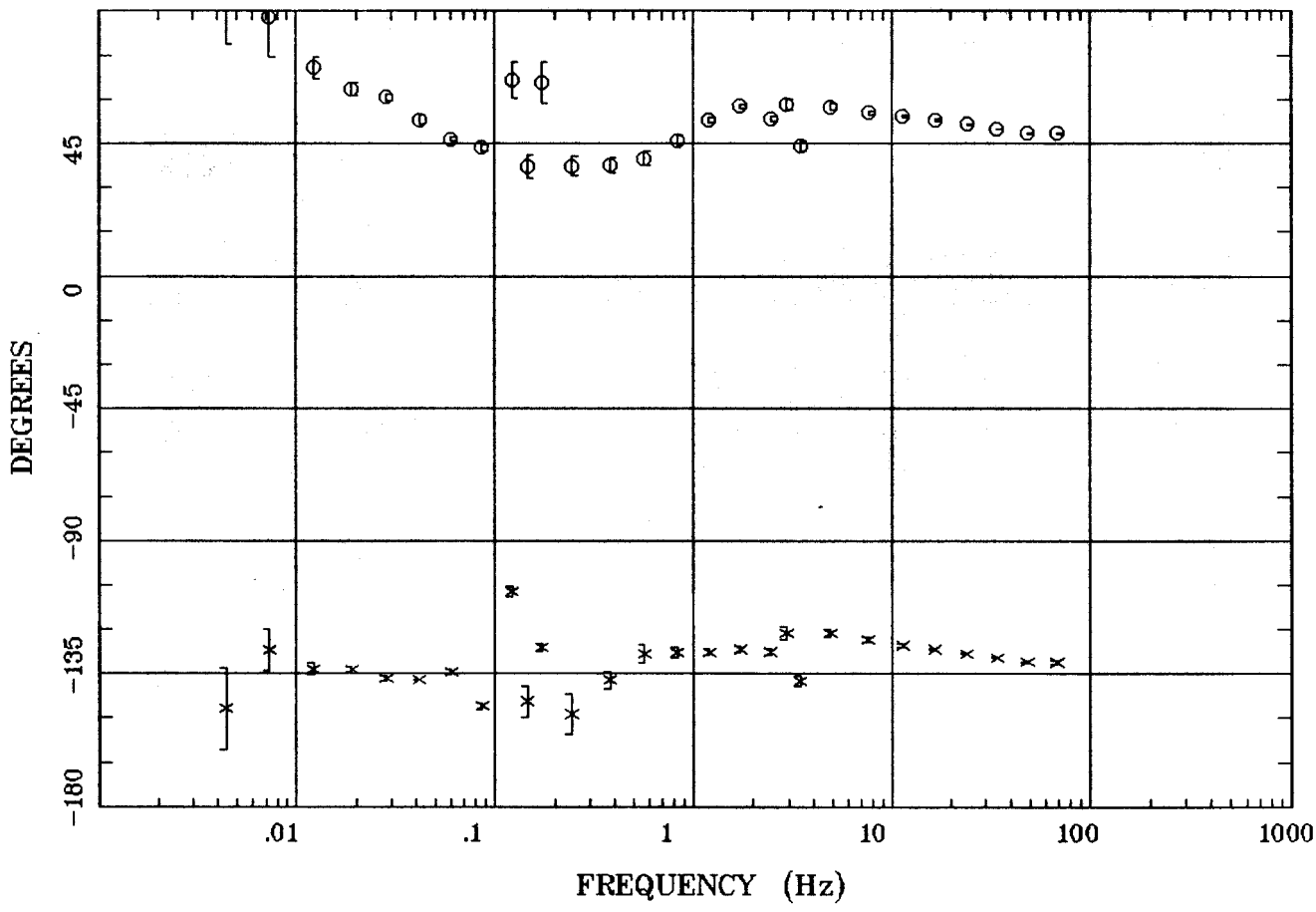
APPARENT RESISTIVITY Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

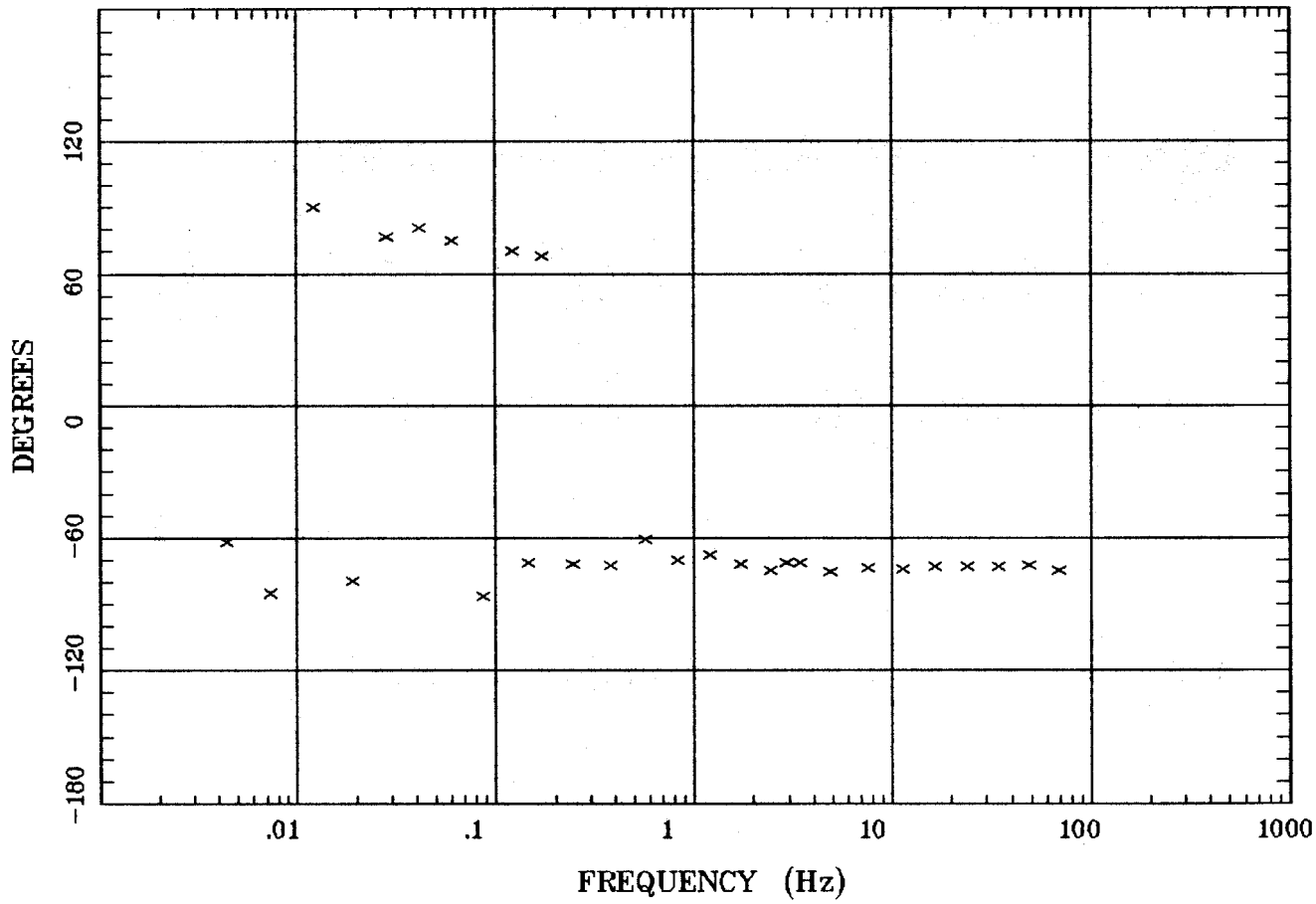
IMPEDANCE PHASE Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE Battle Mtn.

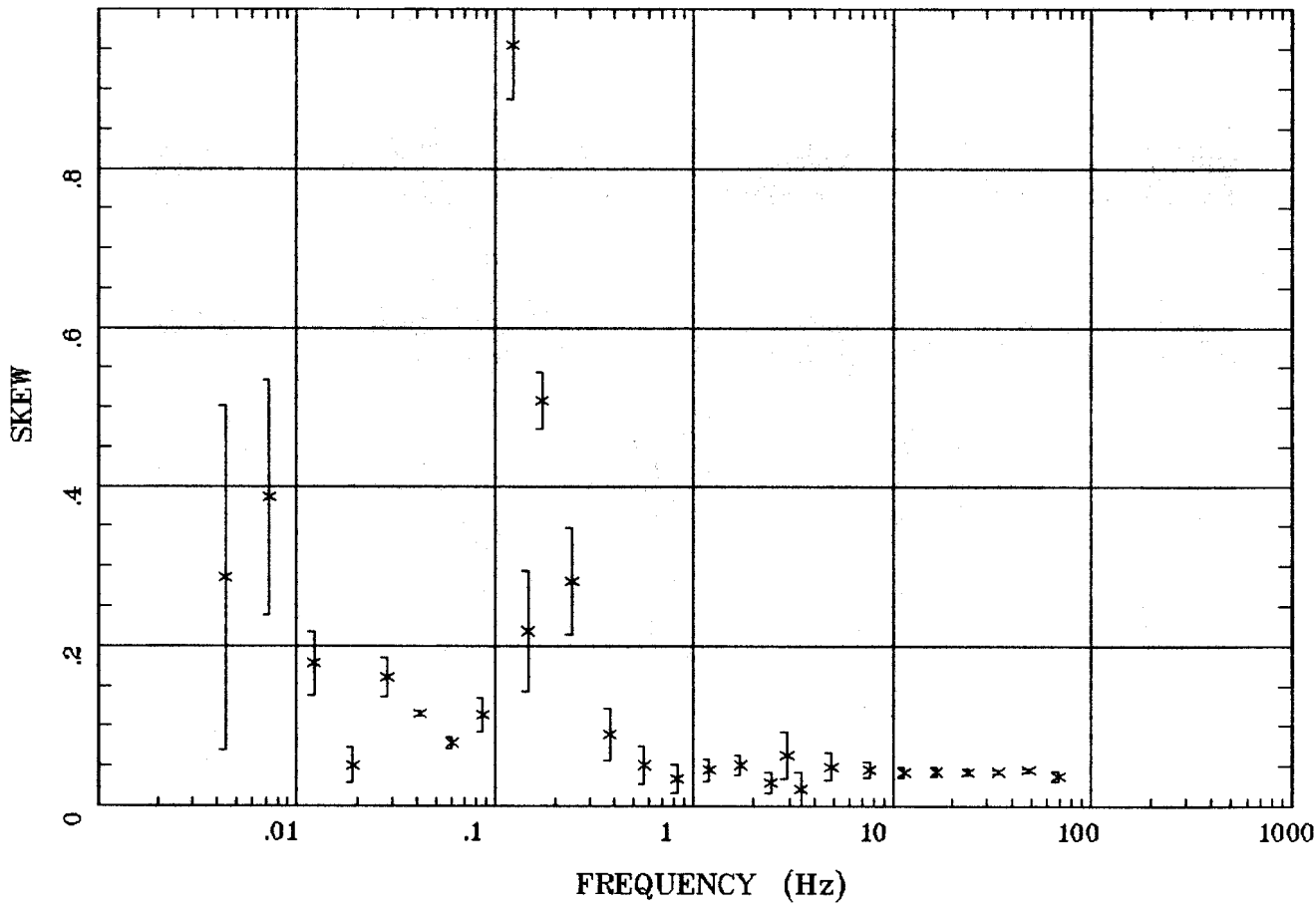


Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

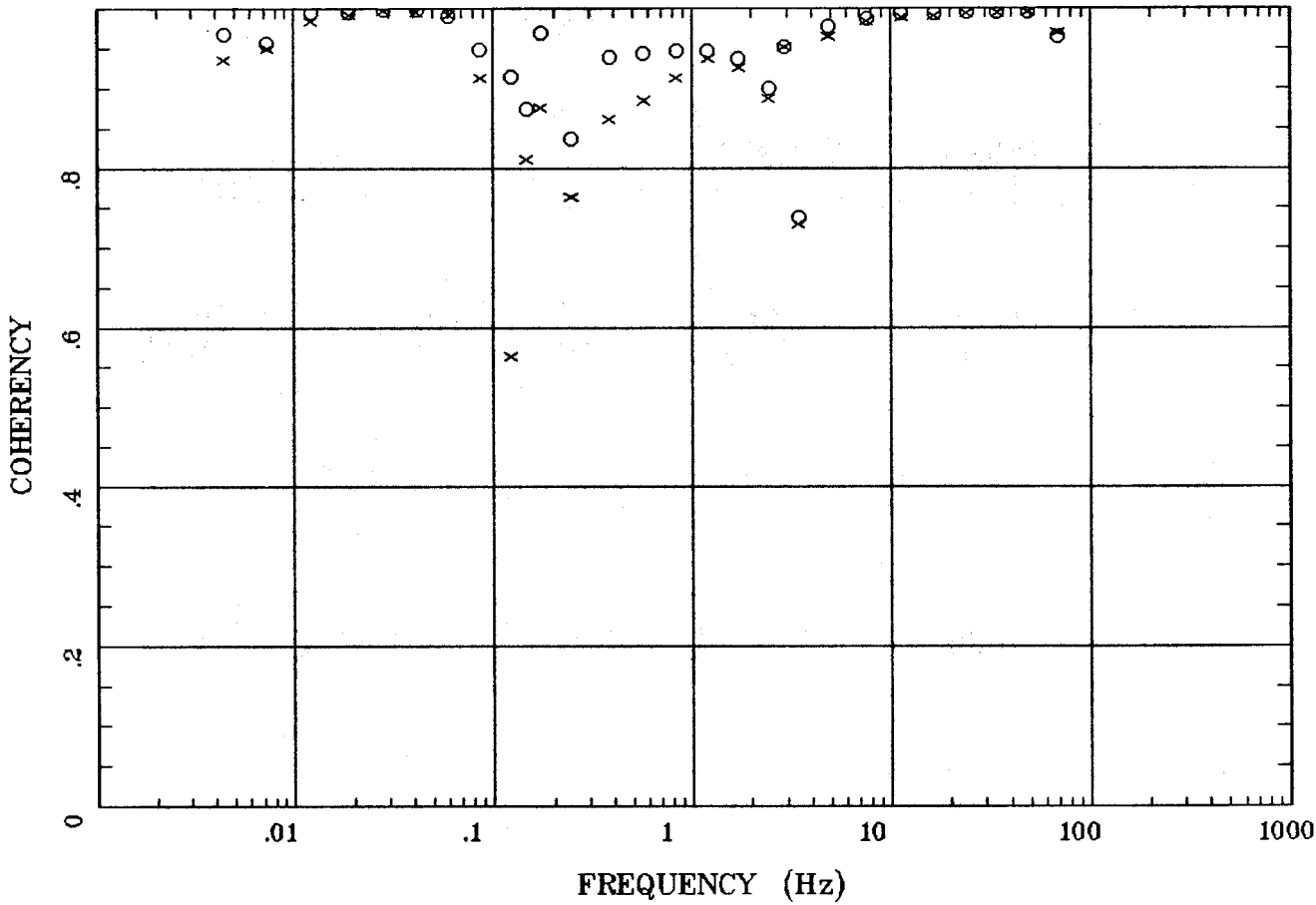
Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

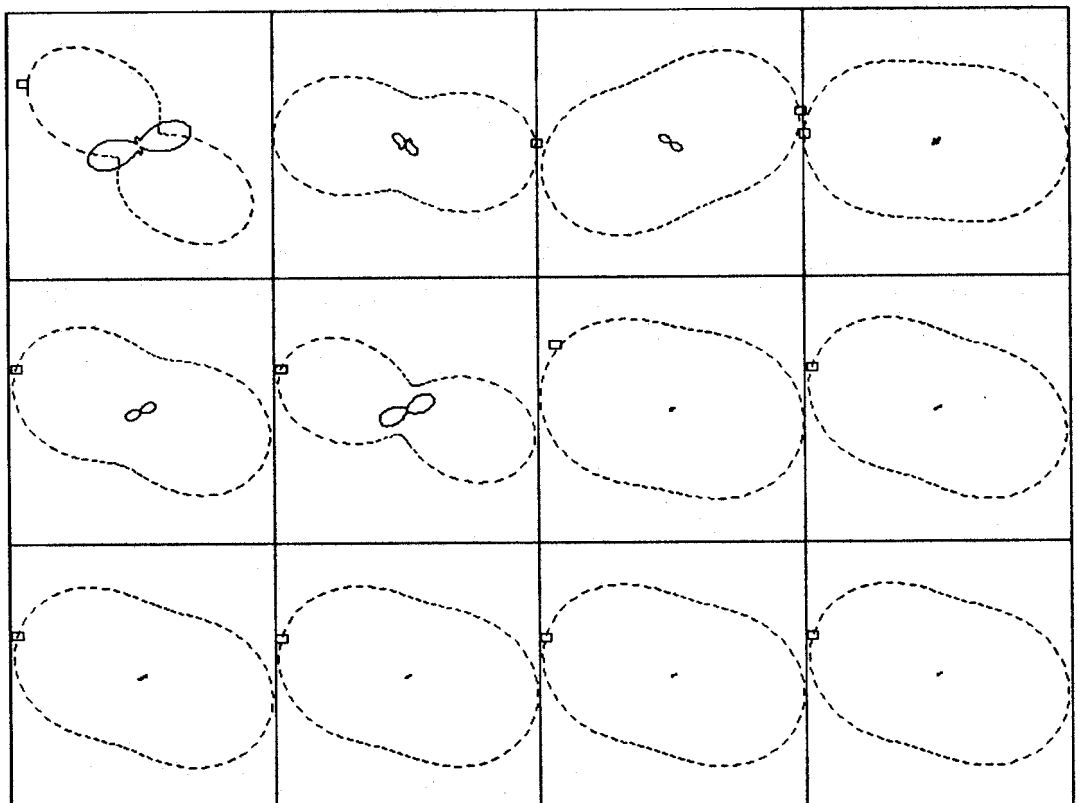
E MULT Coh. Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS Battle Mtn.

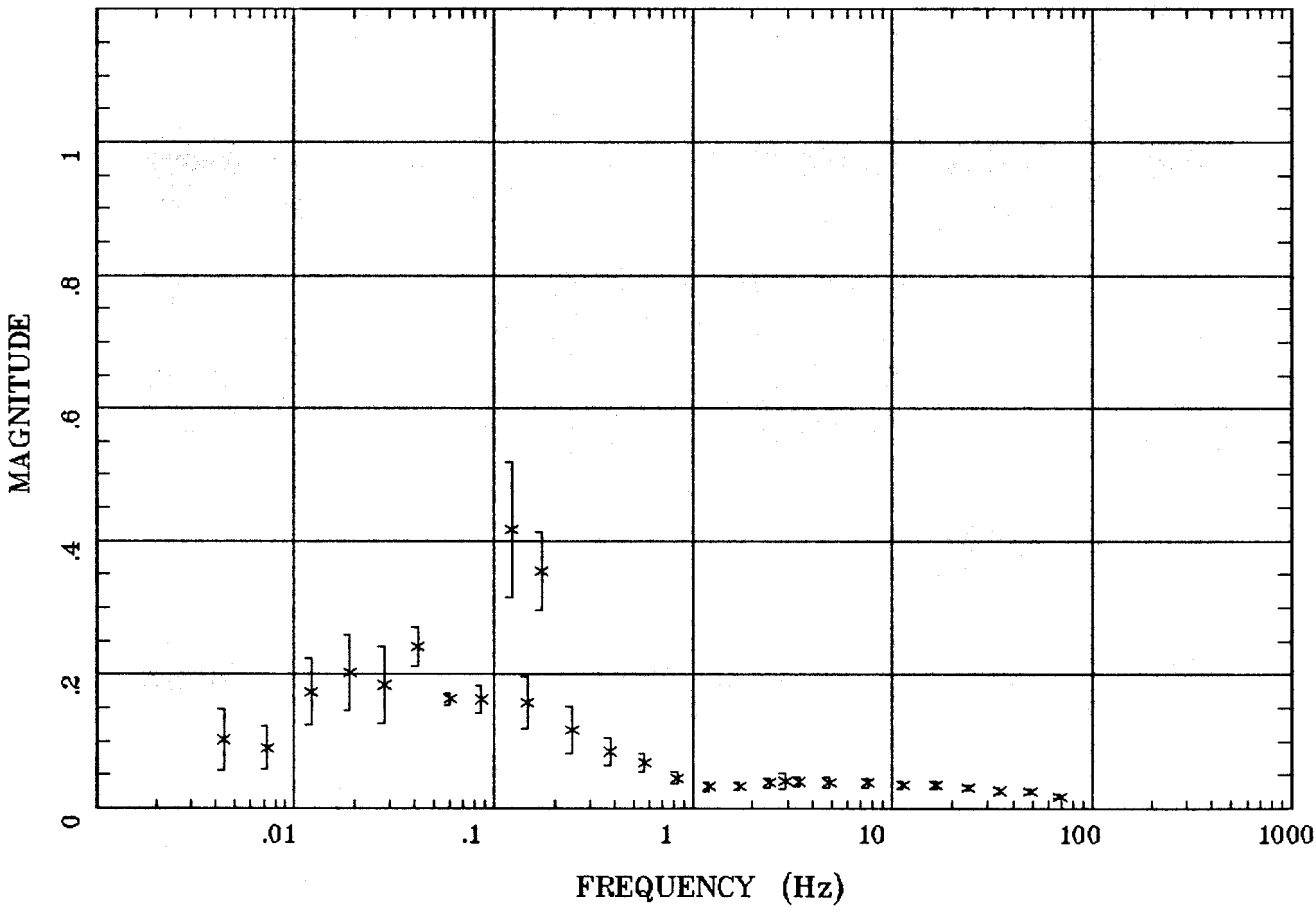


.0044 Hz	.0122 Hz	.0283 Hz	.0859 Hz
.147 Hz	.244 Hz	.566 Hz	1.719 Hz
2.930 Hz	7.617 Hz	16.602 Hz	34.375 Hz

Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE Battle Mtn.

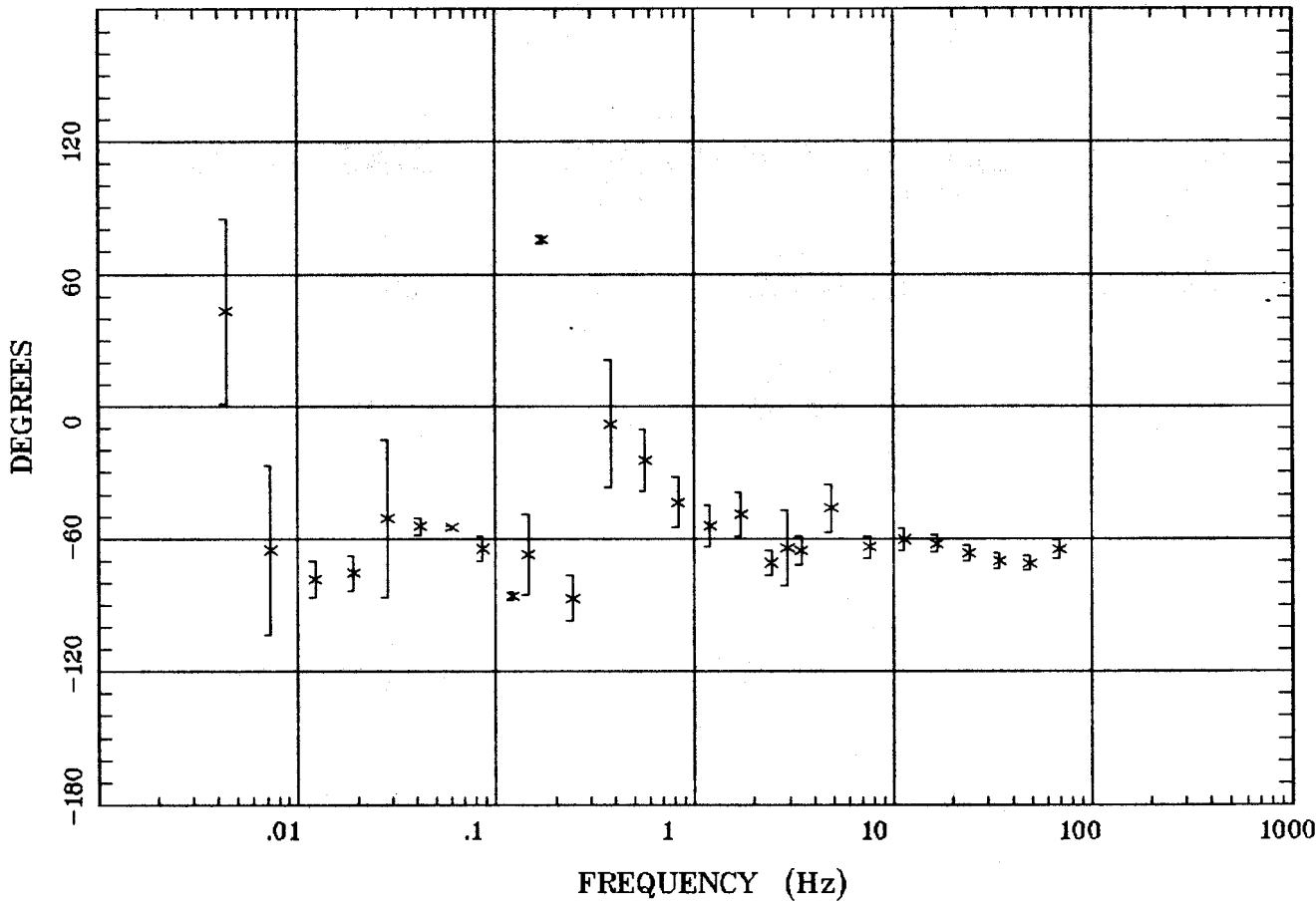


Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE

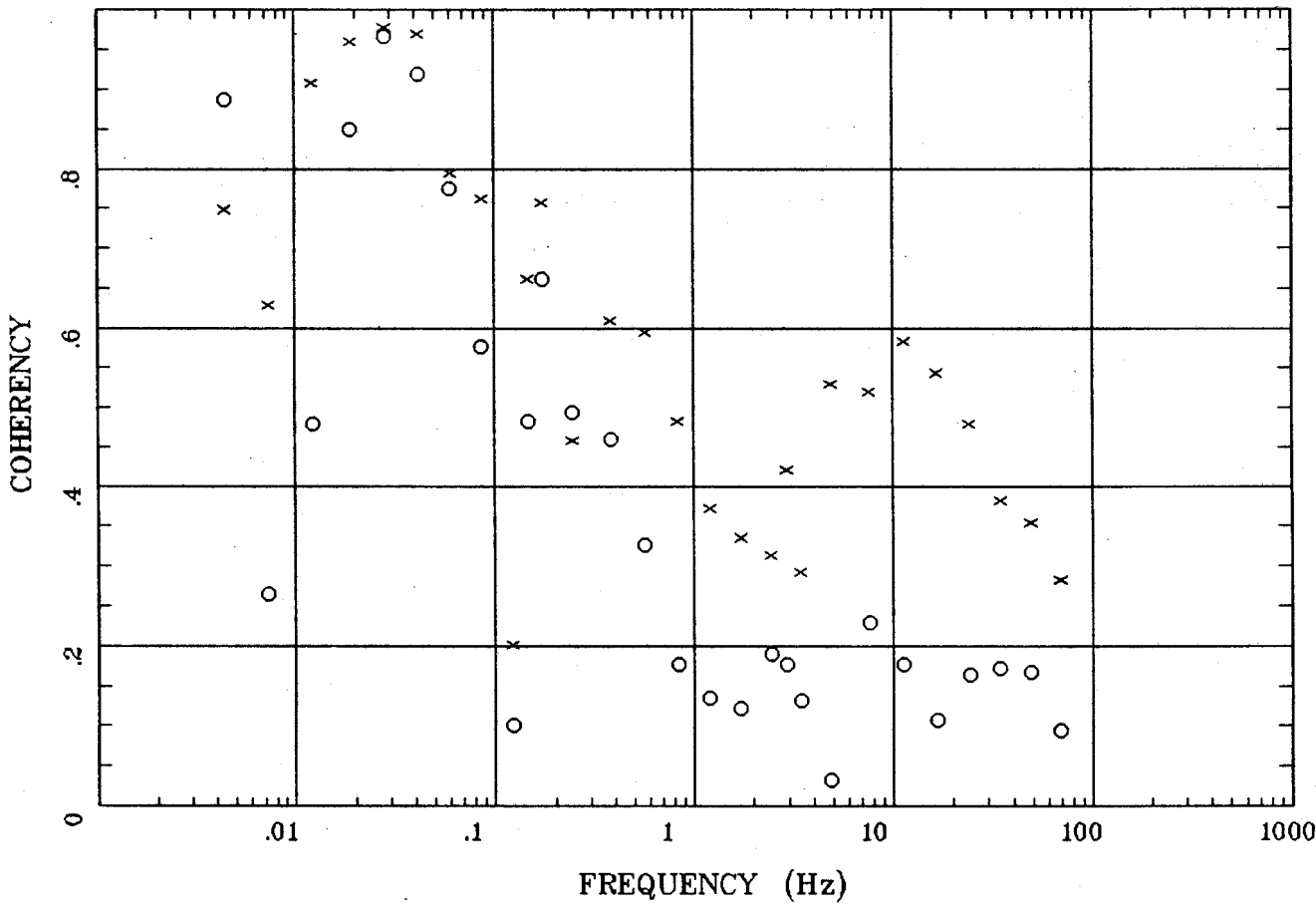
Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

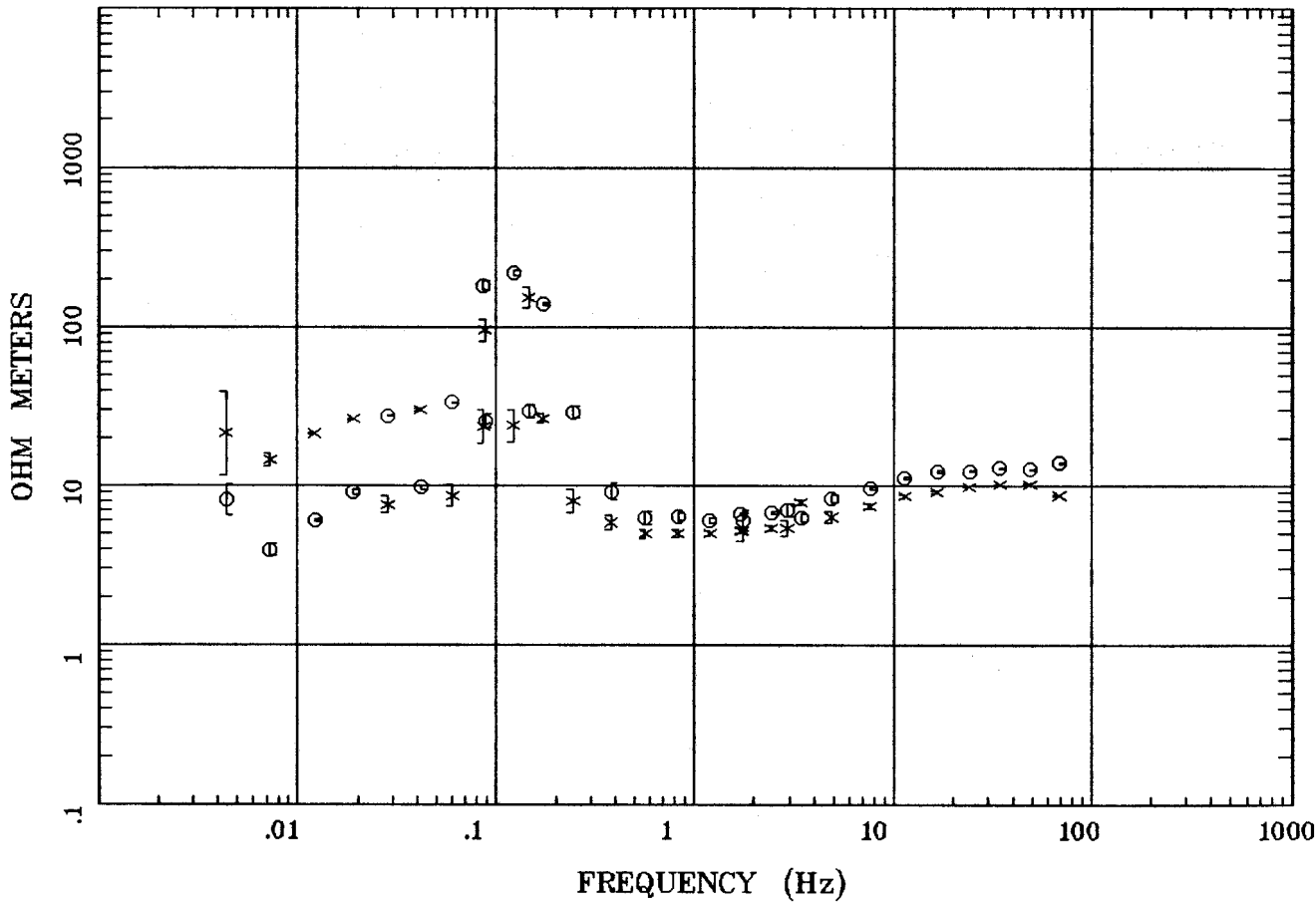
HzHx.x Coh HzHy.o Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 15:2 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn16.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:30 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

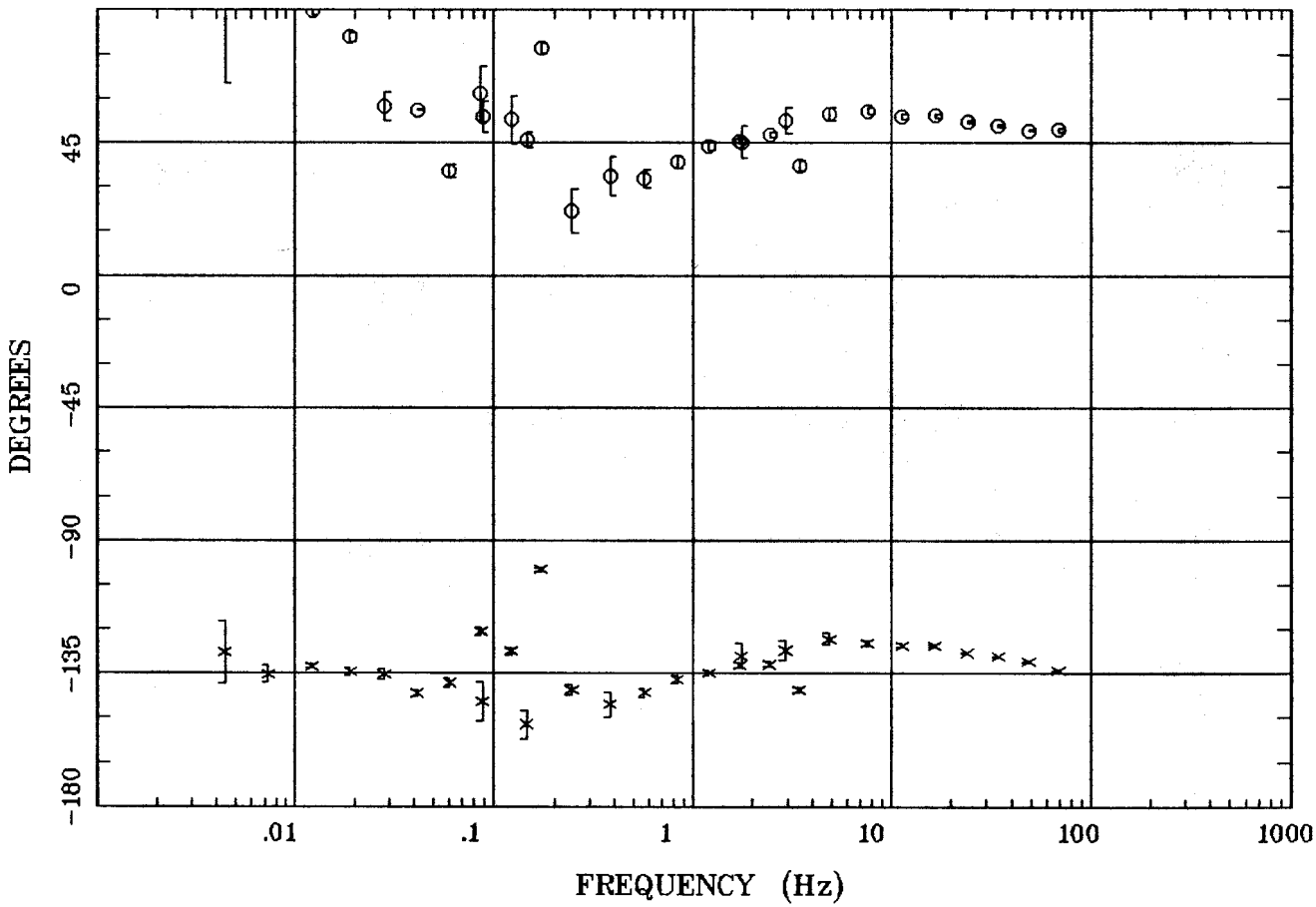
APPARENT RESISTIVITY Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE PHASE Battle Mtn.

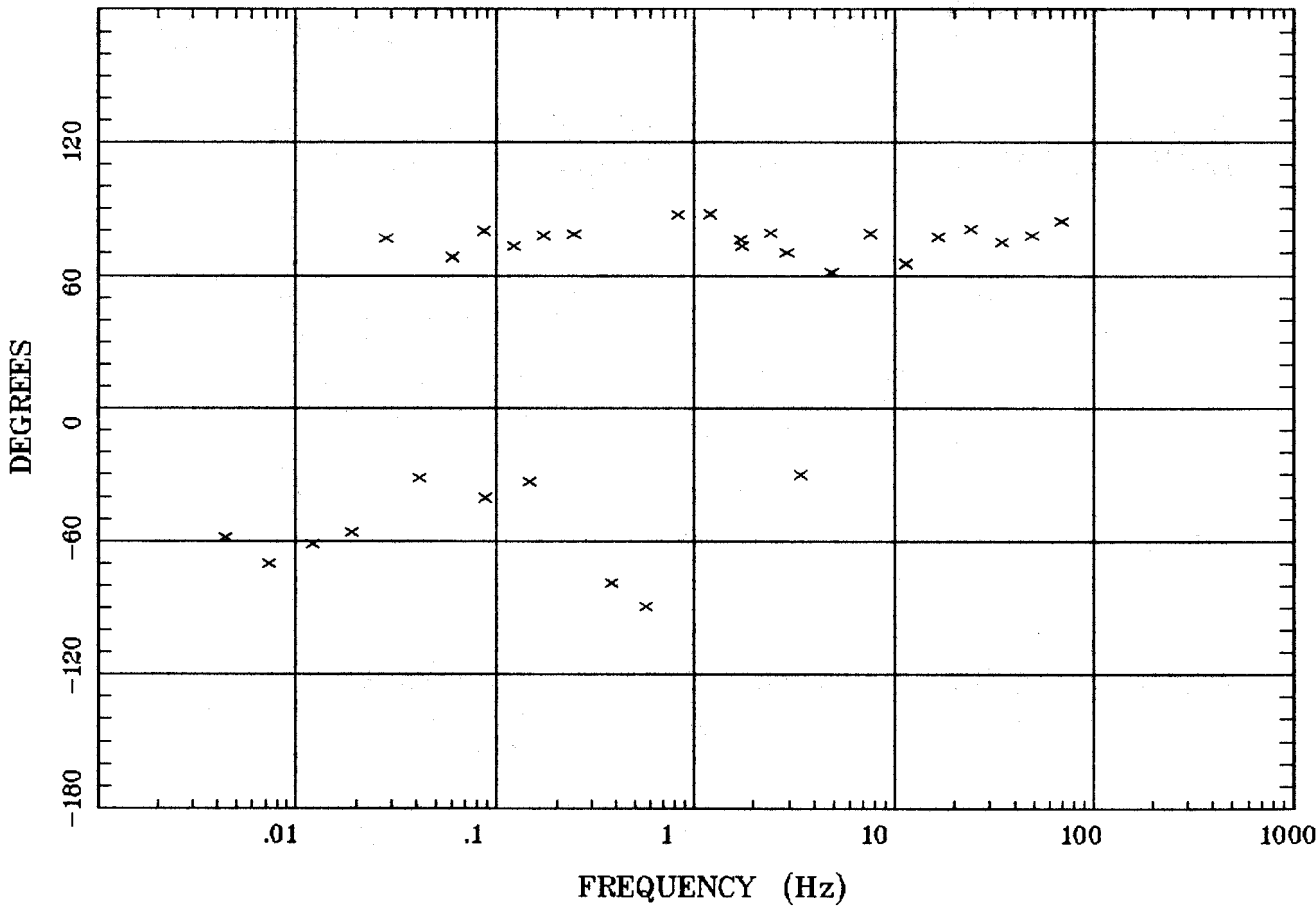


Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE

Battle Mtn.

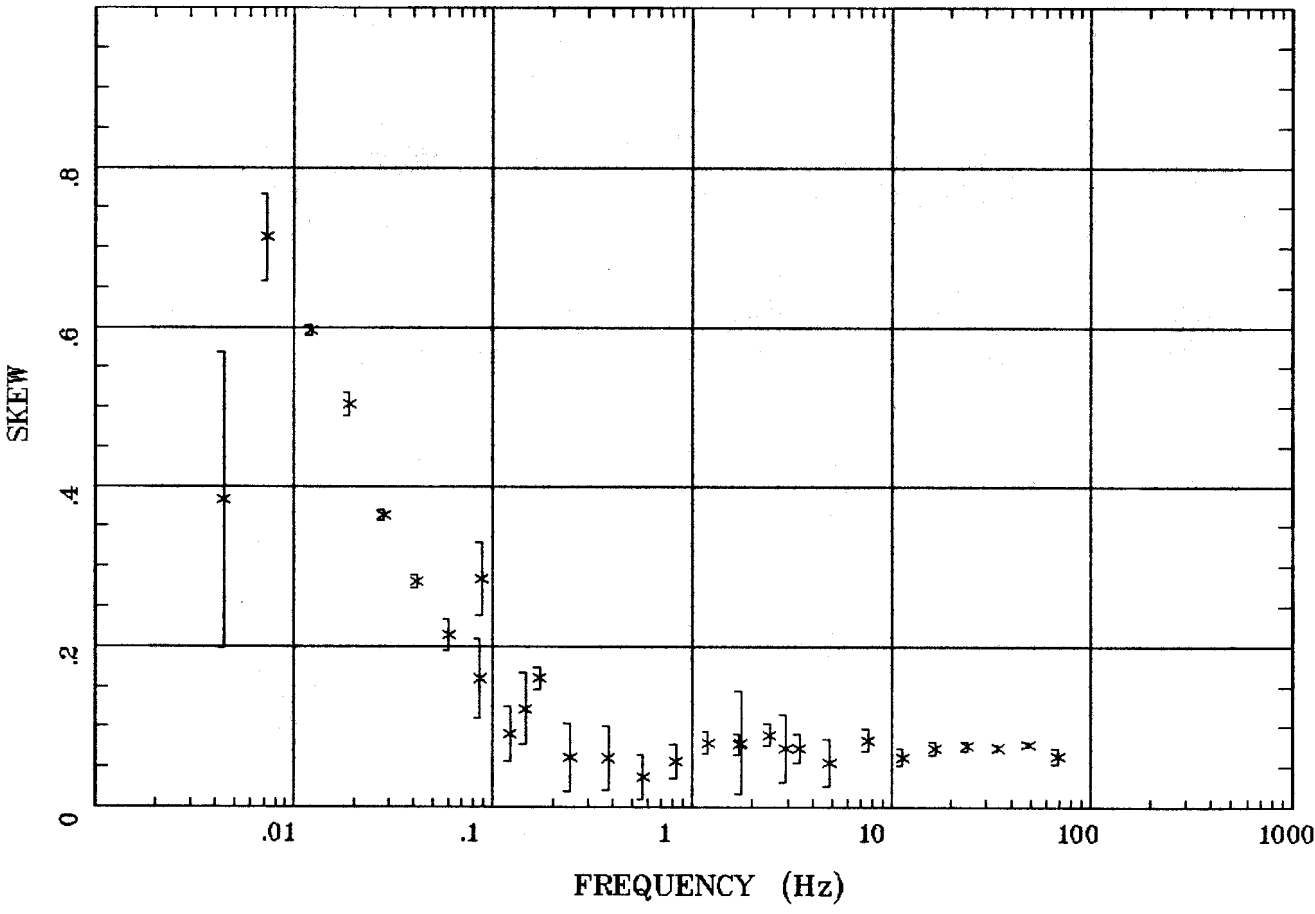


Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

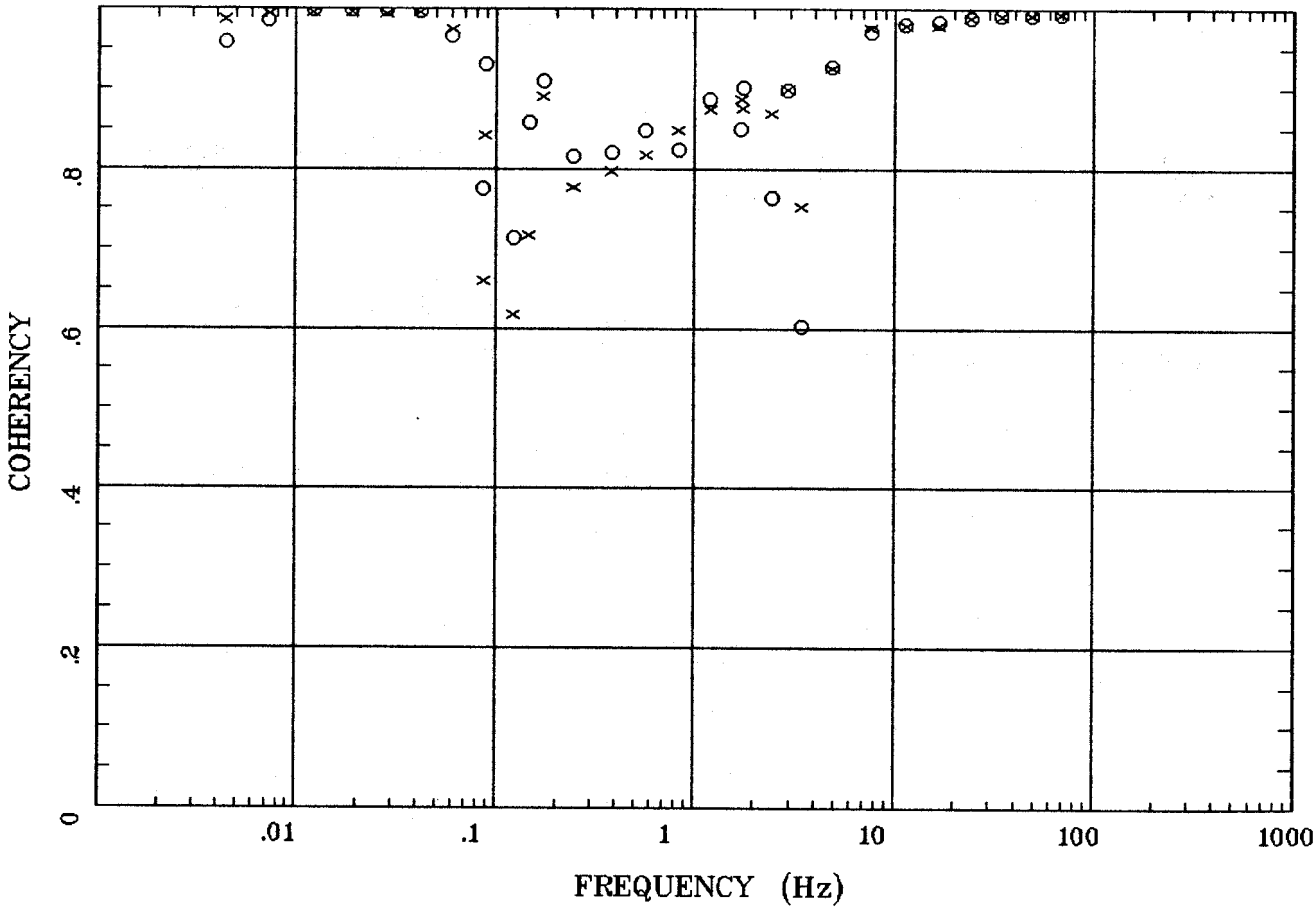
Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

E MULT Coh. Battle Mtn.

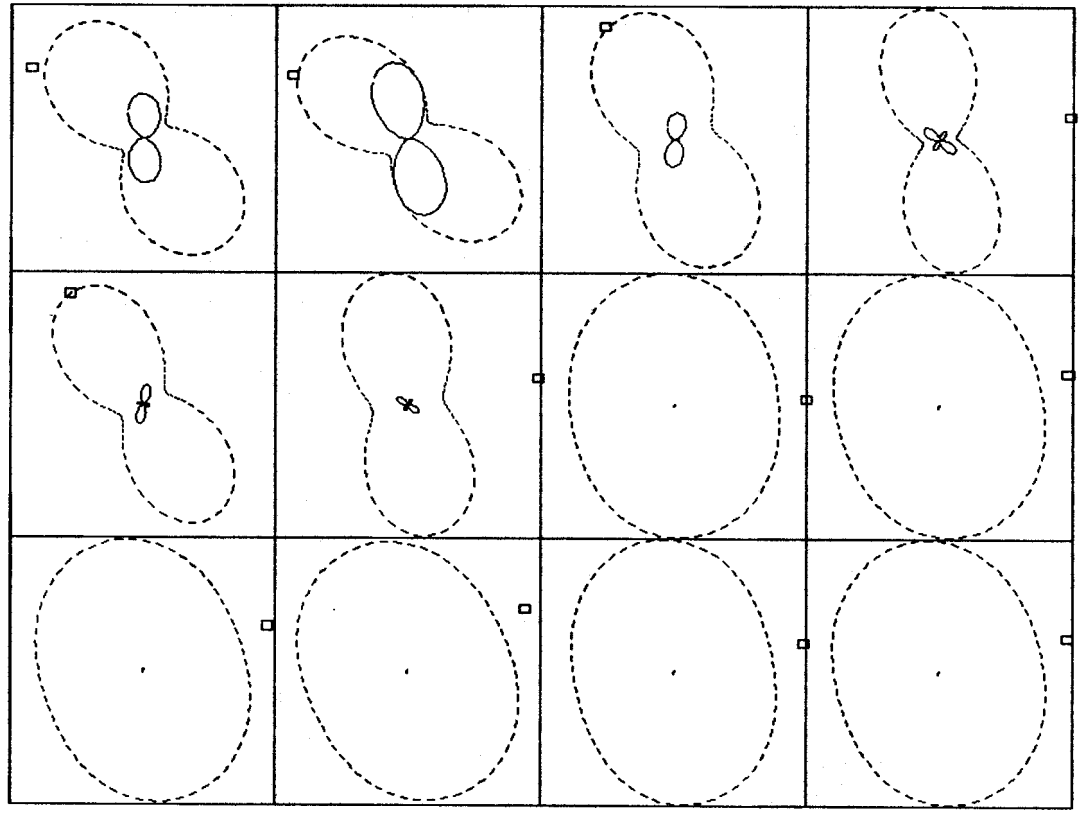


Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.

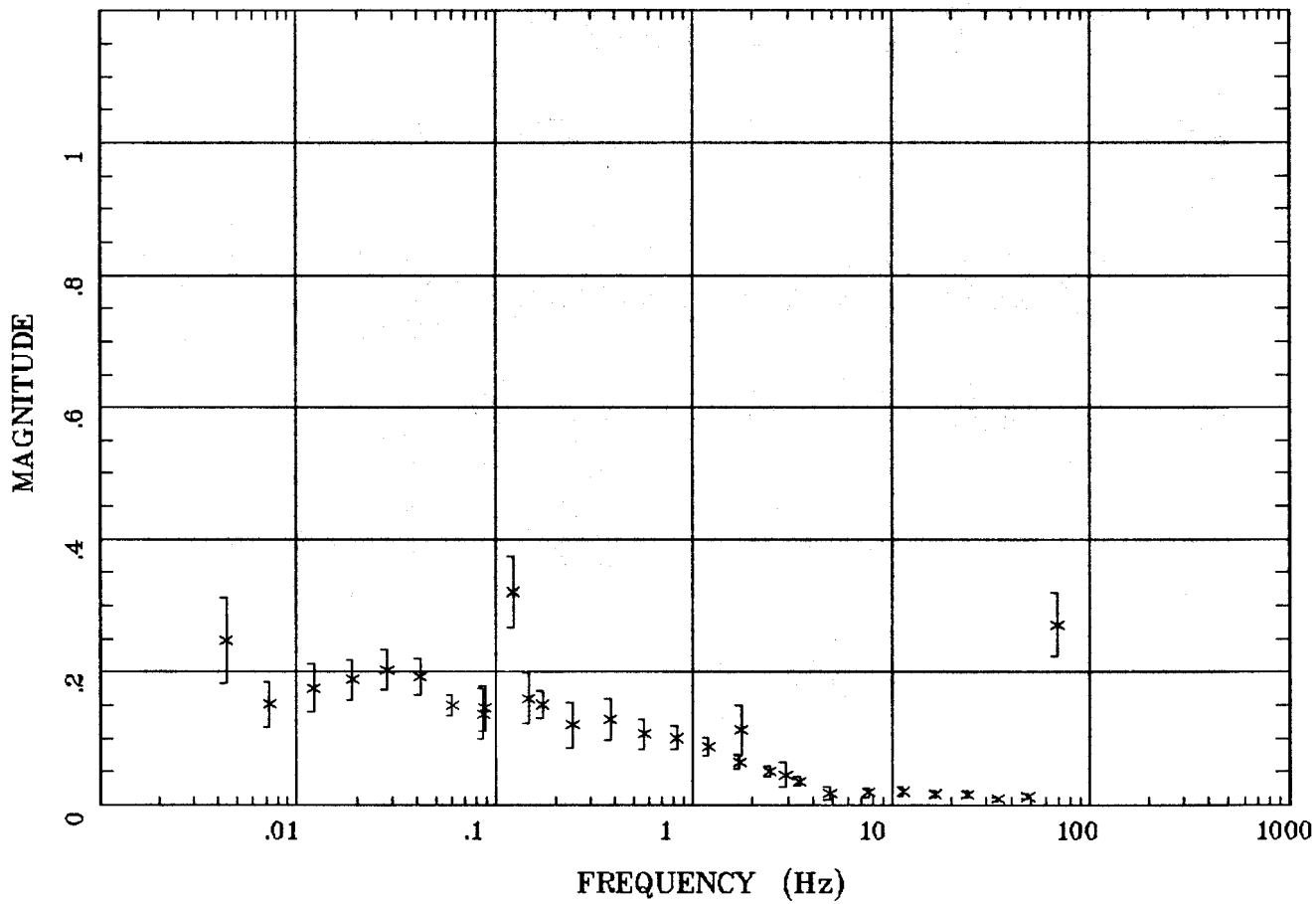


.0044 Hz	.0122 Hz	.0415 Hz	.0859 Hz
.147 Hz	.244 Hz	.830 Hz	1.719 Hz
2.930 Hz	4.883 Hz	16.602 Hz	34.375 Hz

Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE Battle Mtn.

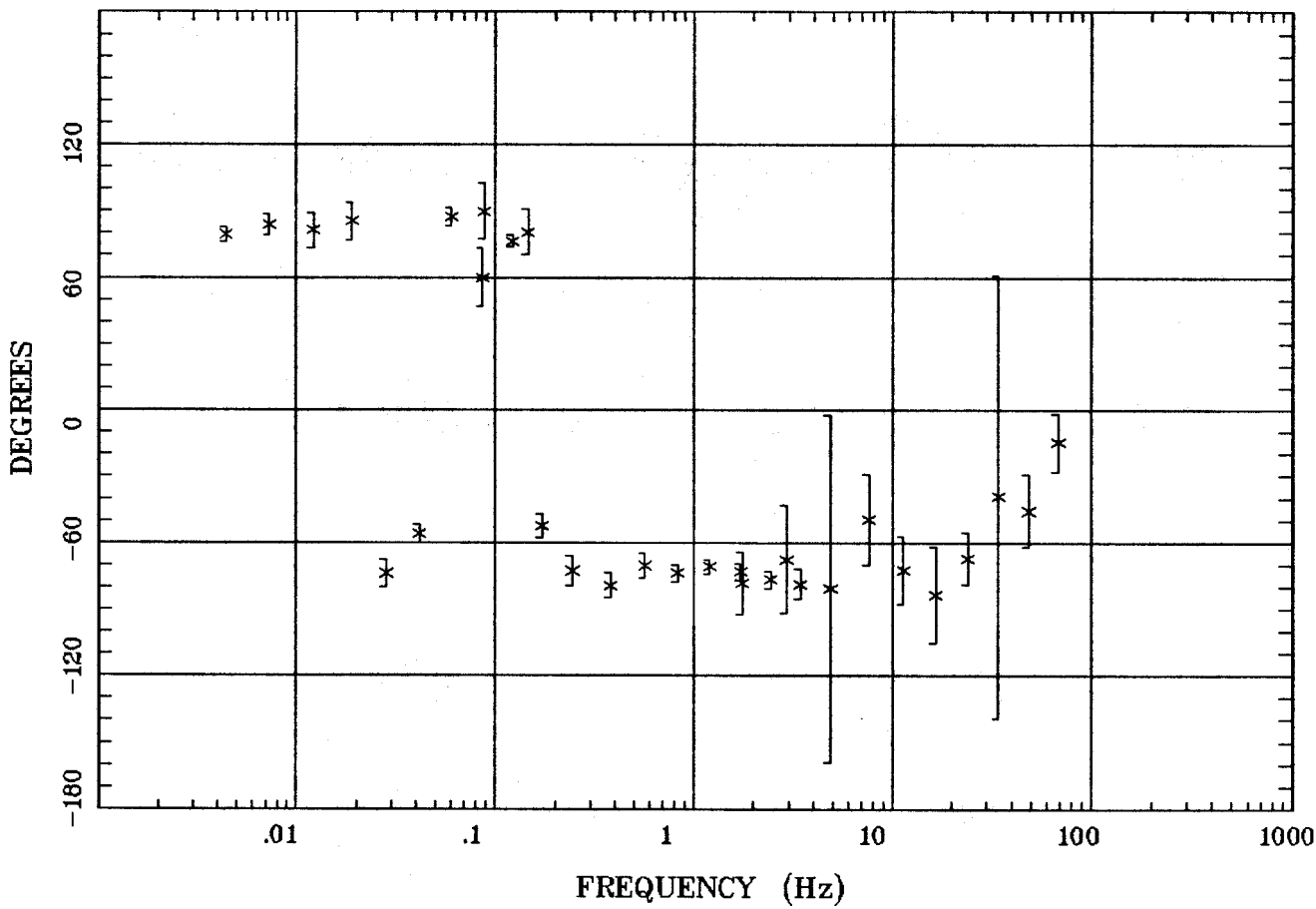


Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

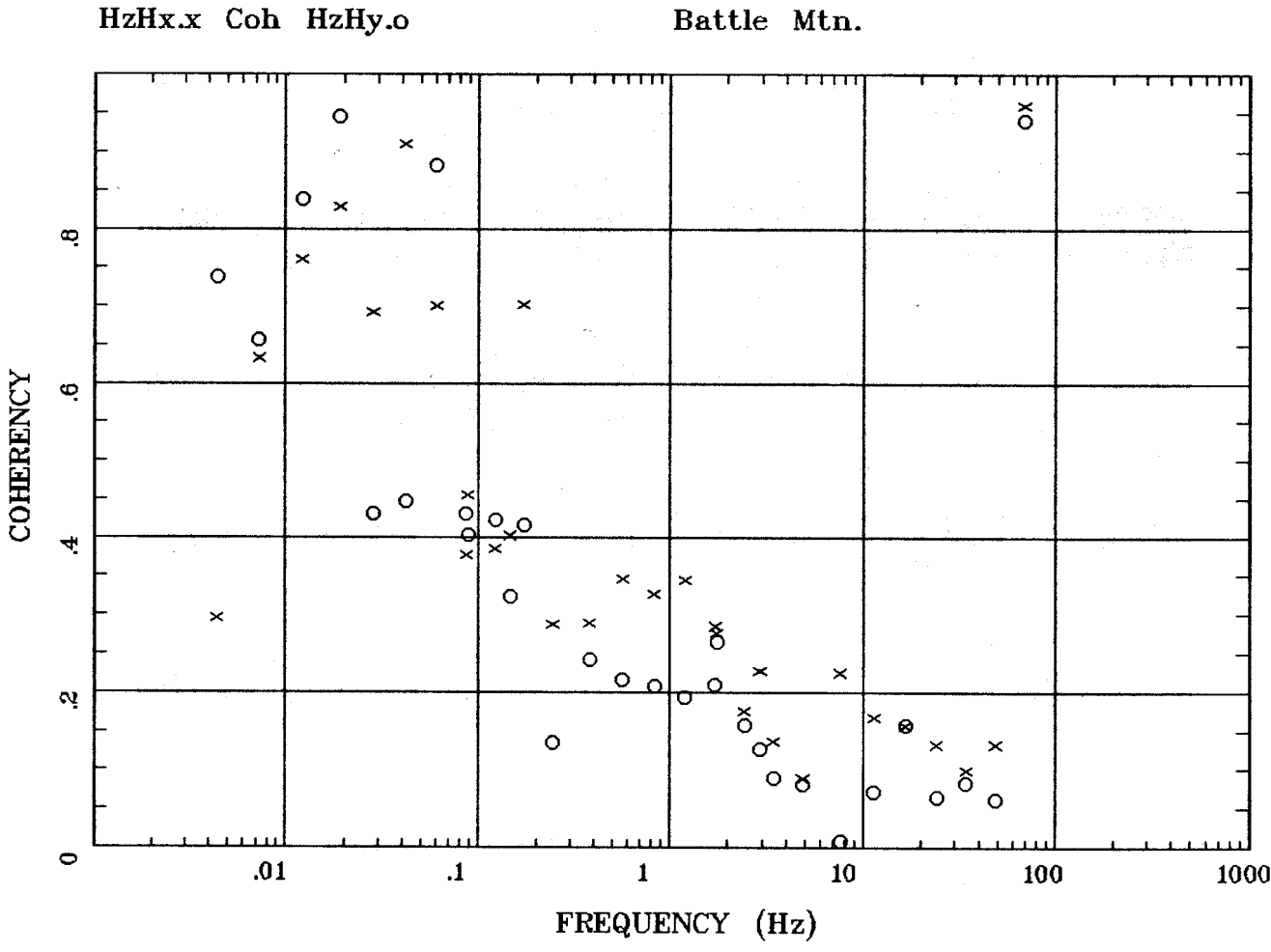
TIPPER STRIKE

Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

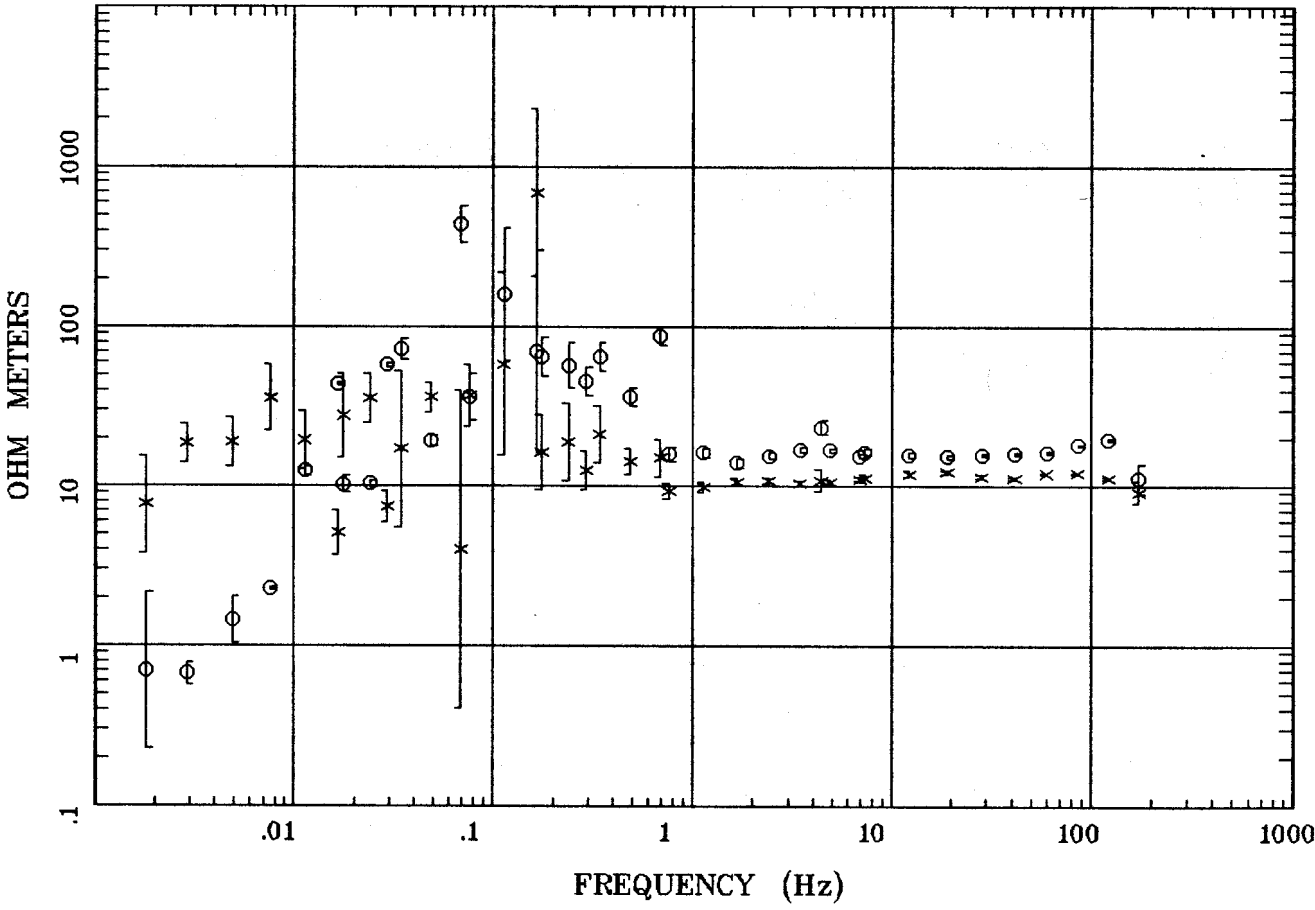


Client:
Remote: e-field local ref
Acquired: 12:1 Jul 11, 1997
Survey Co:

Rotation:
Filename: nn19.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:31 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 20

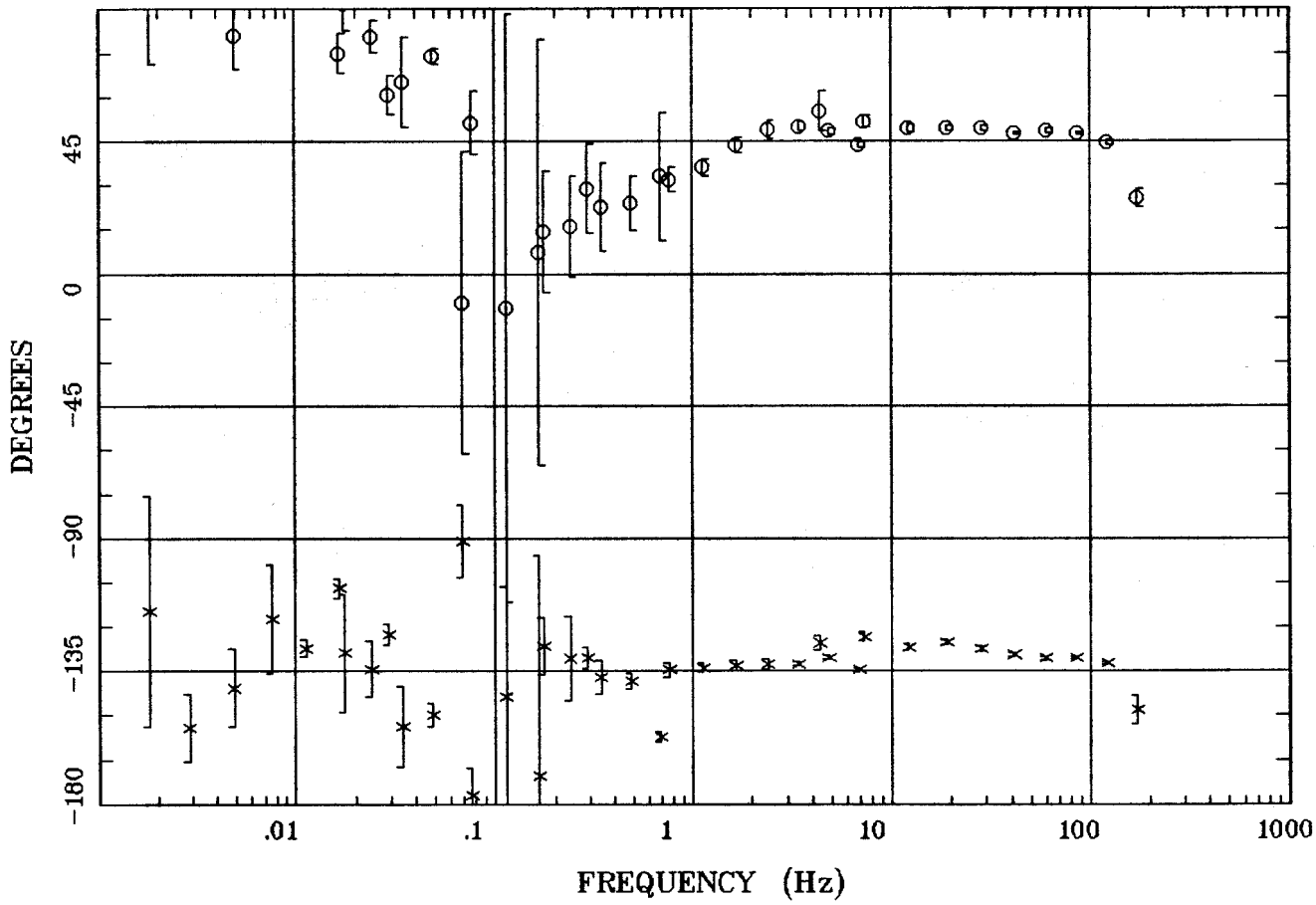
APPARENT RESISTIVITY Battle Mtn.



Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE PHASE Battle Mtn.

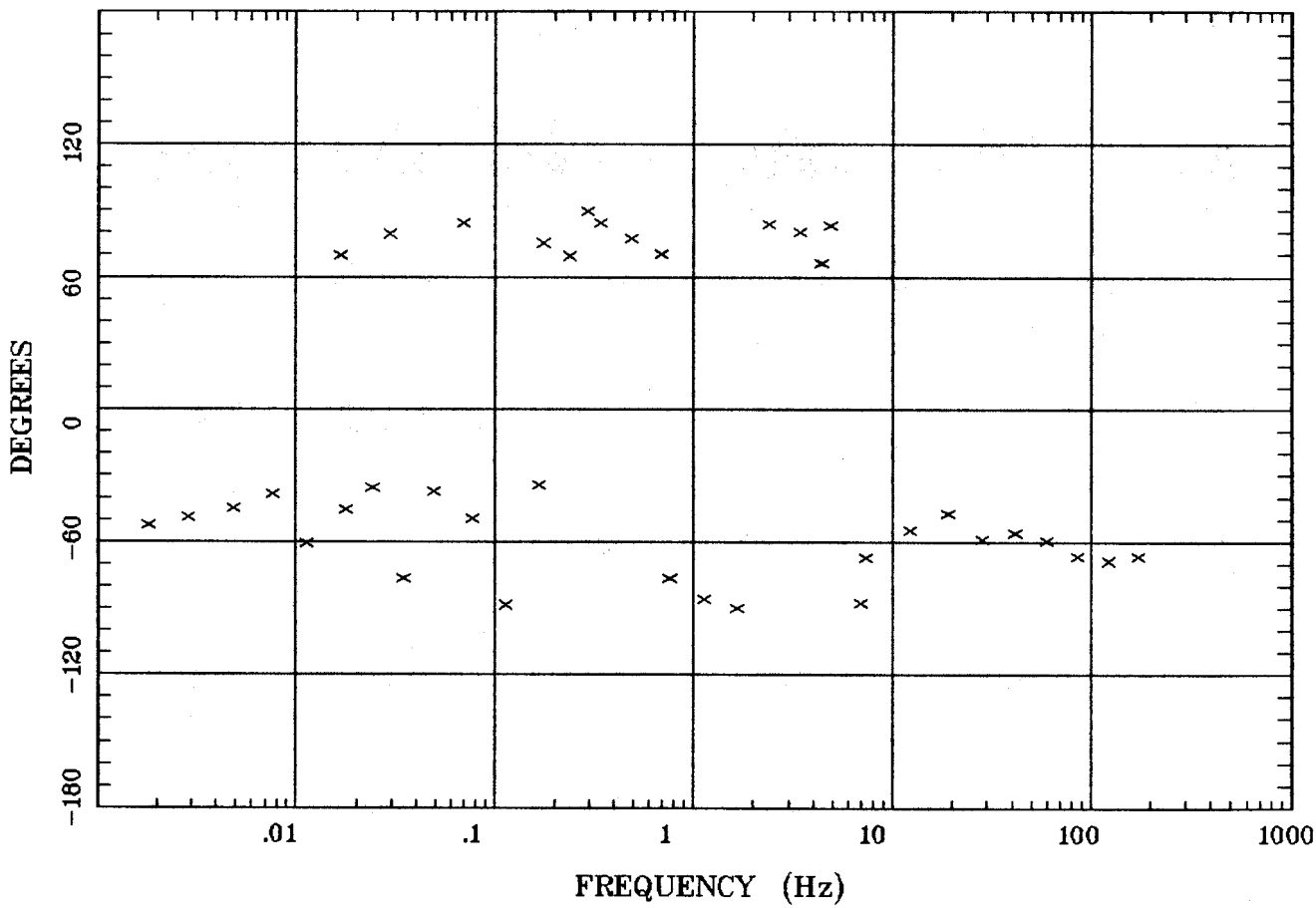


Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE

Battle Mtn.



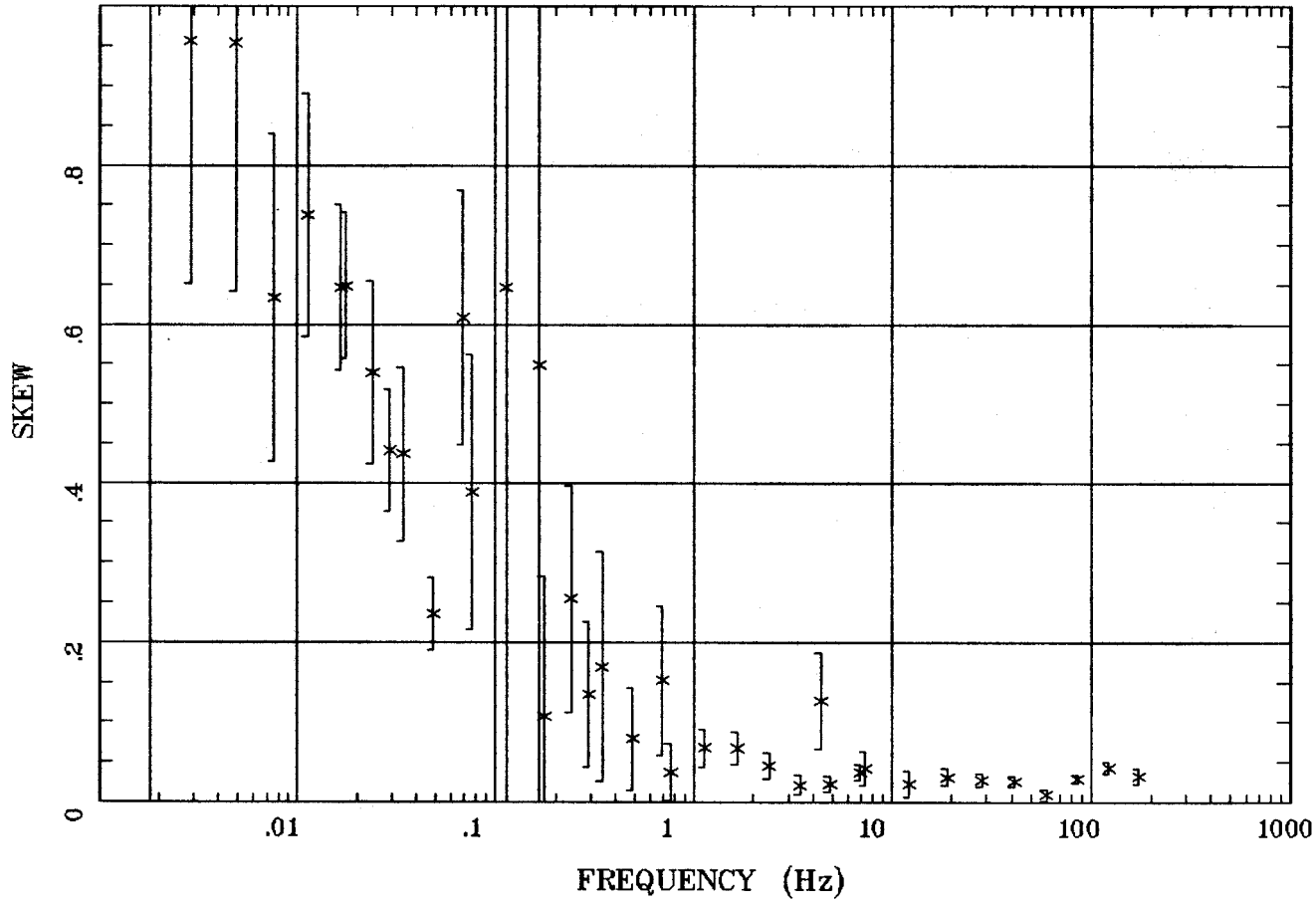
Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 20

IMPEDANCE SKEW

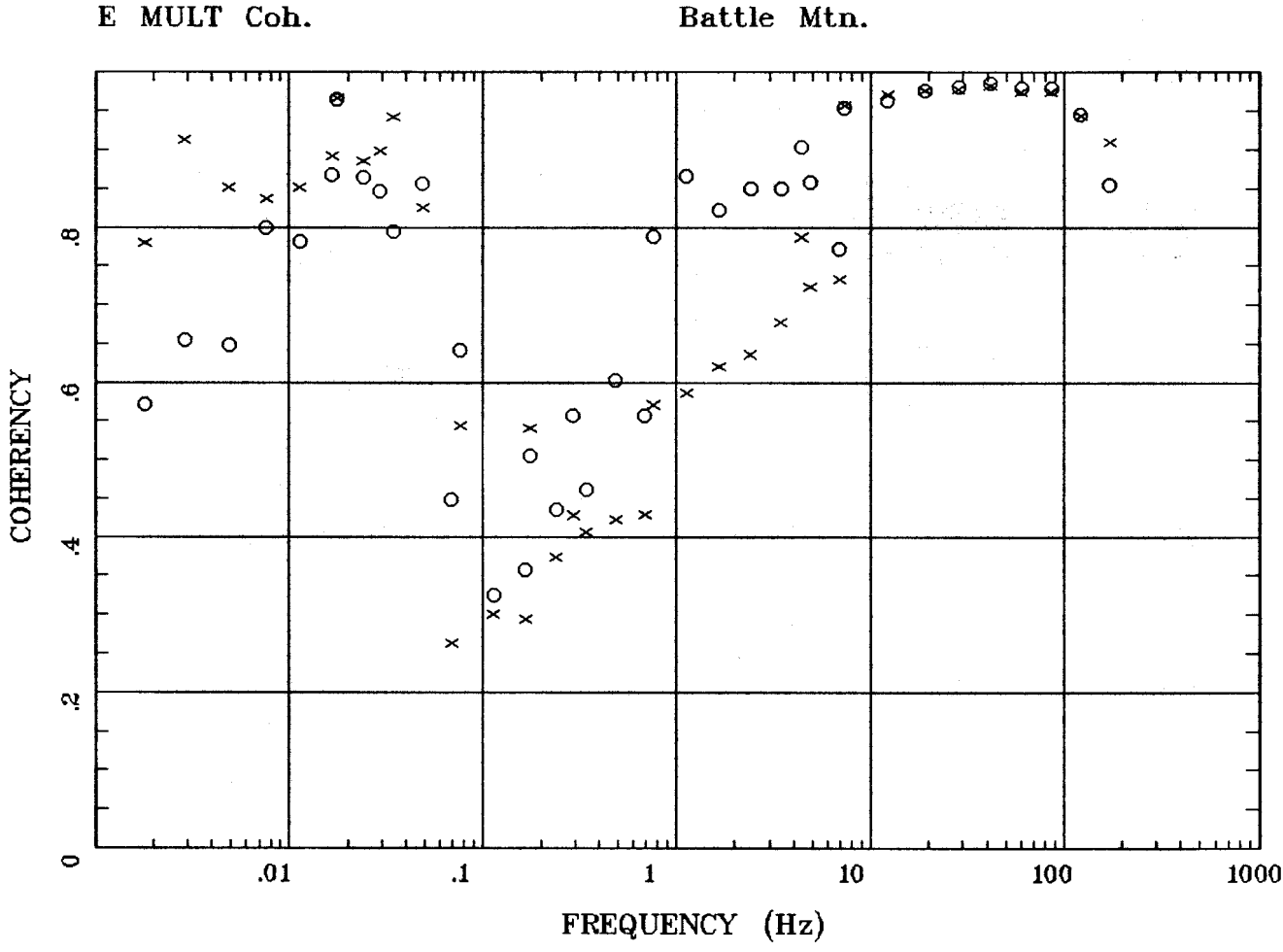
Battle Mtn.



Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

08

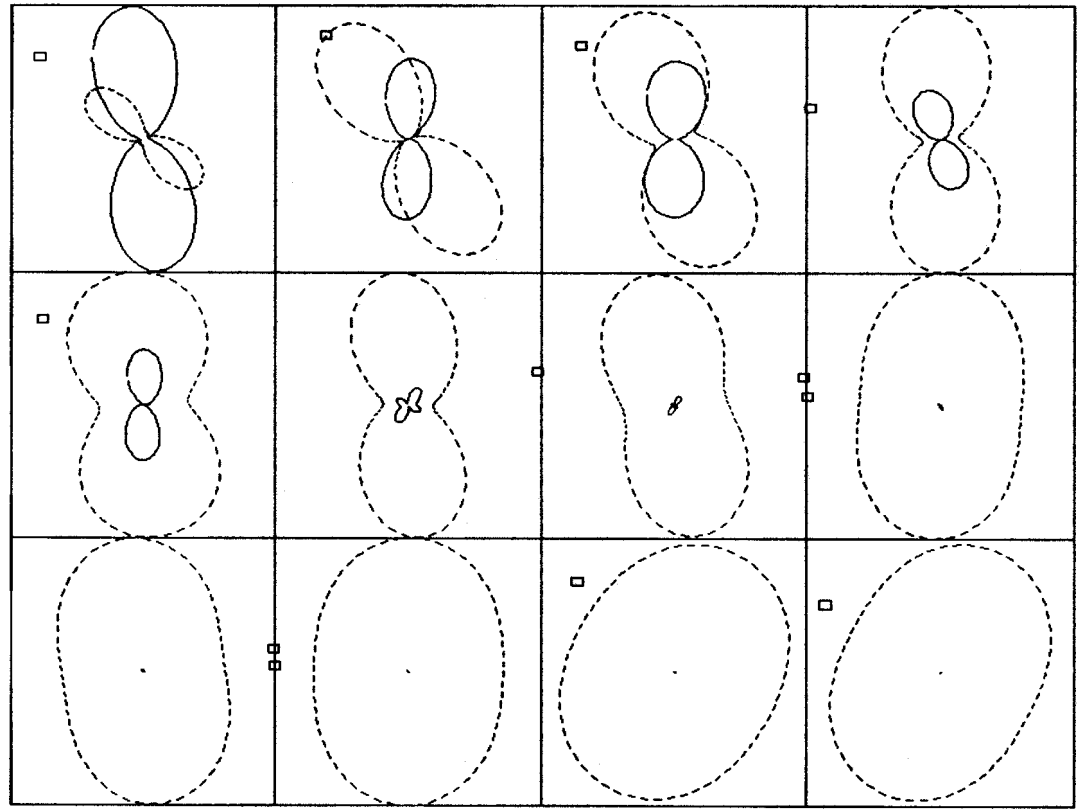


Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.



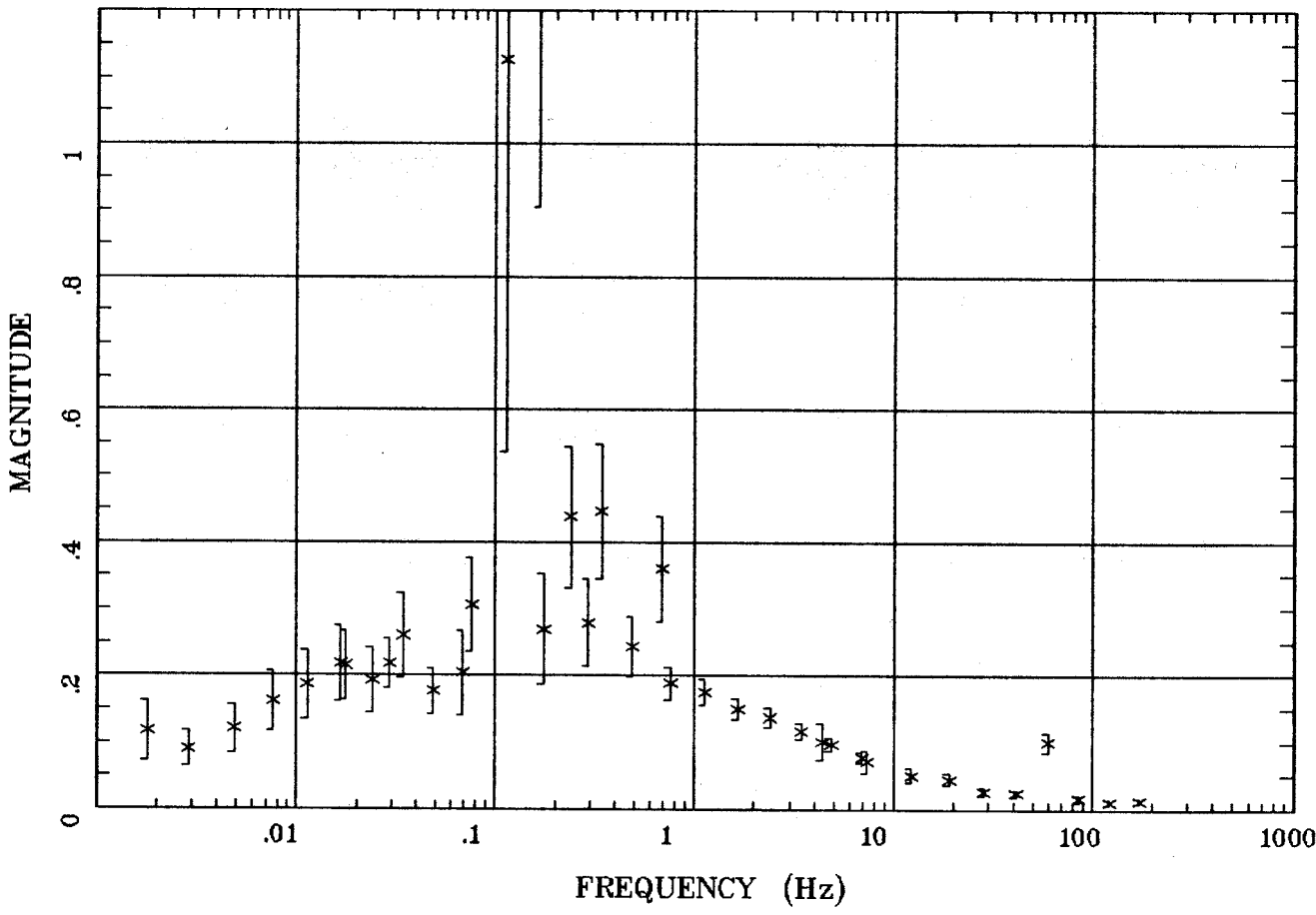
.0018 Hz	.0076 Hz	.0176 Hz	.0344 Hz
.0762 Hz	.176 Hz	.488 Hz	1.133 Hz
3.438 Hz	6.894 Hz	19.043 Hz	60.059 Hz

Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

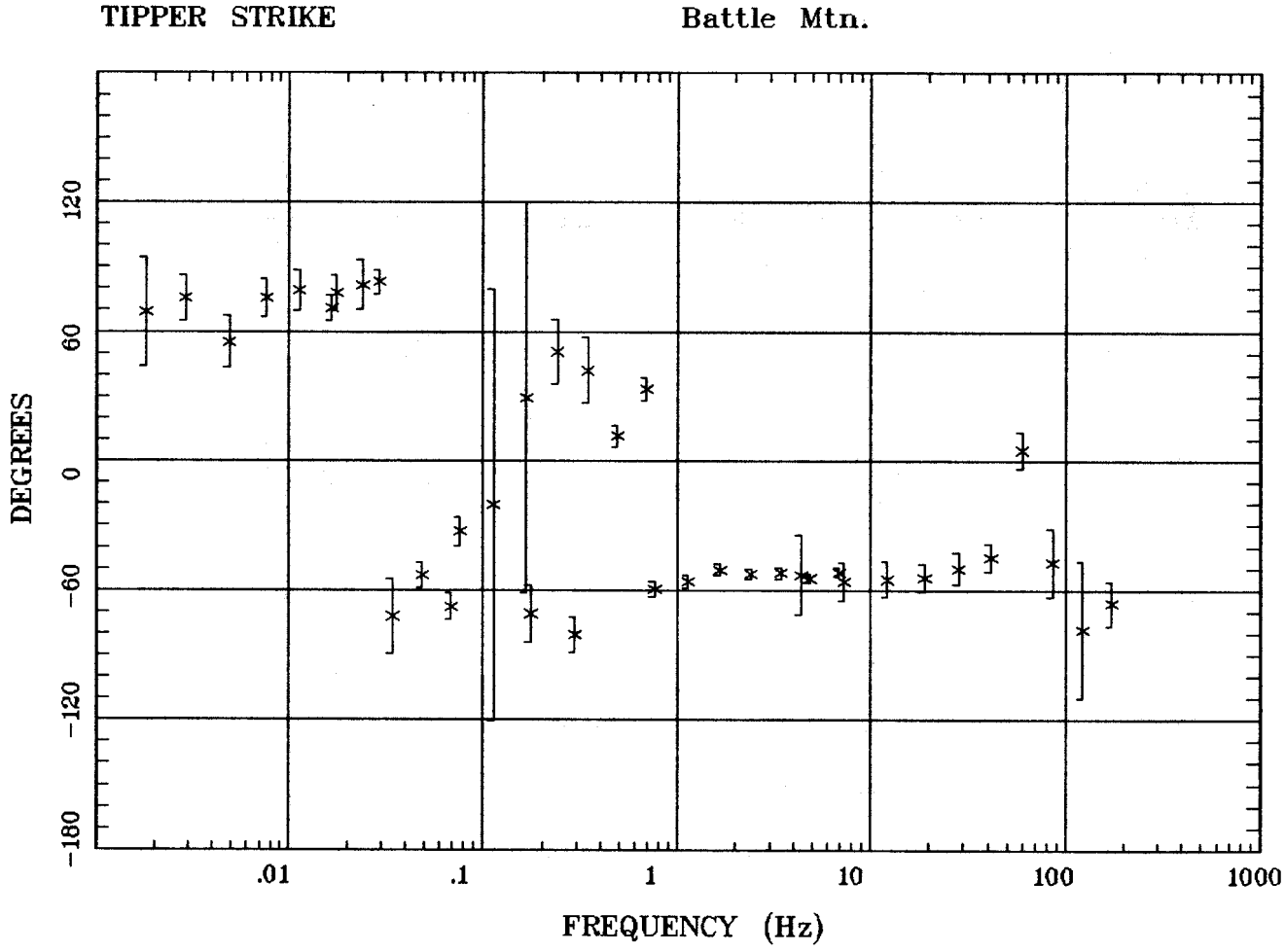
TIPPER MAGNITUDE

Battle Mtn.



Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

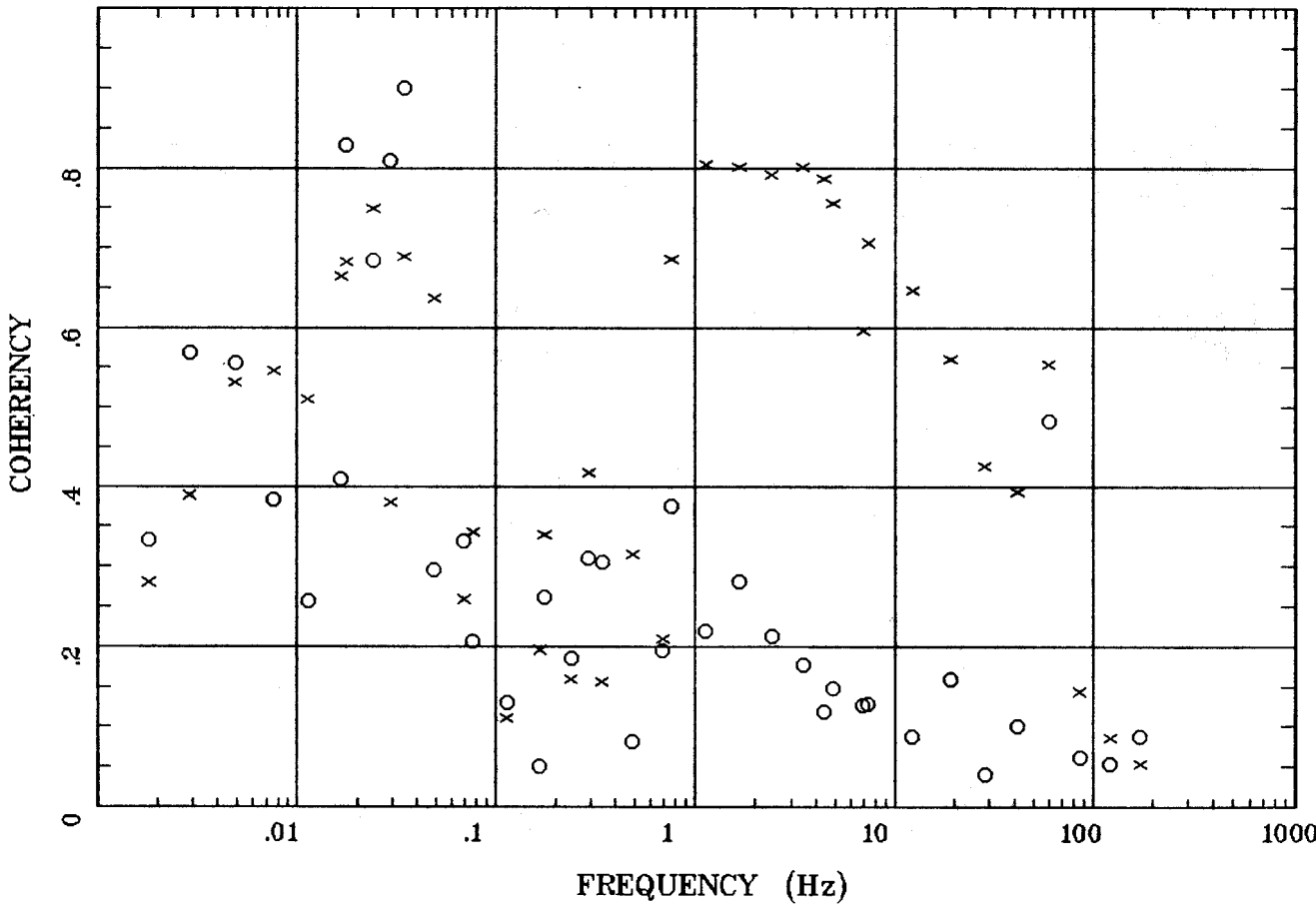
Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

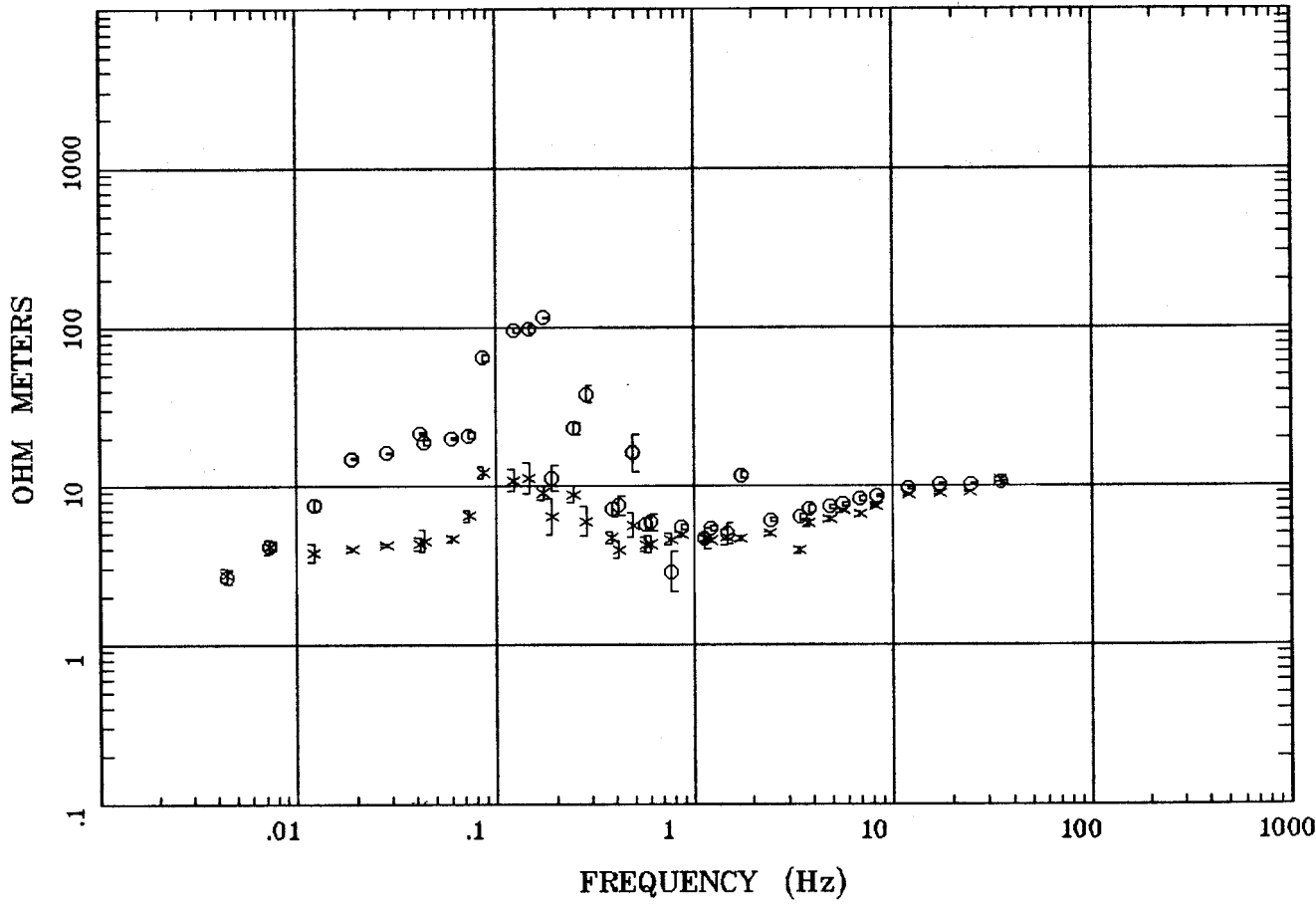
HzHx.x Coh HzHy.o Battle Mtn.



Client:
Remote: E local ref.
Acquired: 15:1 Jul 18, 1997
Survey Co:

Rotation:
Filename: nn20.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:32 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

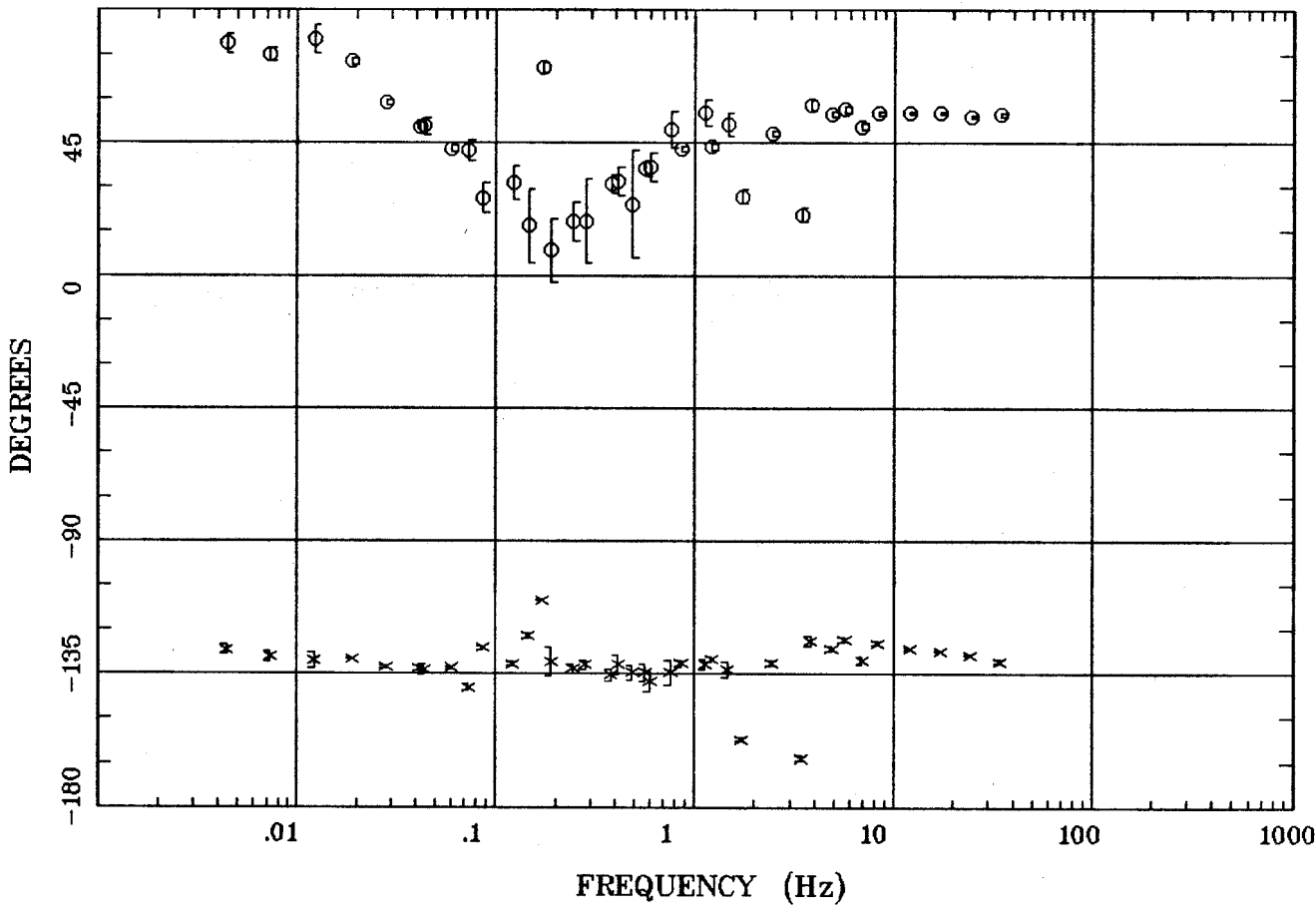
APPARENT RESISTIVITY Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:34 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE PHASE Battle Mtn.

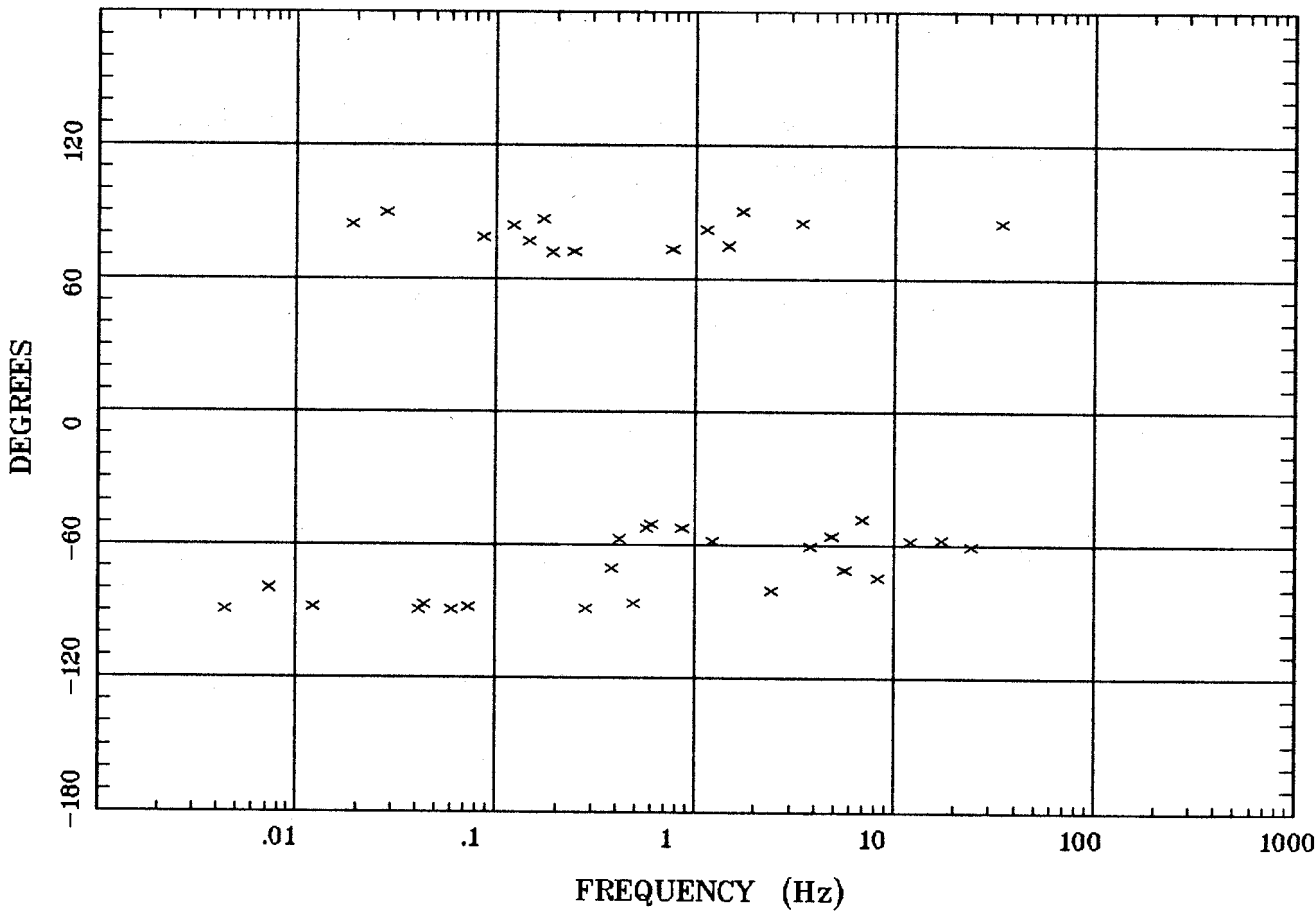


Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:34 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE

Battle Mtn.

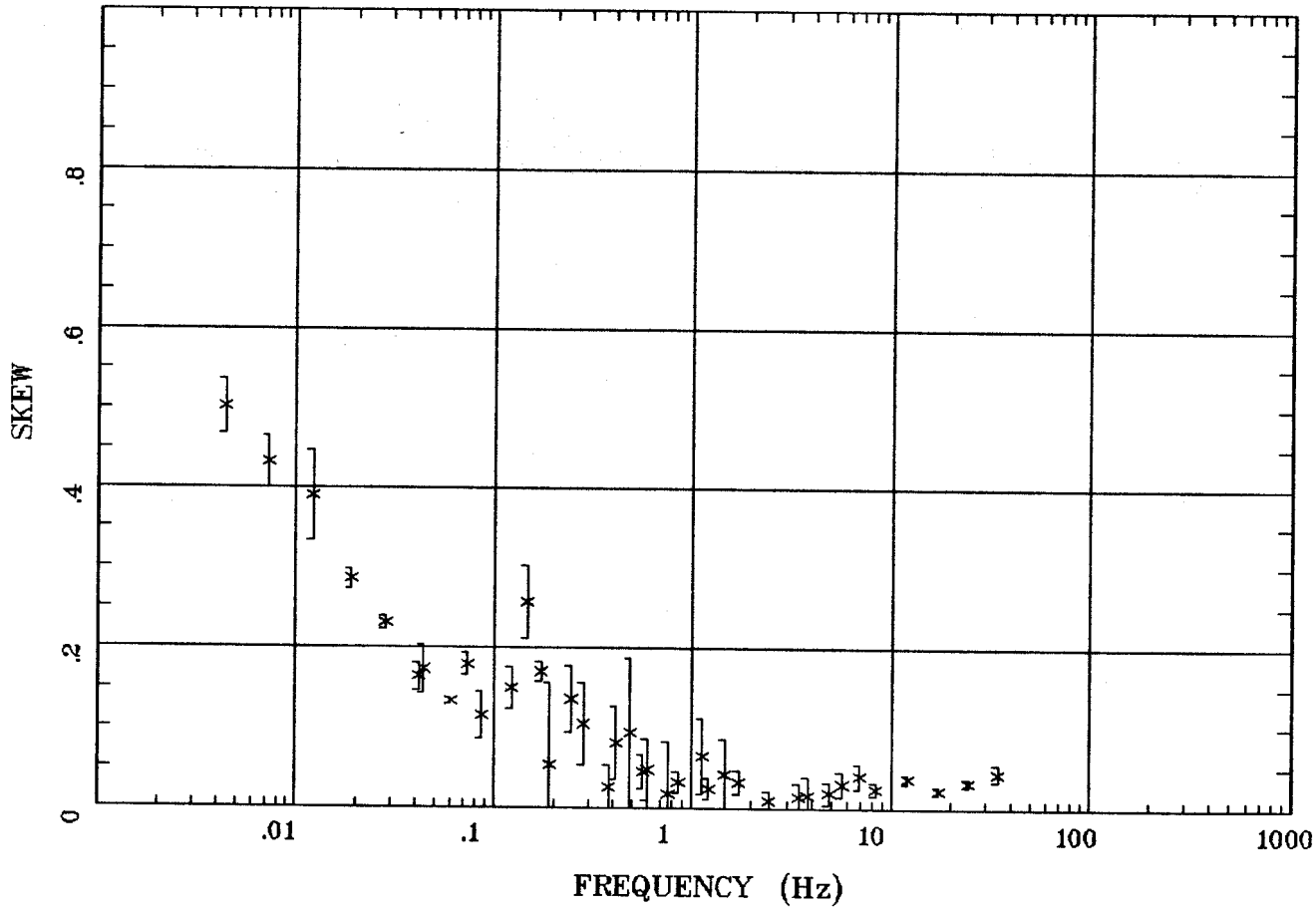


Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:34 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

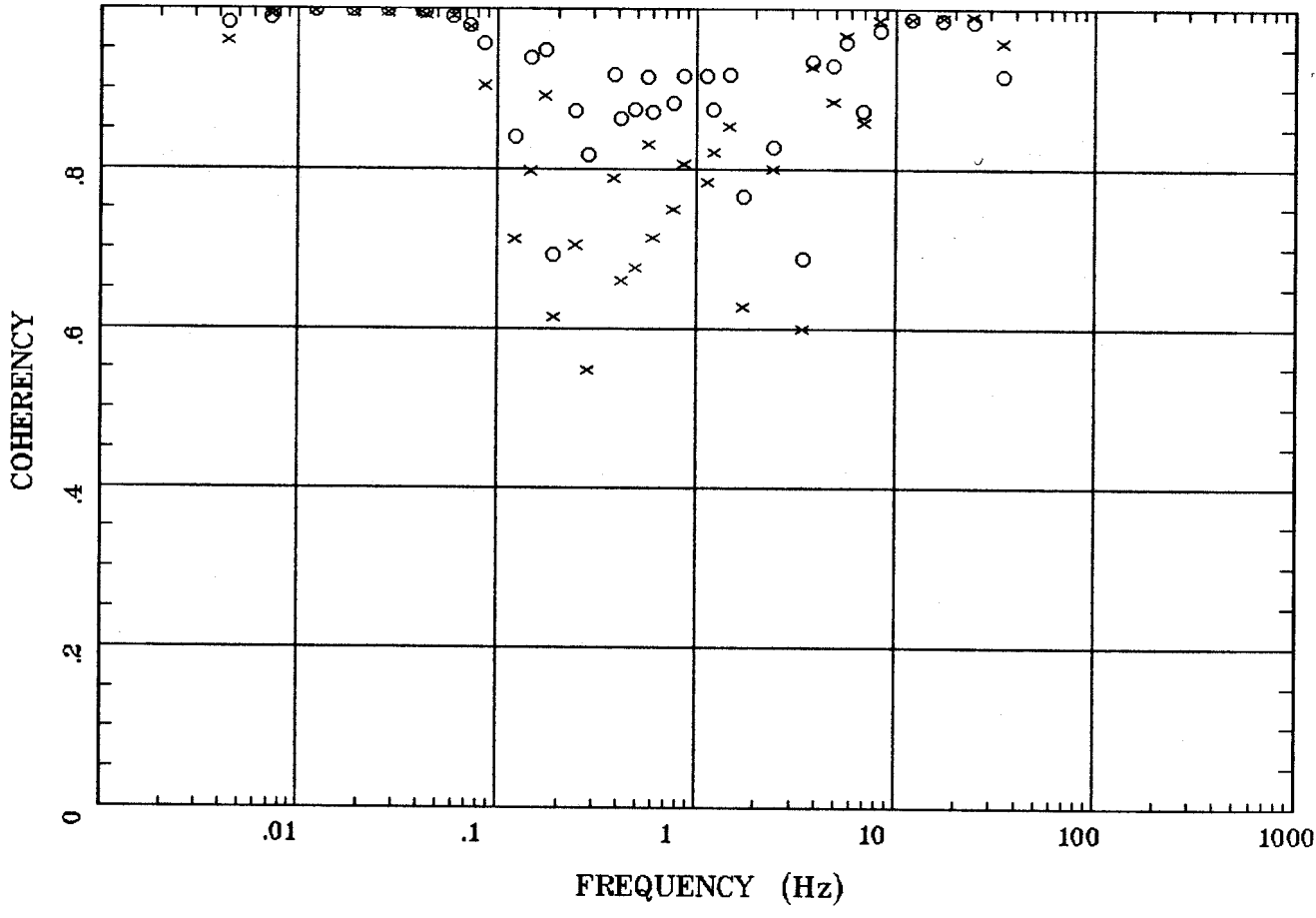
Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:34 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

E MULT Coh. Battle Mtn.

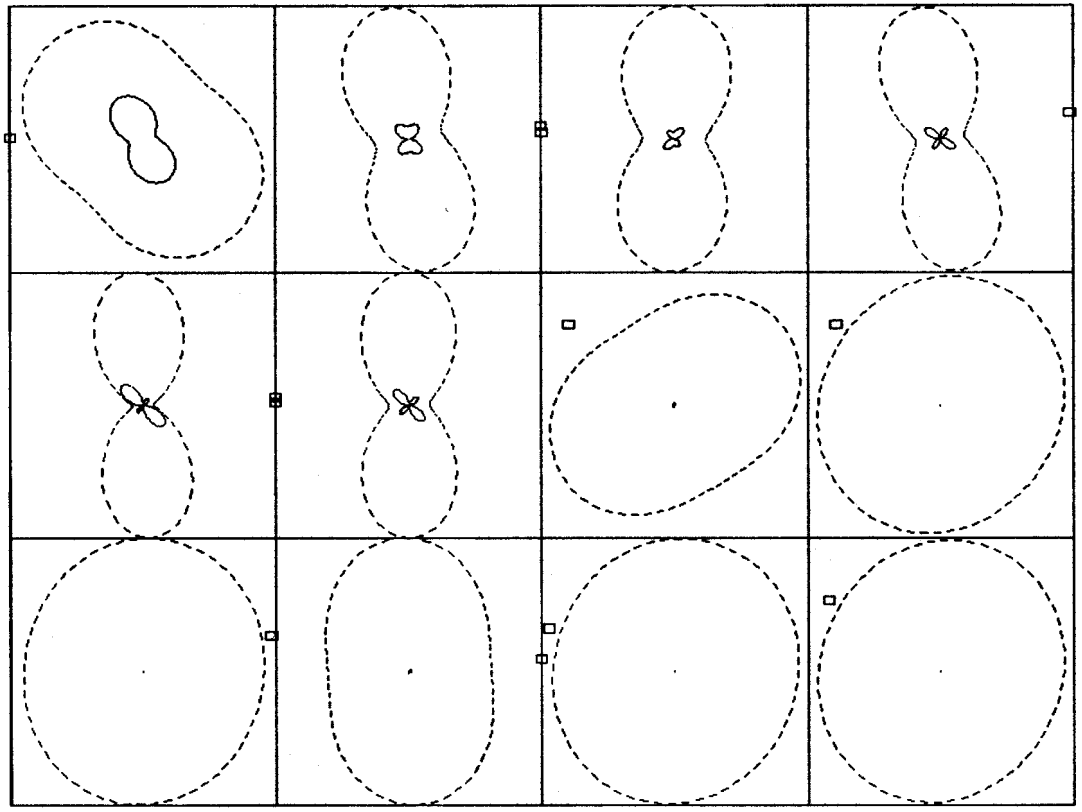


Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:35 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.

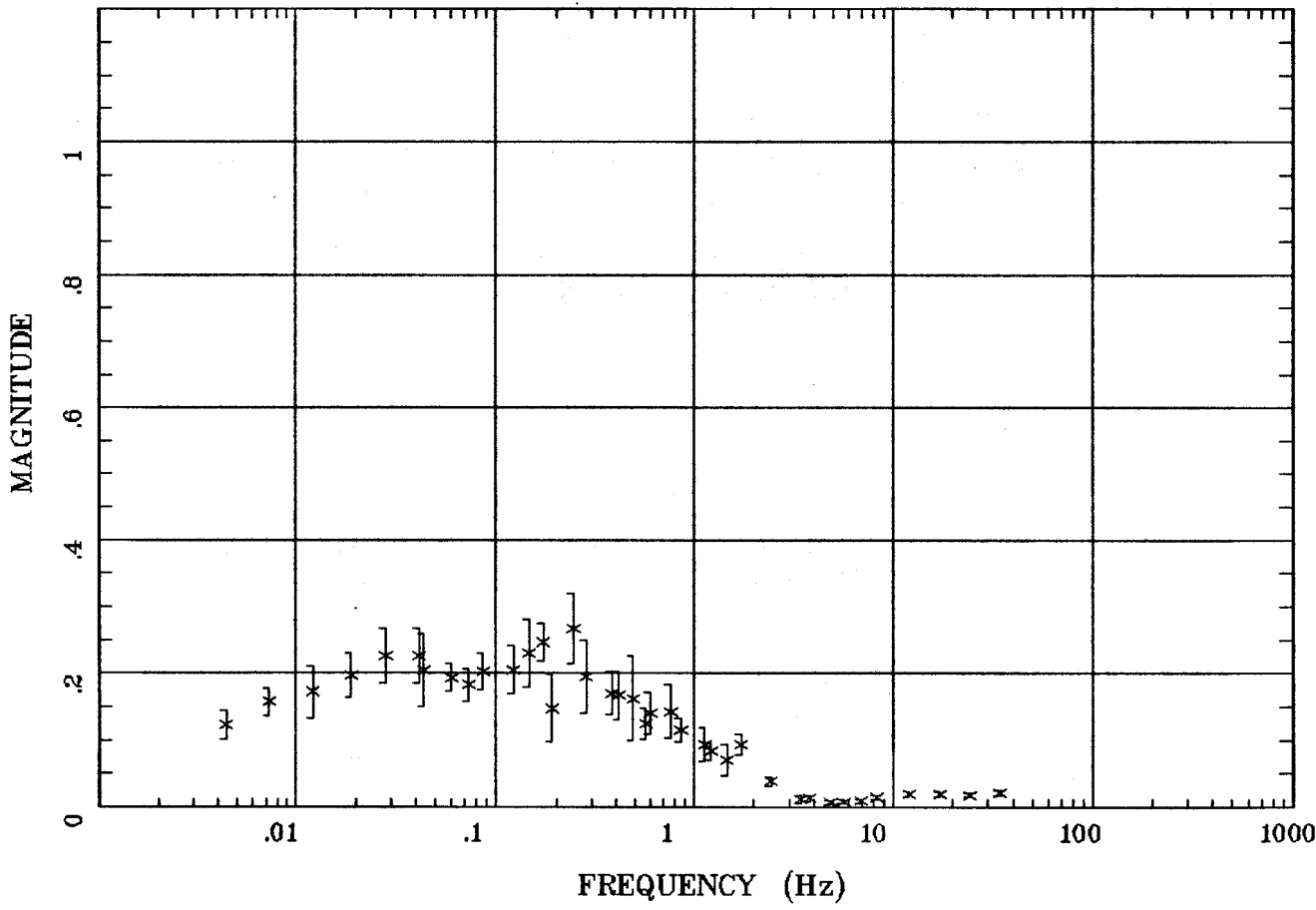


.0044 Hz	.0190 Hz	.0439 Hz	.0859 Hz
.172 Hz	.283 Hz	.566 Hz	.859 Hz
1.465 Hz	3.447 Hz	5.664 Hz	12.012 Hz

Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:35 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE Battle Mtn.

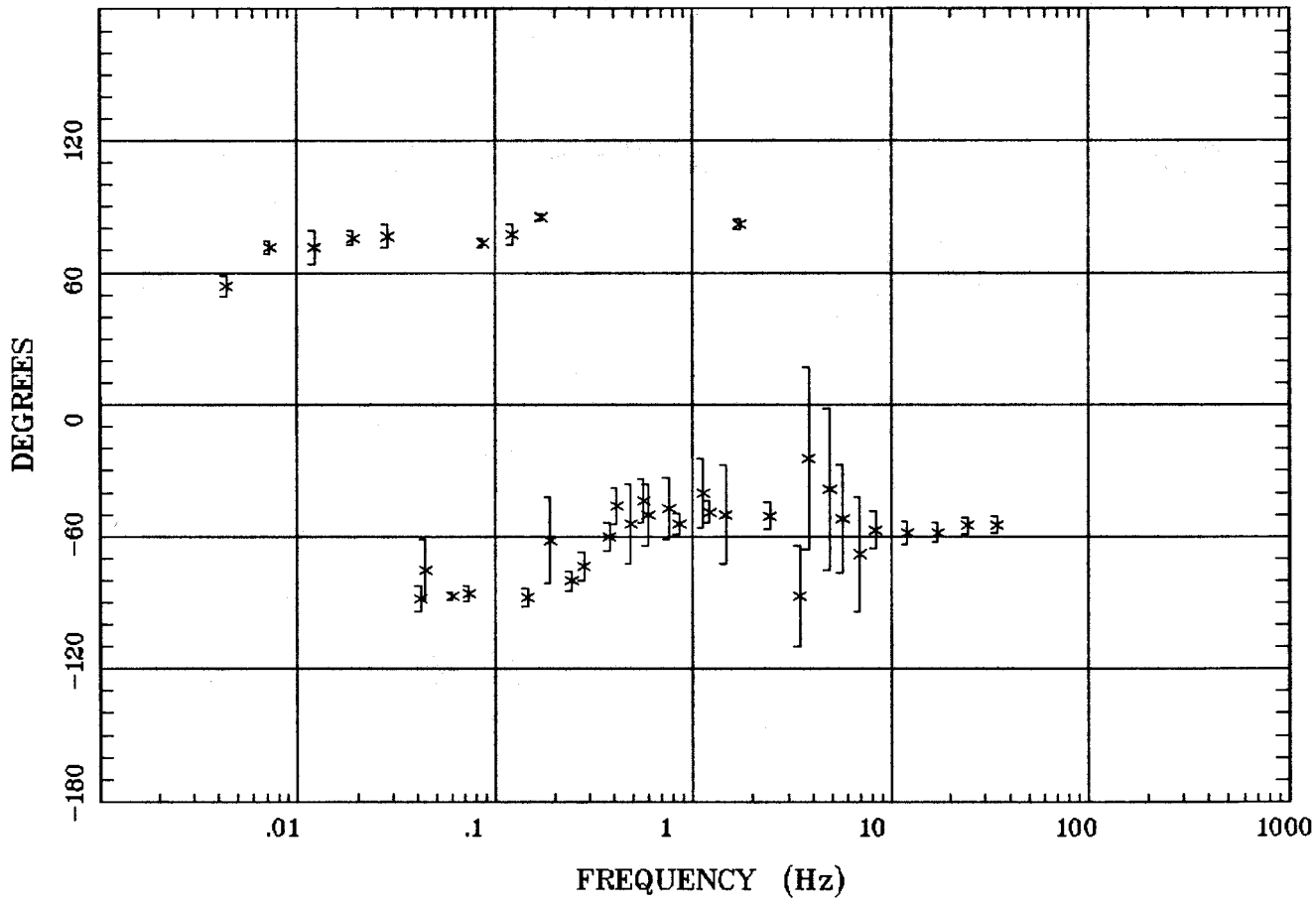


Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:35 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE

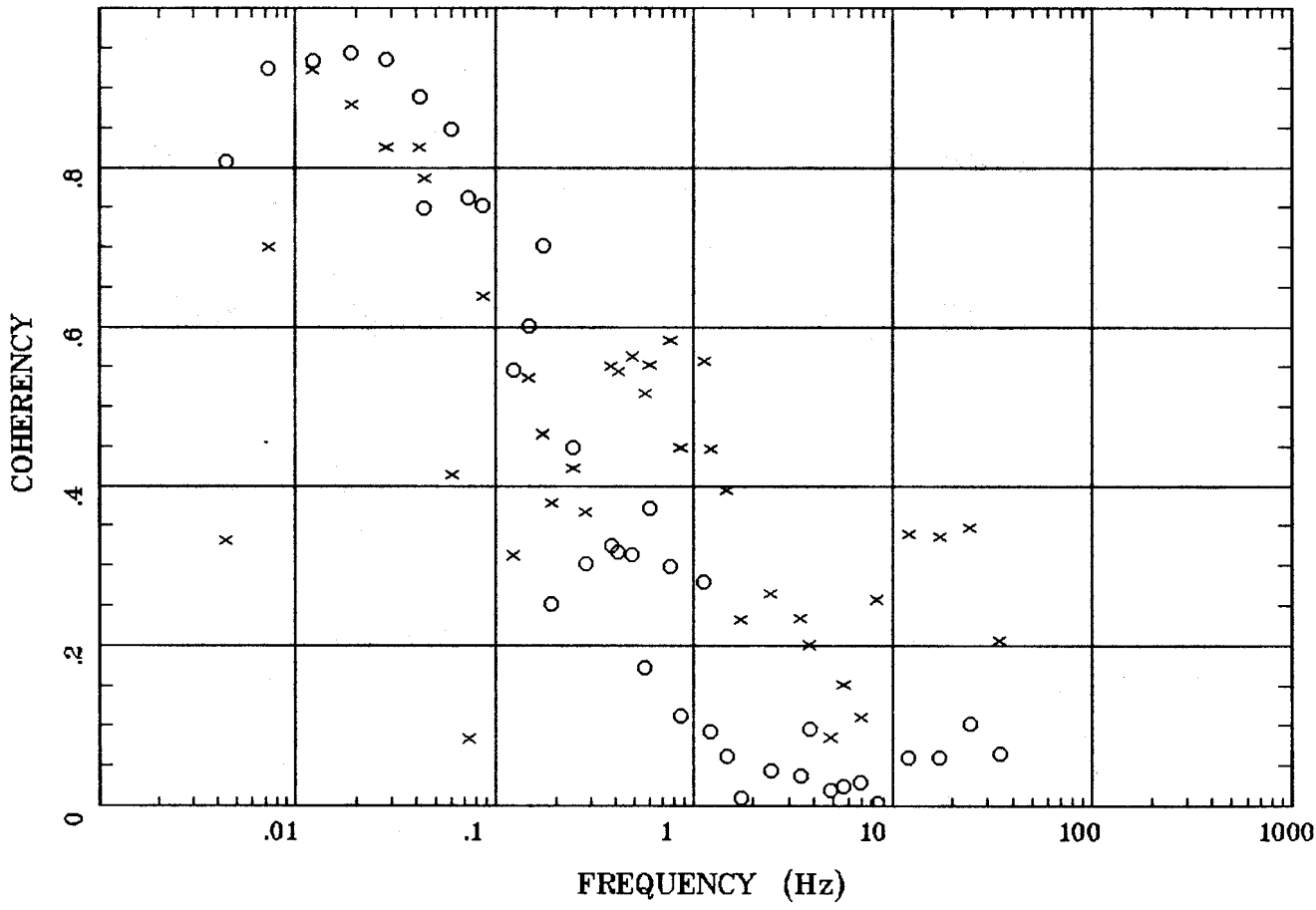
Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:35 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

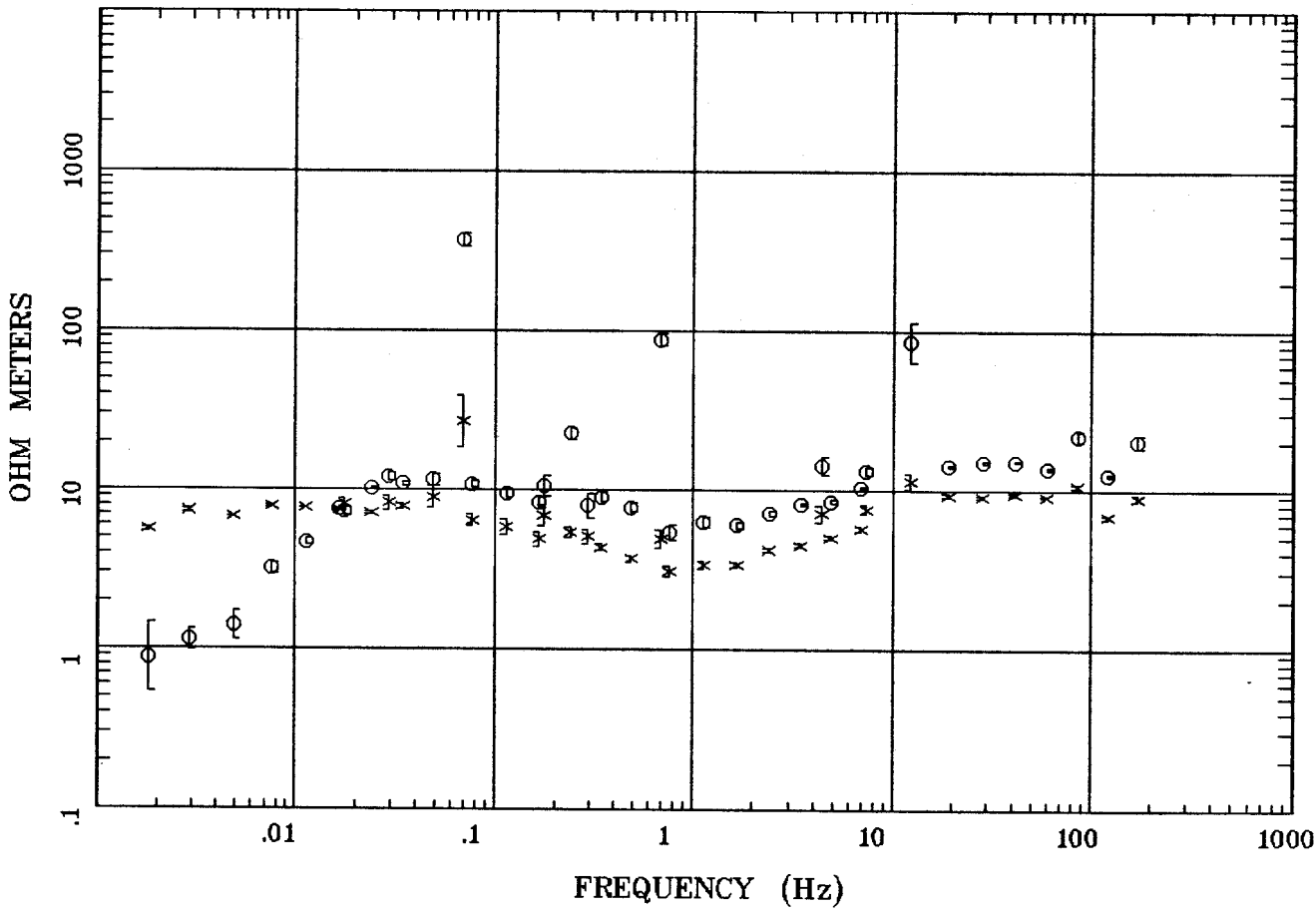
HzHx.x Coh HzHy.o Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 19:5 Jul 10, 1997
Survey Co:

Rotation:
Filename: nn22e.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:35 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

APPARENT RESISTIVITY Battle Mtn.



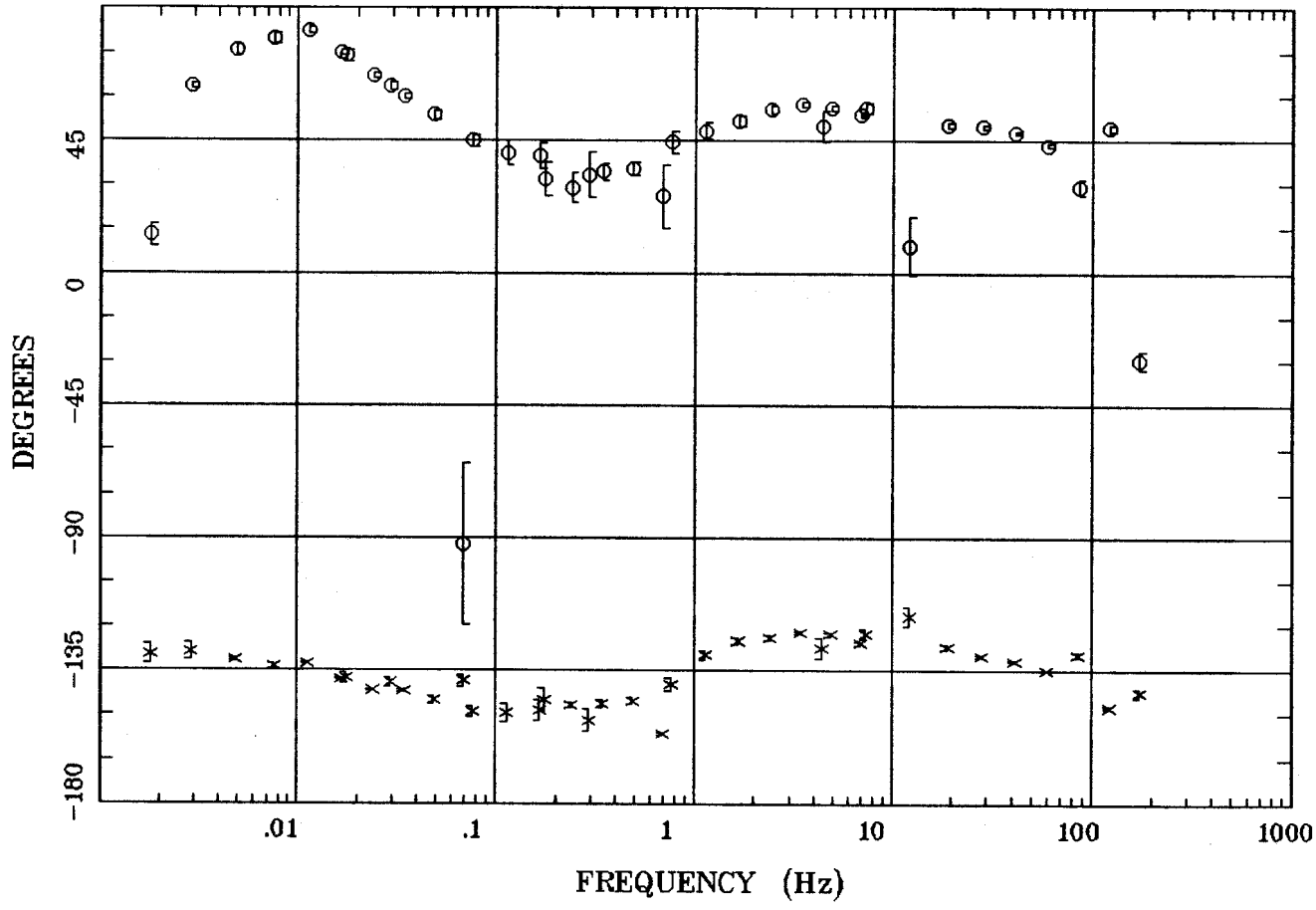
Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 23

IMPEDANCE PHASE

Battle Mtn.



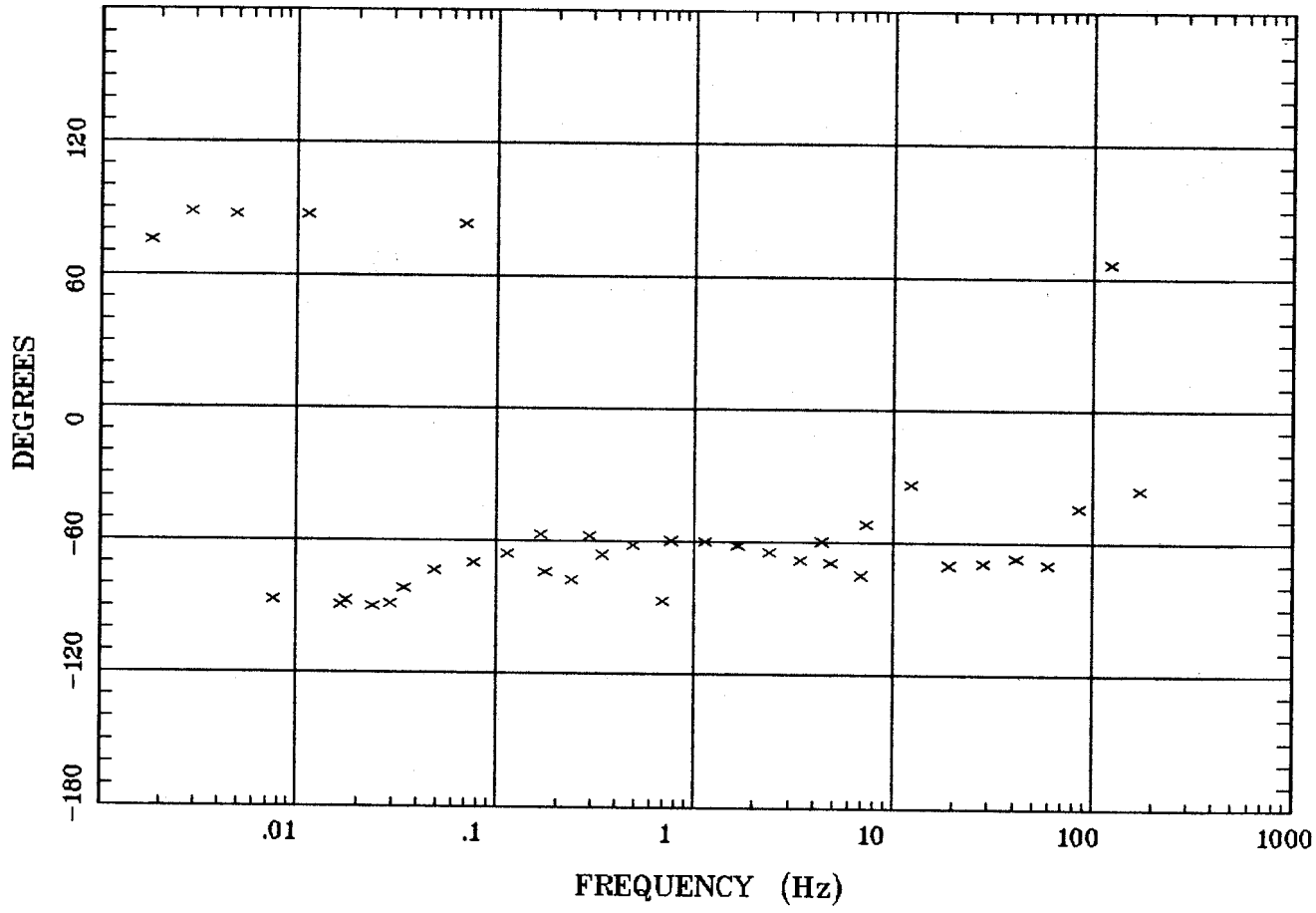
Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 23

ROTATION ANGLE

Battle Mtn.

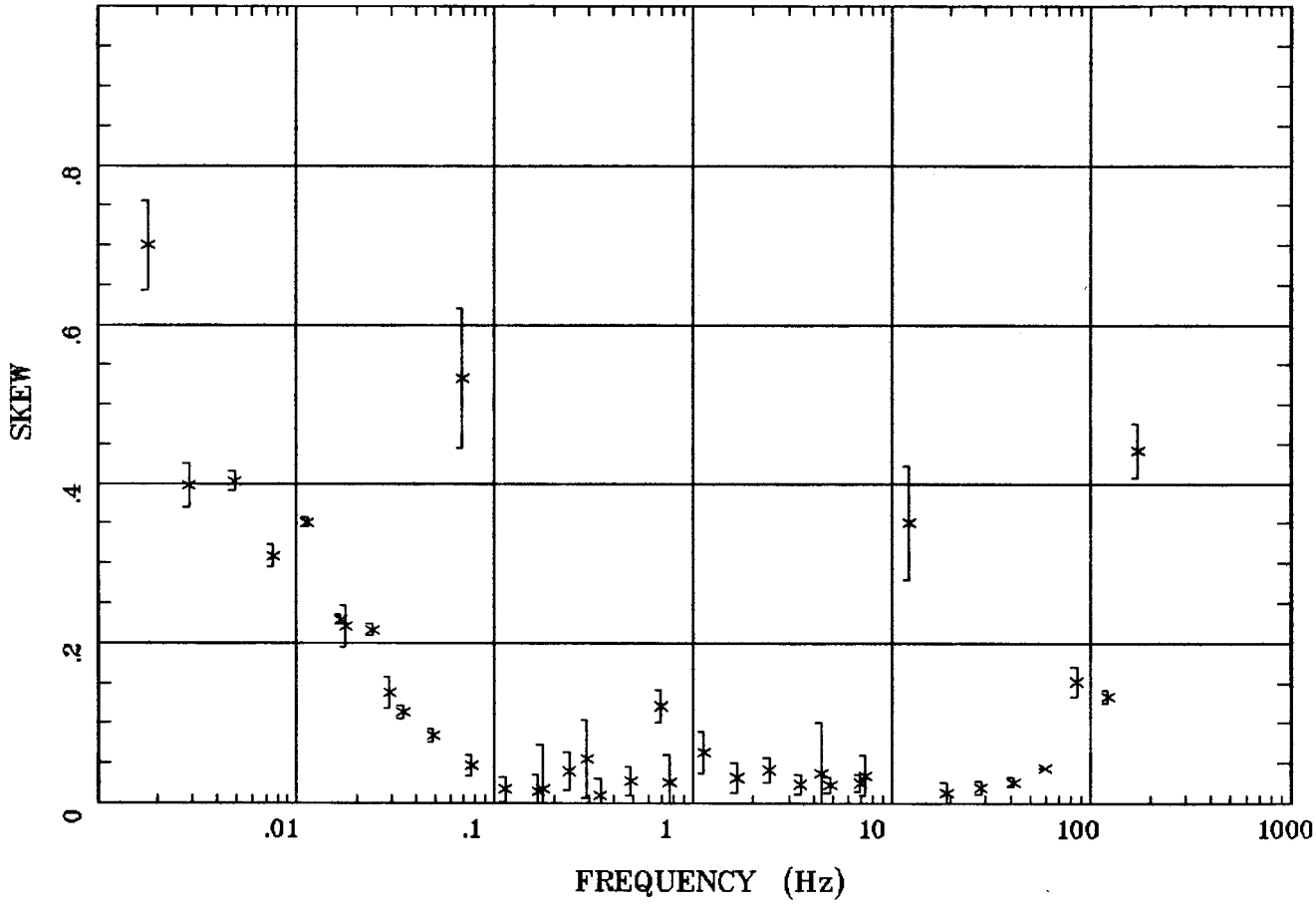


Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

Battle Mtn.

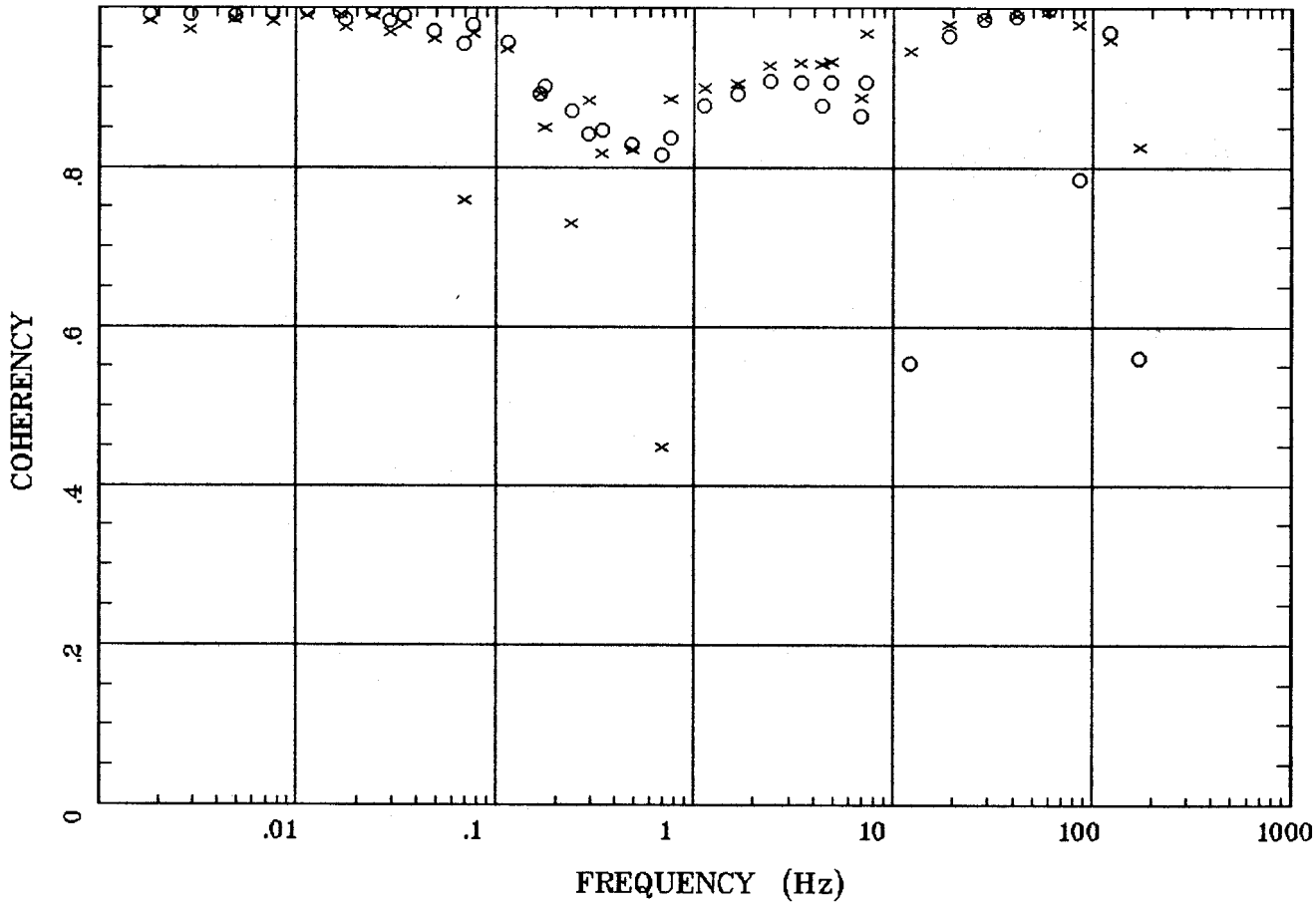


Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 23

E MULT Coh. Battle Mtn.

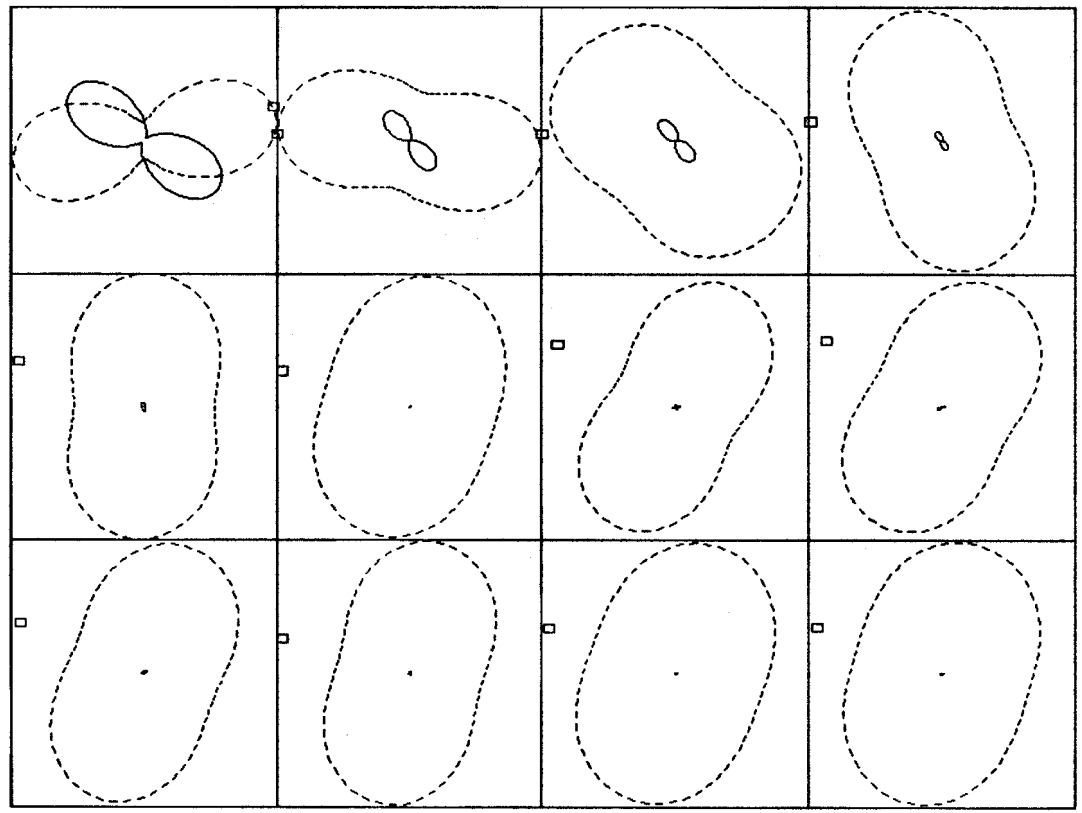


Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.



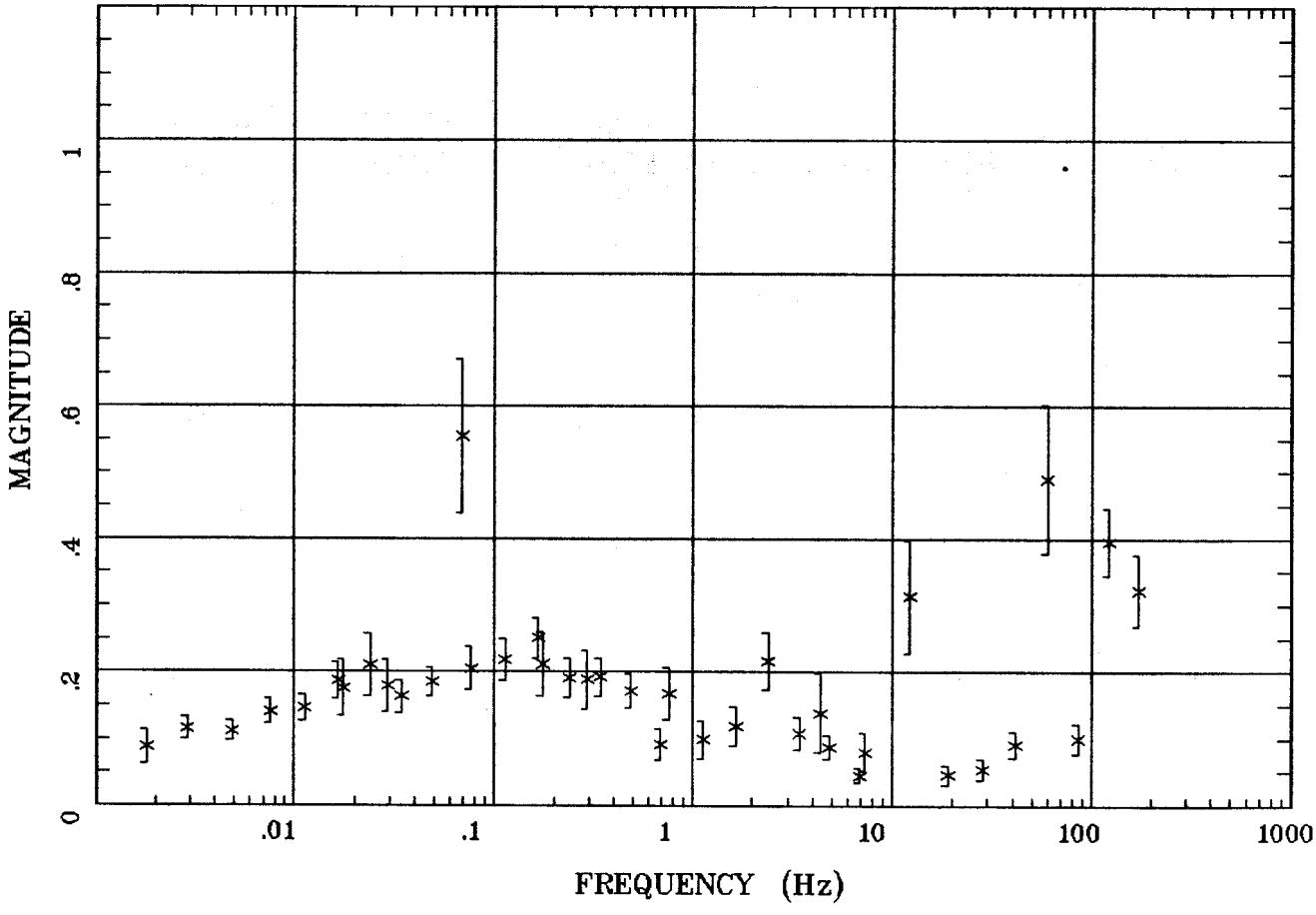
.0018 Hz	.0076 Hz	.0176 Hz	.0344 Hz
.0762 Hz	.176 Hz	.488 Hz	1.133 Hz
3.438 Hz	6.894 Hz	19.043 Hz	60.059 Hz

Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE

Battle Mtn.

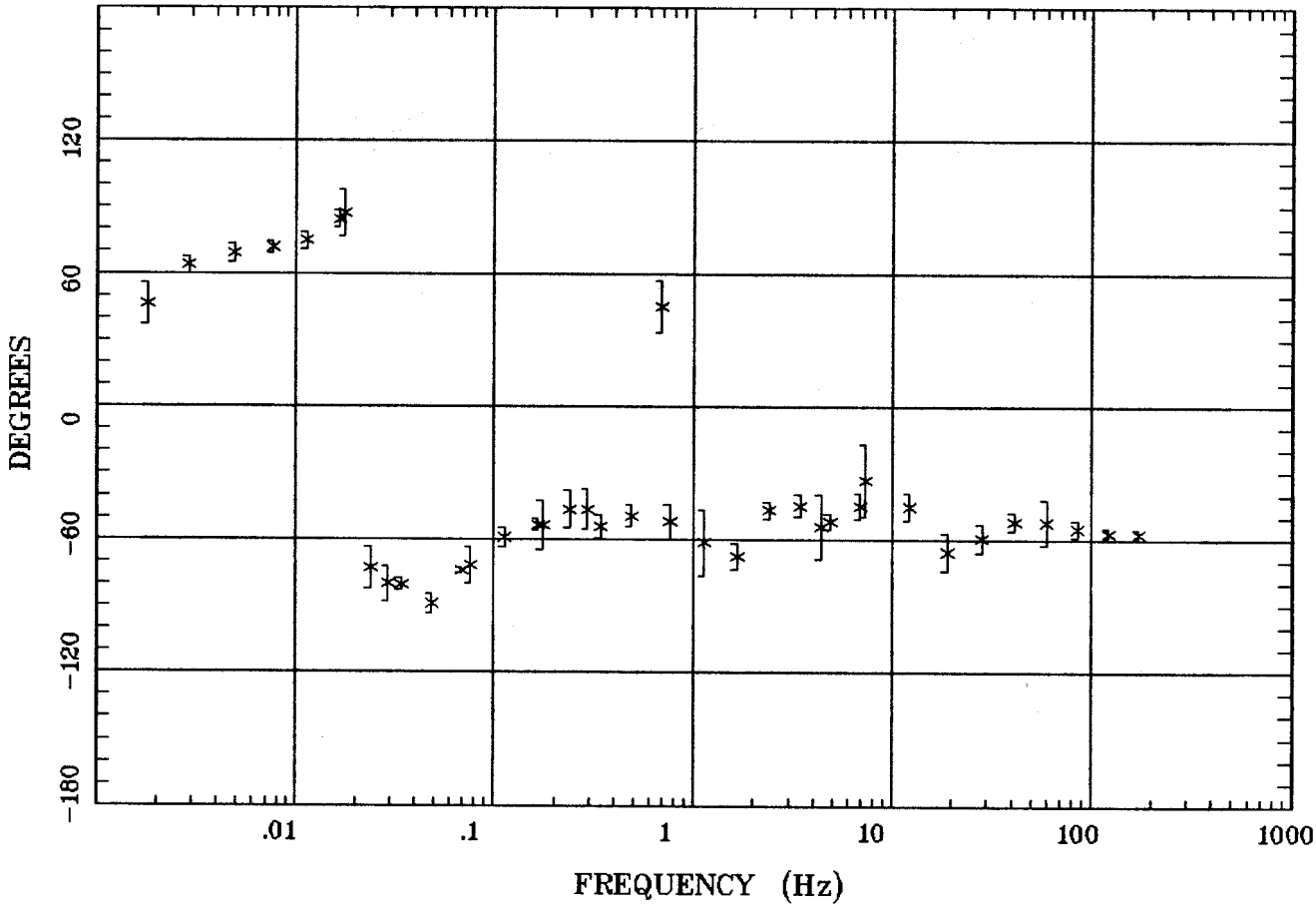


Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE

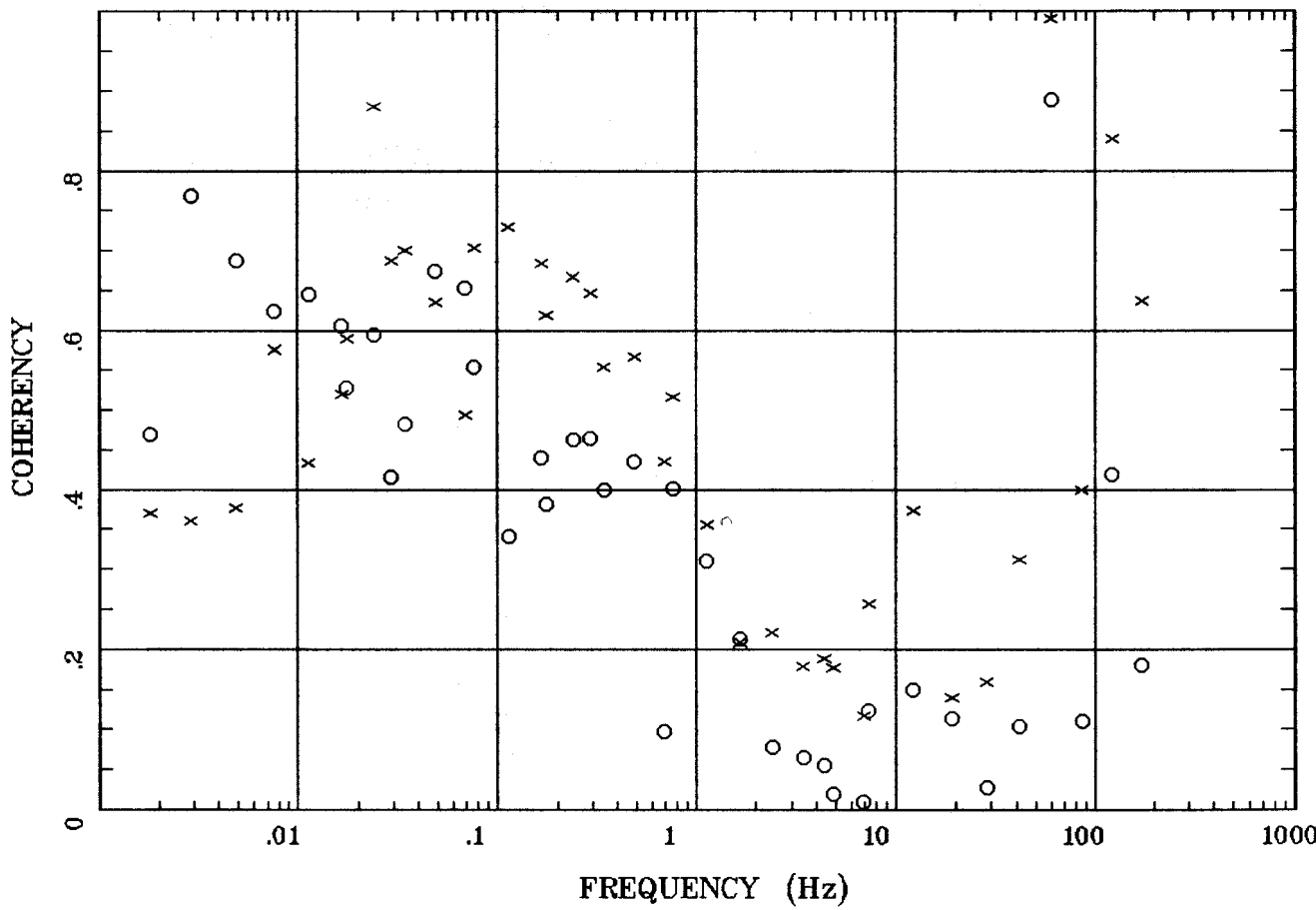
Battle Mtn.



Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

HzHx.x Coh HzHy.o Battle Mtn.

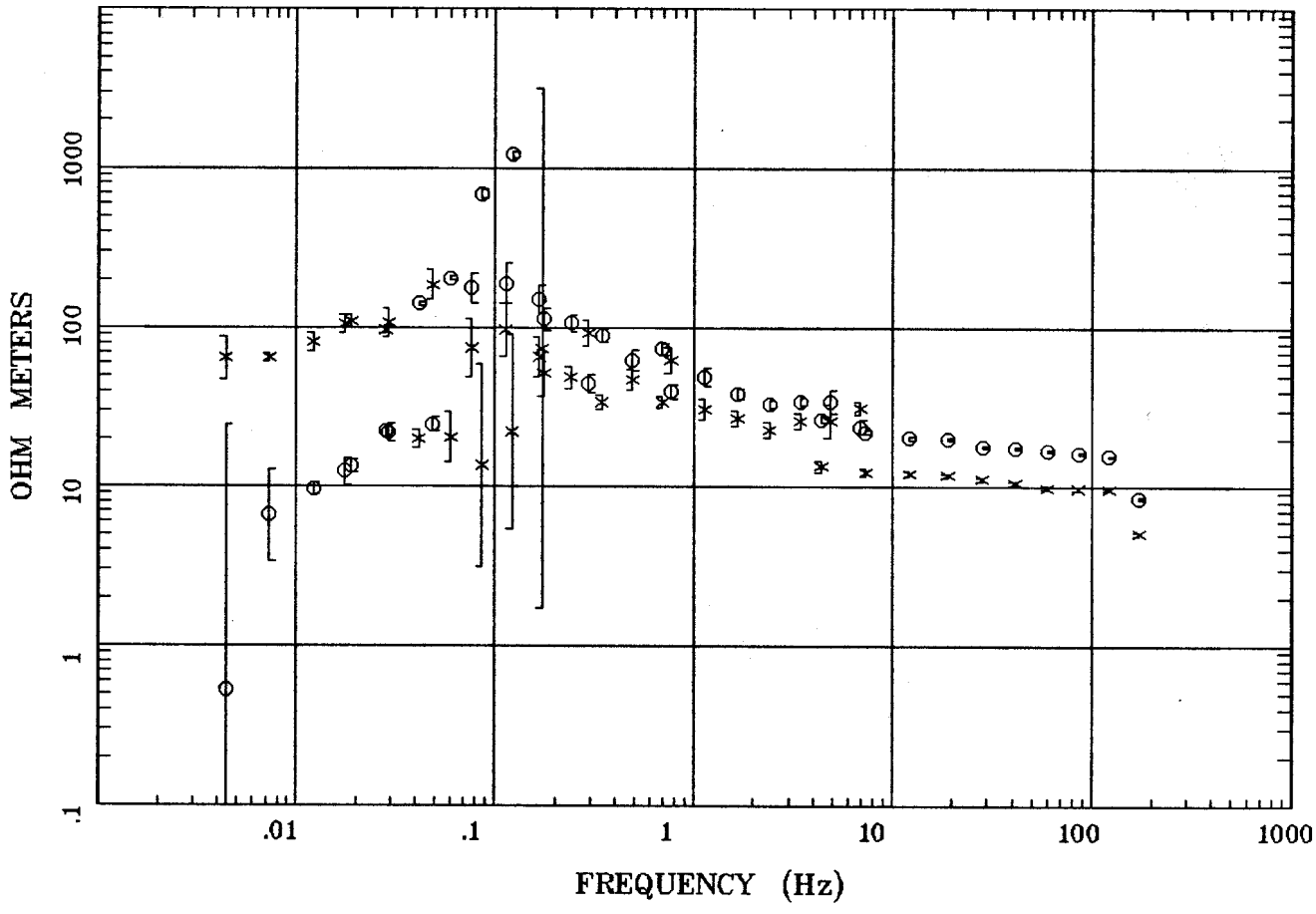


Client:
Remote: E local ref.
Acquired: 09:2 Jul 15, 1997
Survey Co:

Rotation:
Filename: nn23a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:36 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

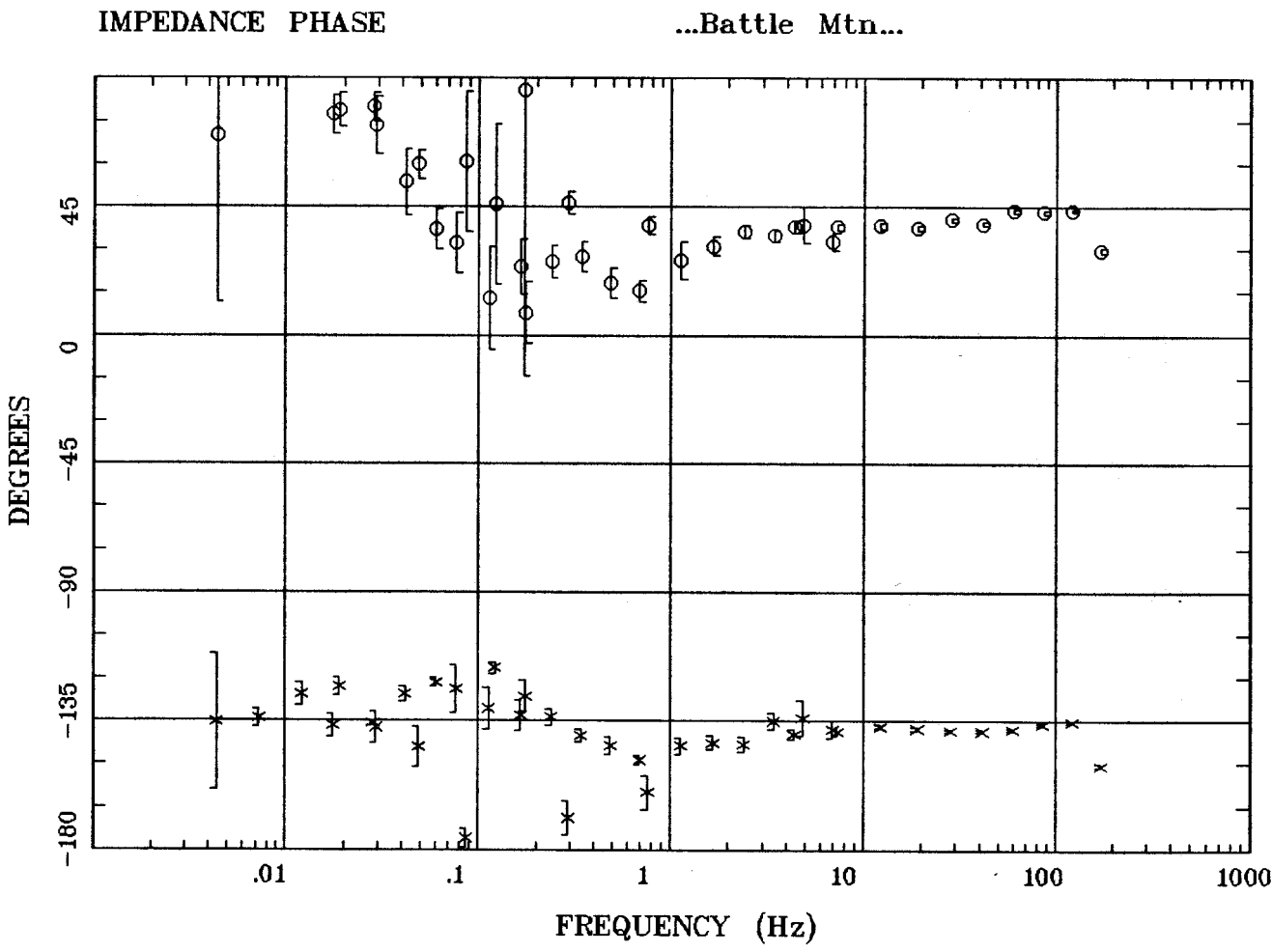
Station 21

APPARENT RESISTIVITY ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

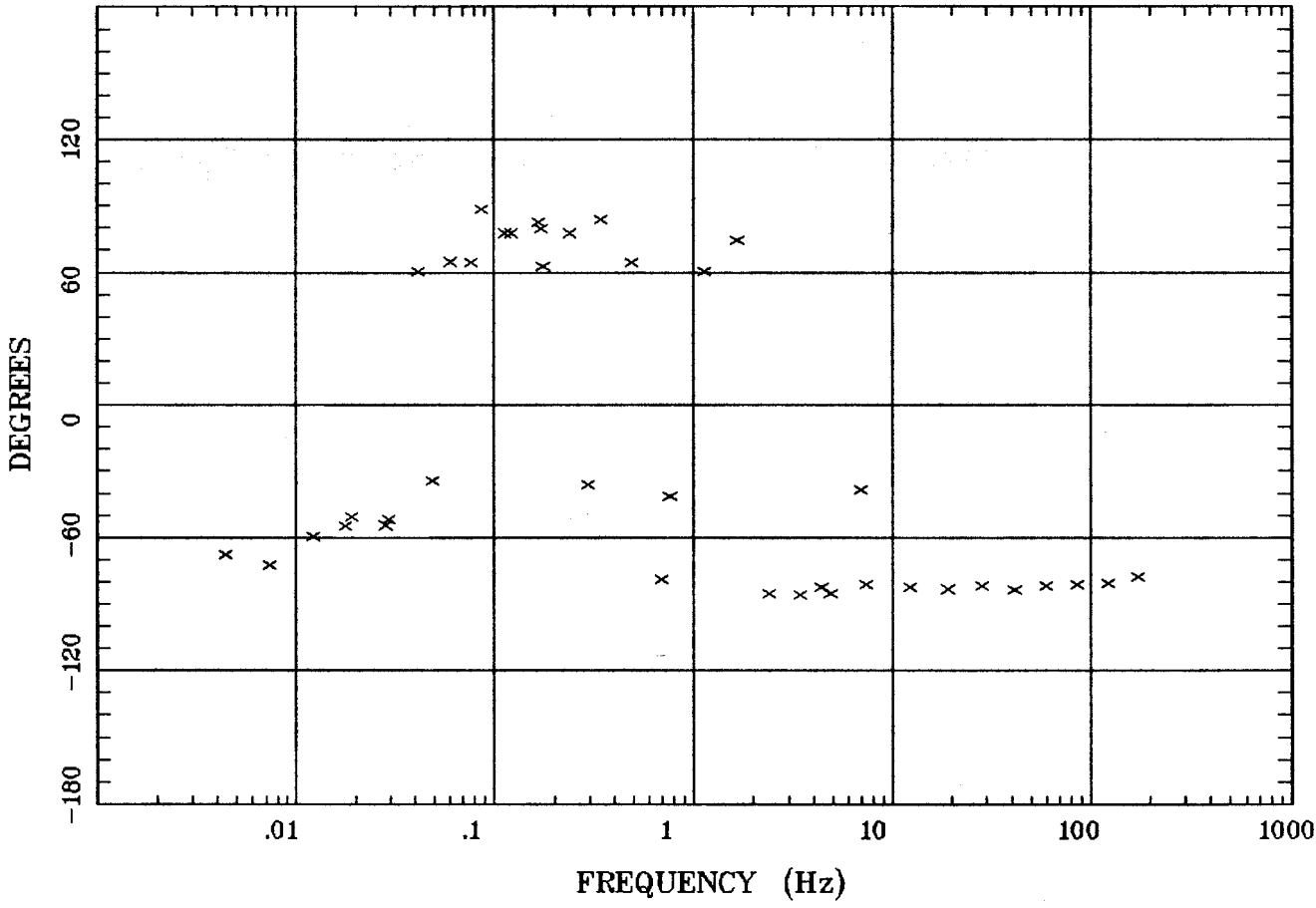
Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

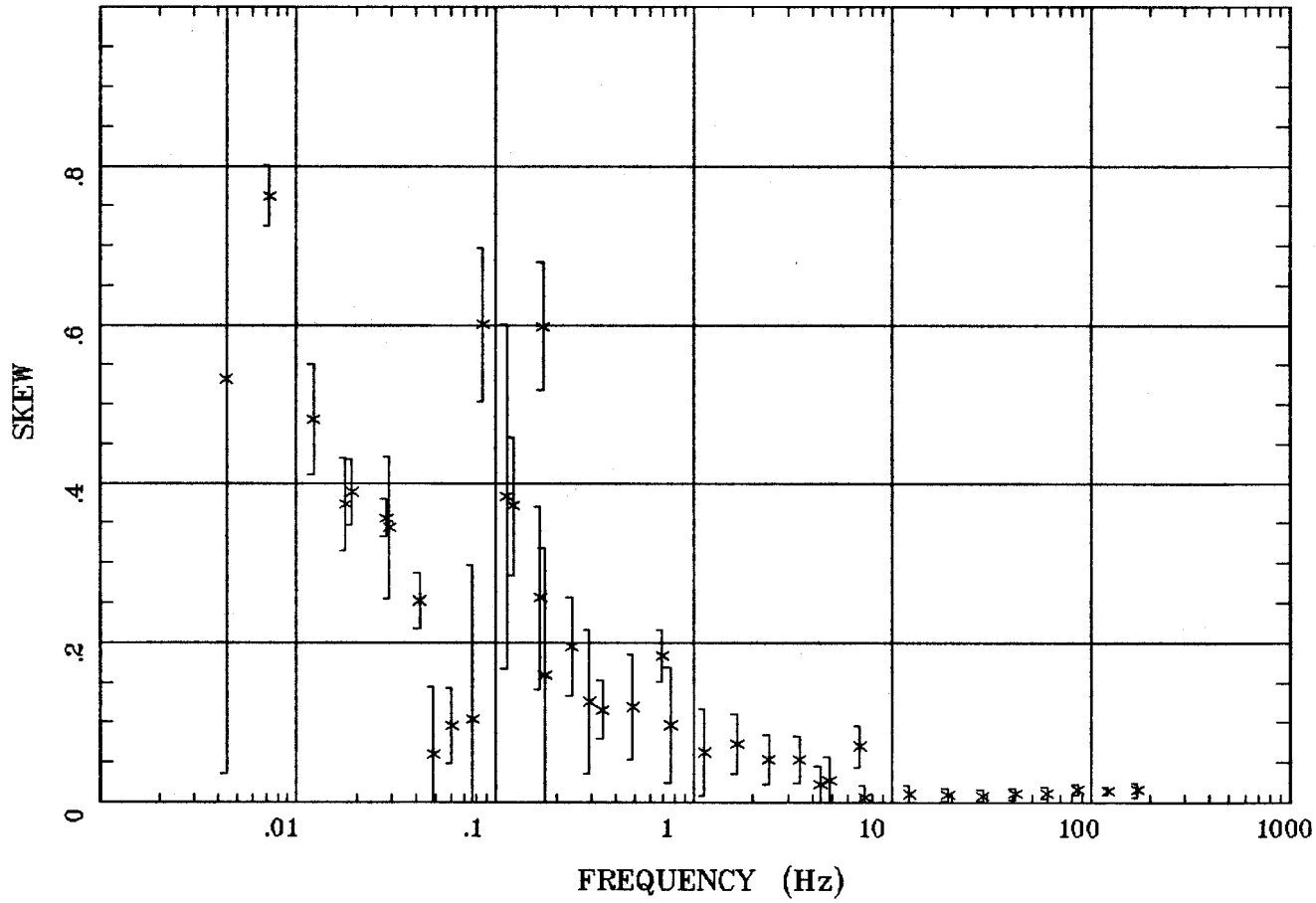
ROTATION ANGLE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

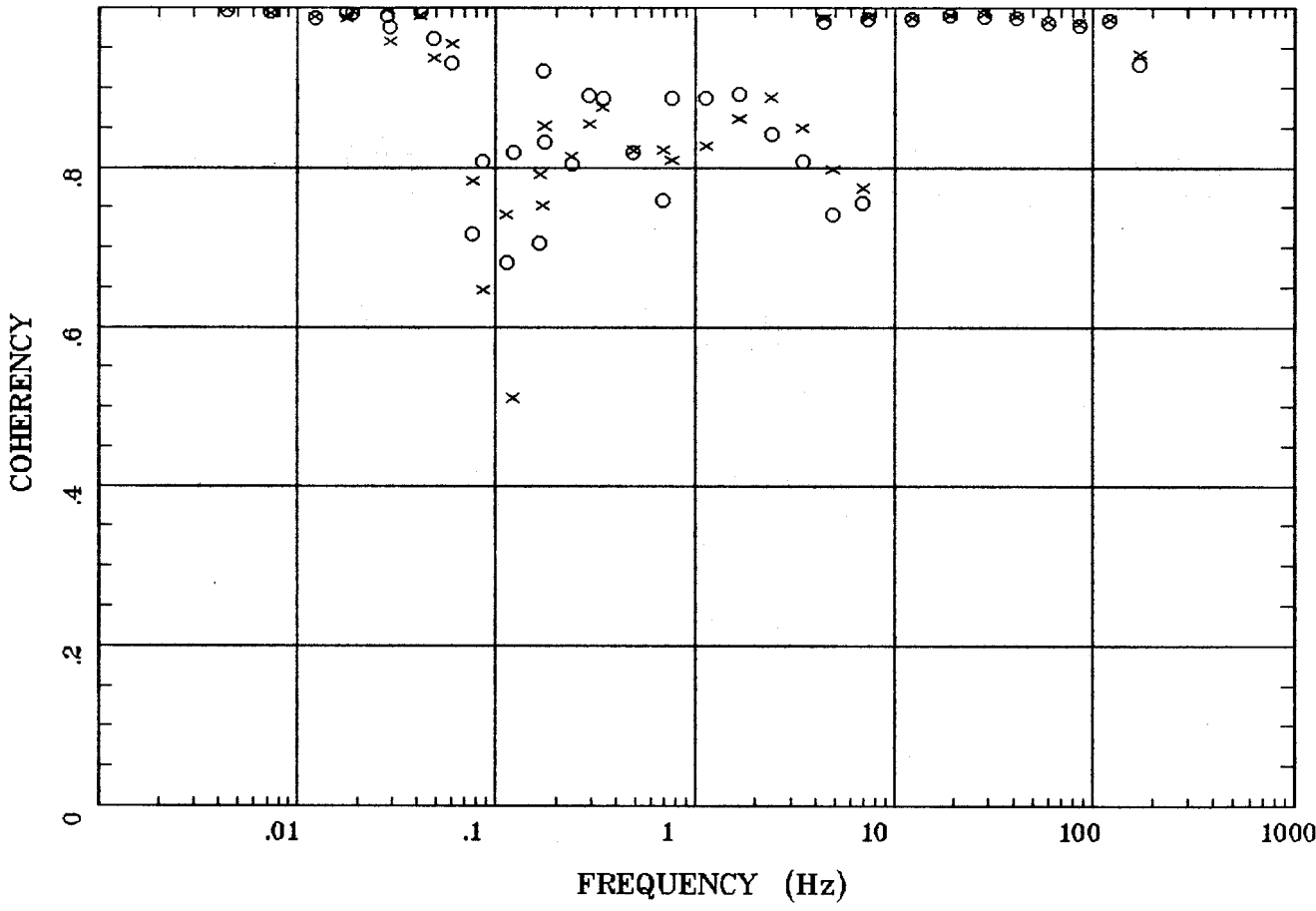
IMPEDANCE SKEW ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

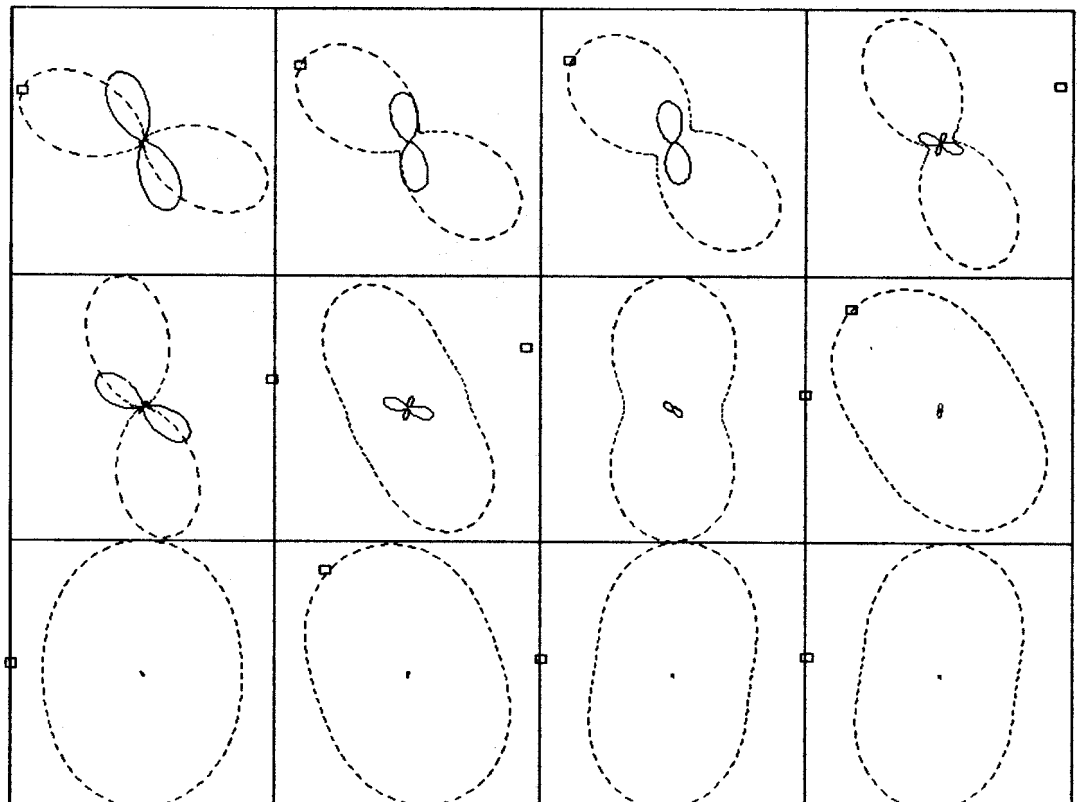
E MULT Coh. ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS ...Battle Mtn...



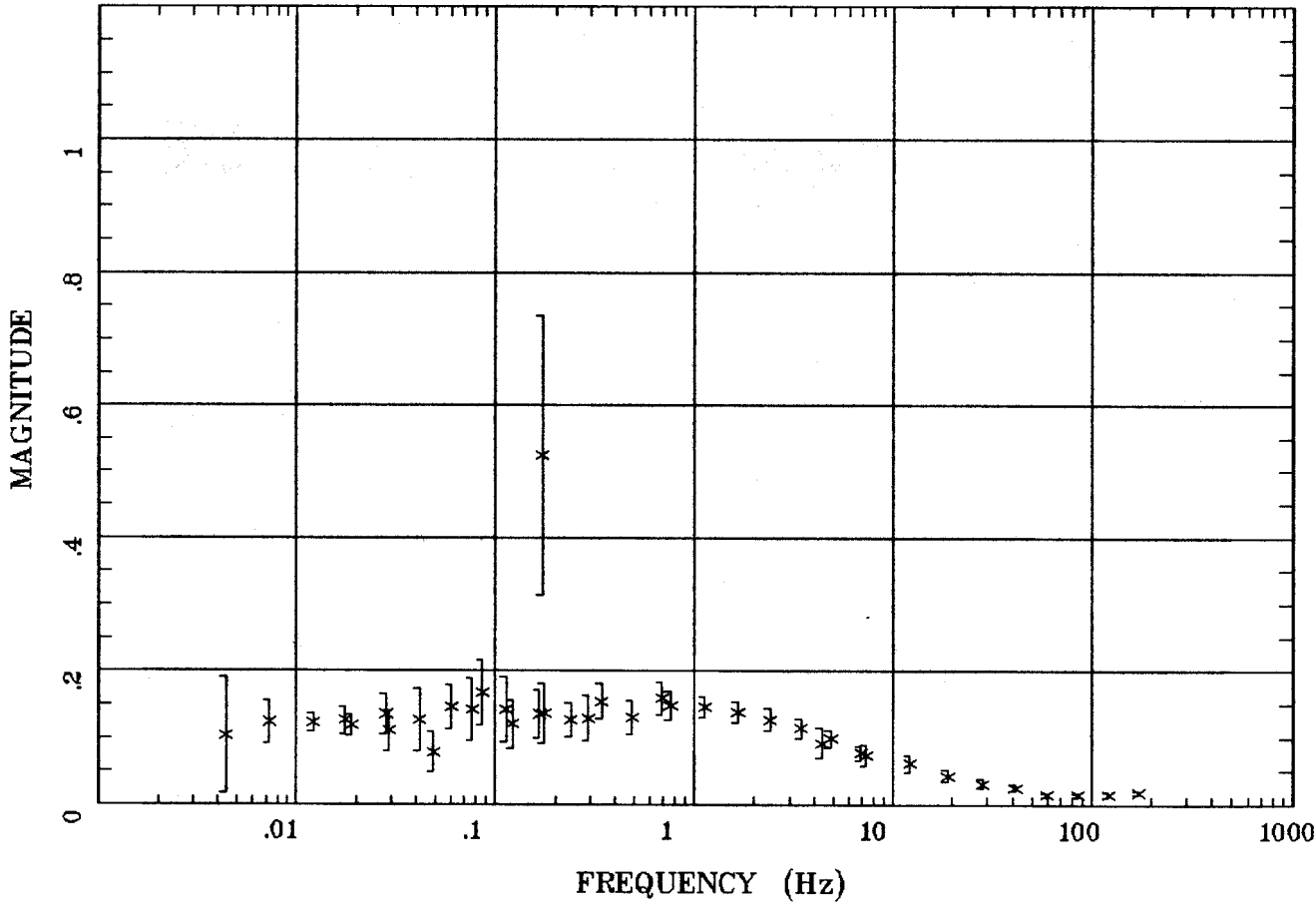
.0044 Hz	.0176 Hz	.0293 Hz	.0601 Hz
.122 Hz	.176 Hz	.344 Hz	.762 Hz
3.438 Hz	6.894 Hz	19.043 Hz	60.059 Hz

Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 21

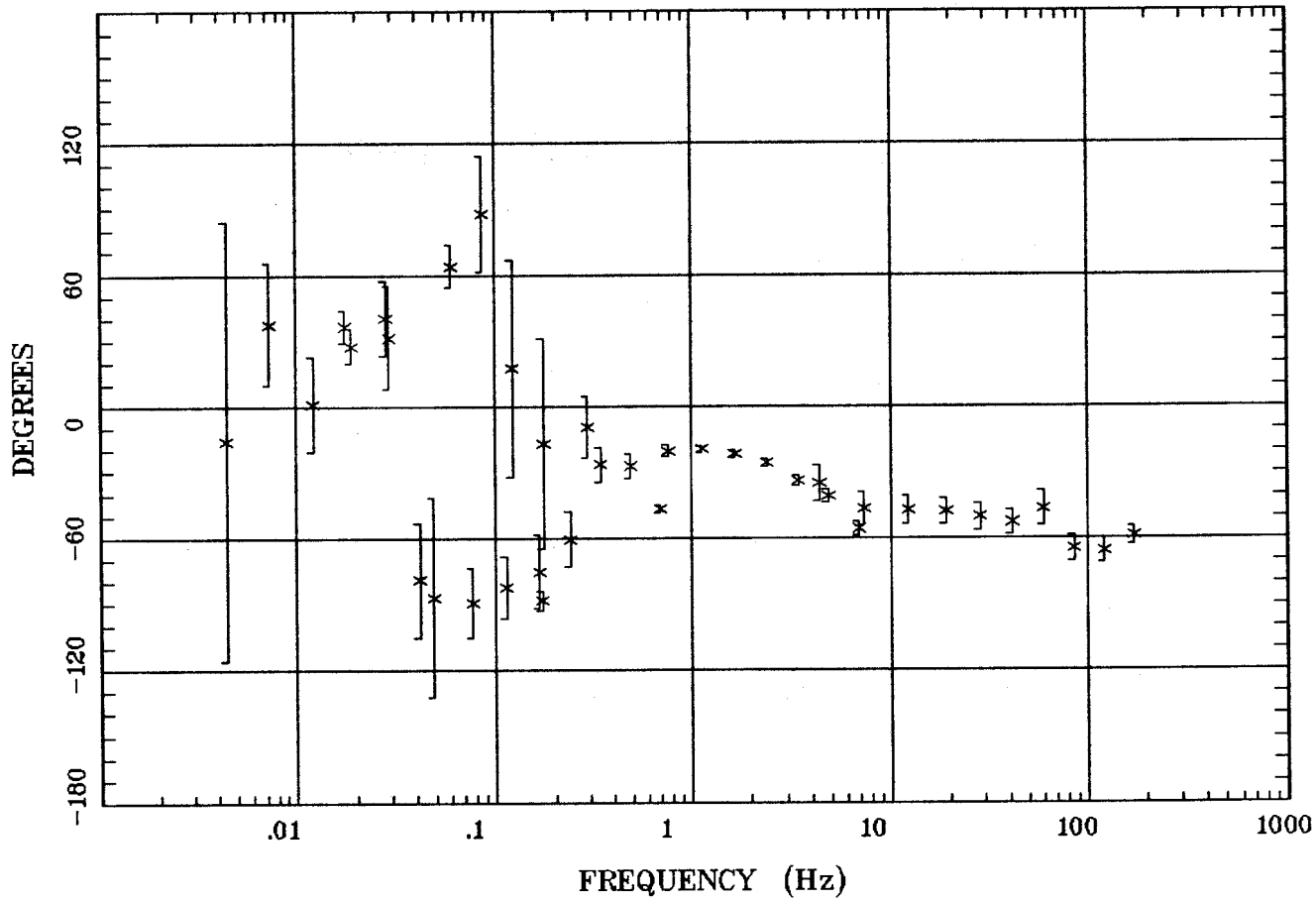
TIPPER MAGNITUDE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

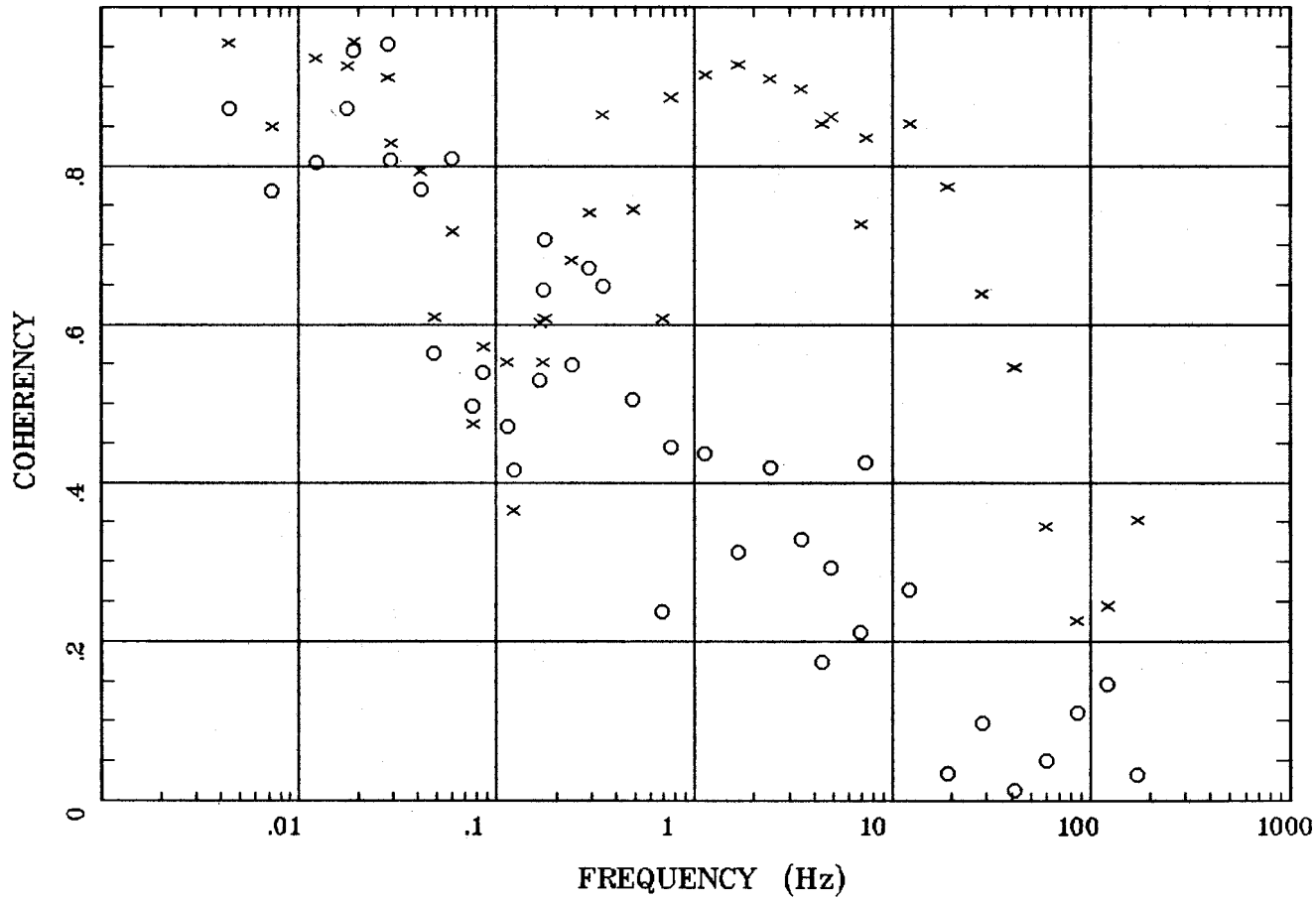
TIPPER STRIKE ...Battle Mtn... Station 21



Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:33 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

HzHx.x Coh HzHy.o ...Battle Mtn...

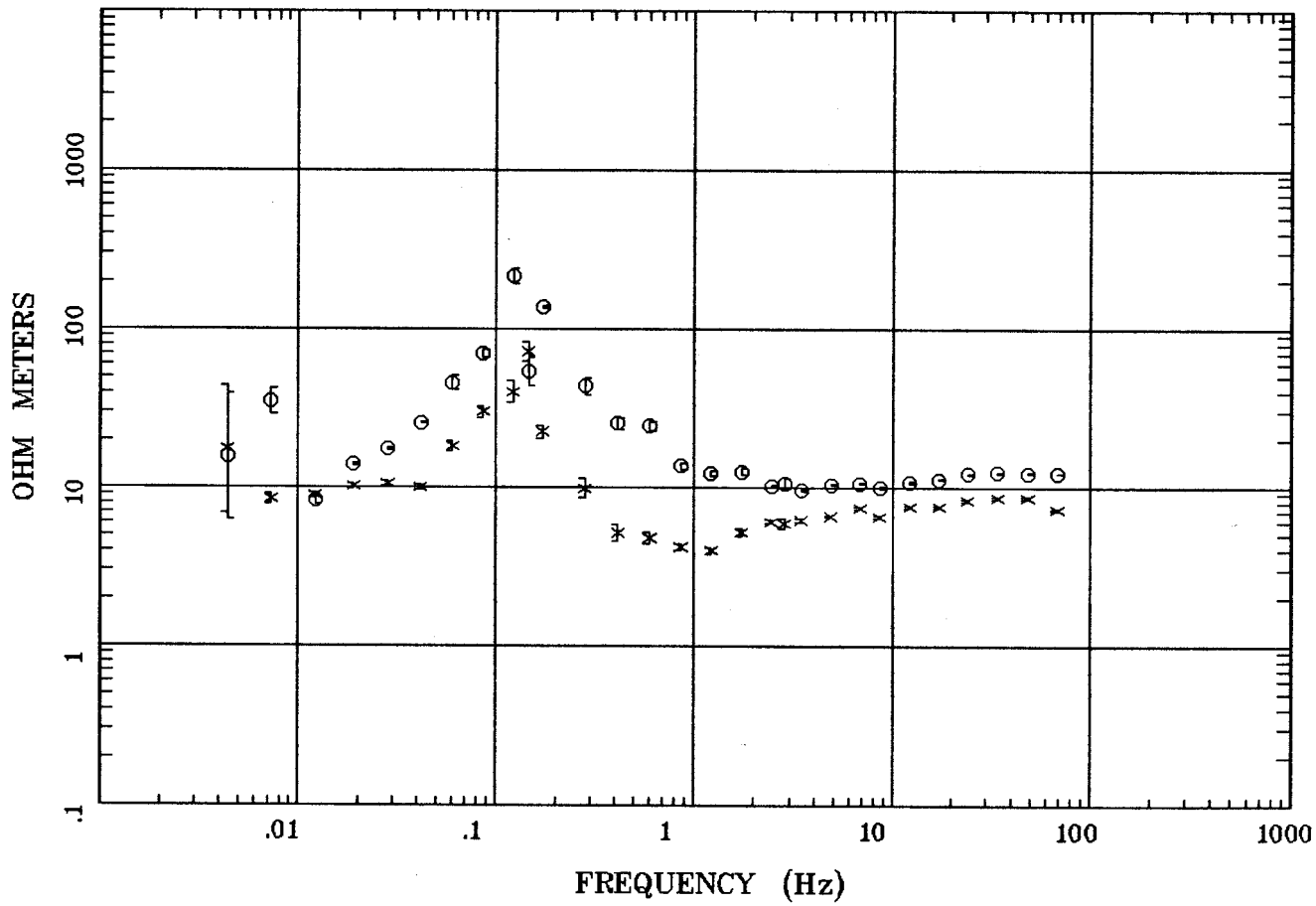


Client:
Remote: E local ref.
Acquired: 16:4 Jul 23, 1997
Survey Co:

Rotation:
Filename: nn21.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:34 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 24A

APPARENT RESISTIVITY Battle Mtn.



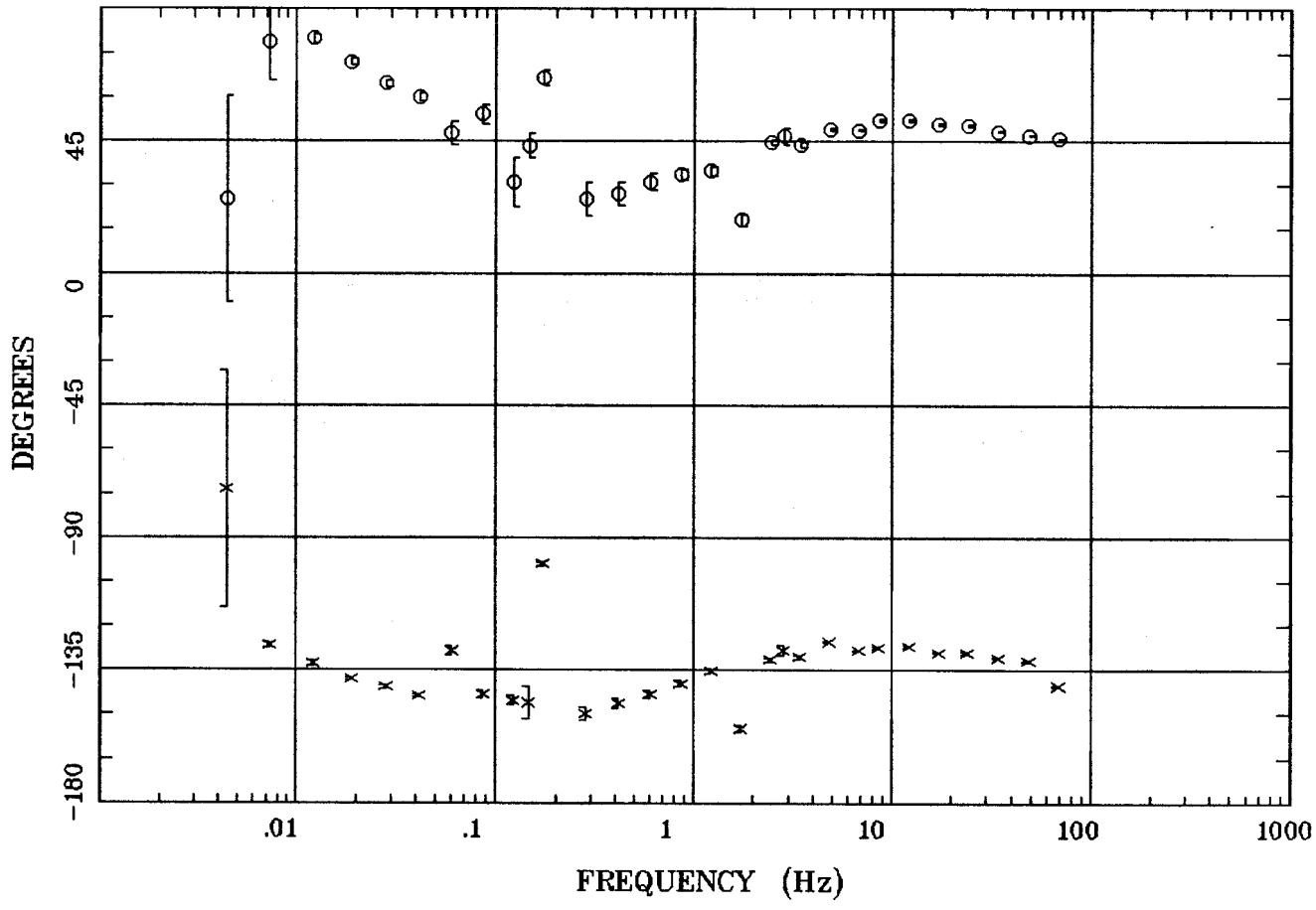
Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 24A

IMPEDANCE PHASE

Battle Mtn.



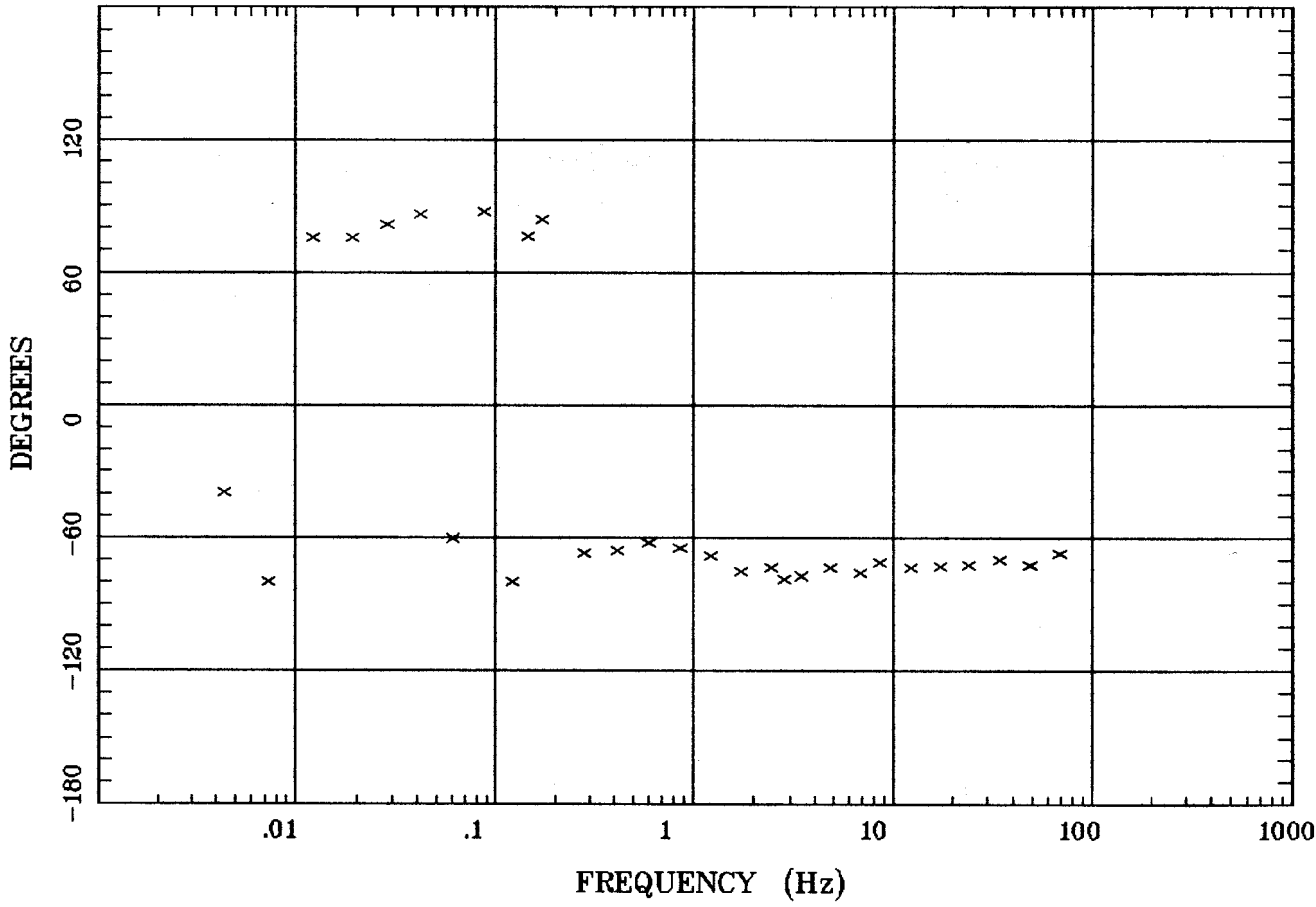
Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 24A

ROTATION ANGLE

Battle Mtn.

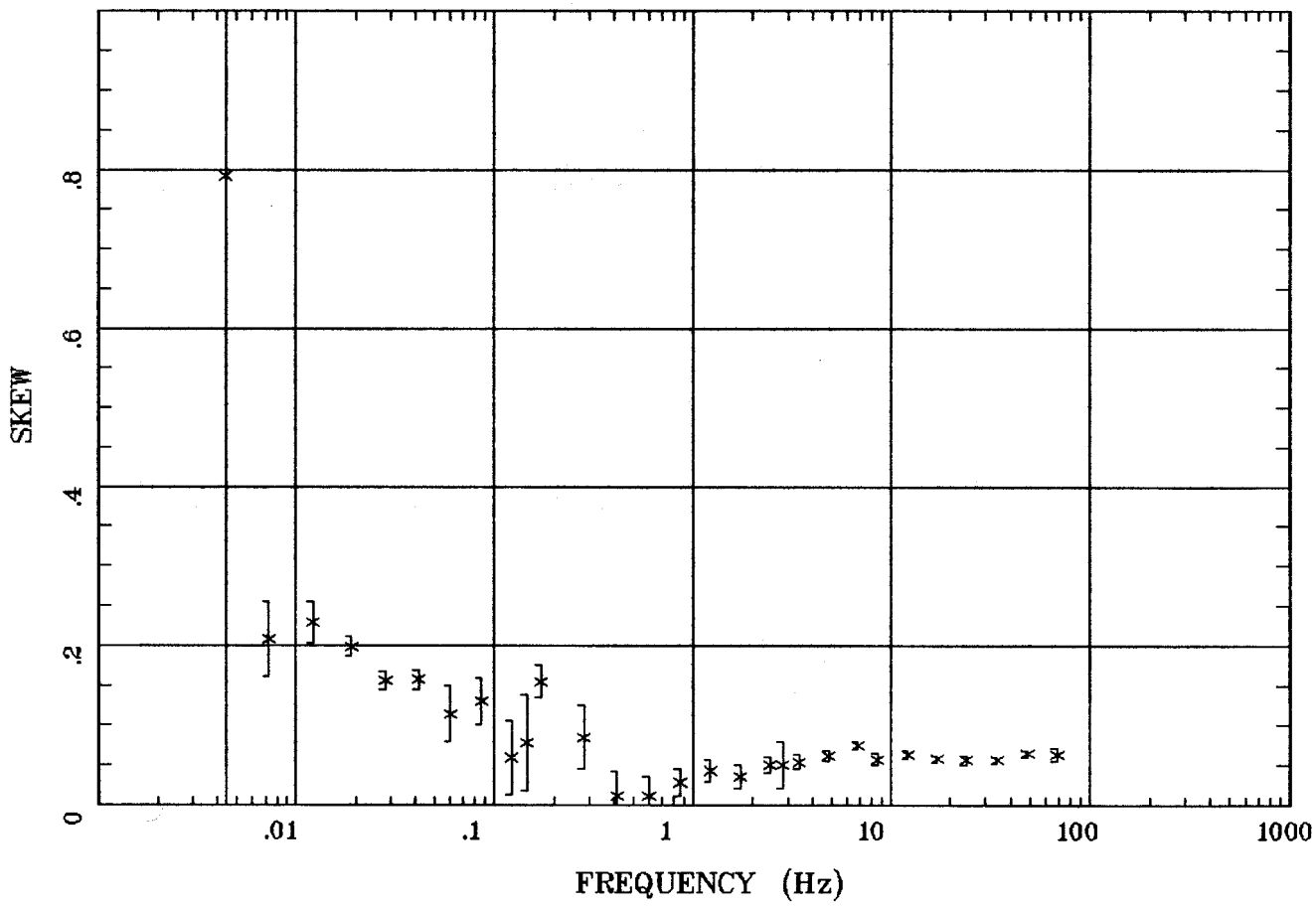


Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 24A

IMPEDANCE SKEW Battle Mtn.

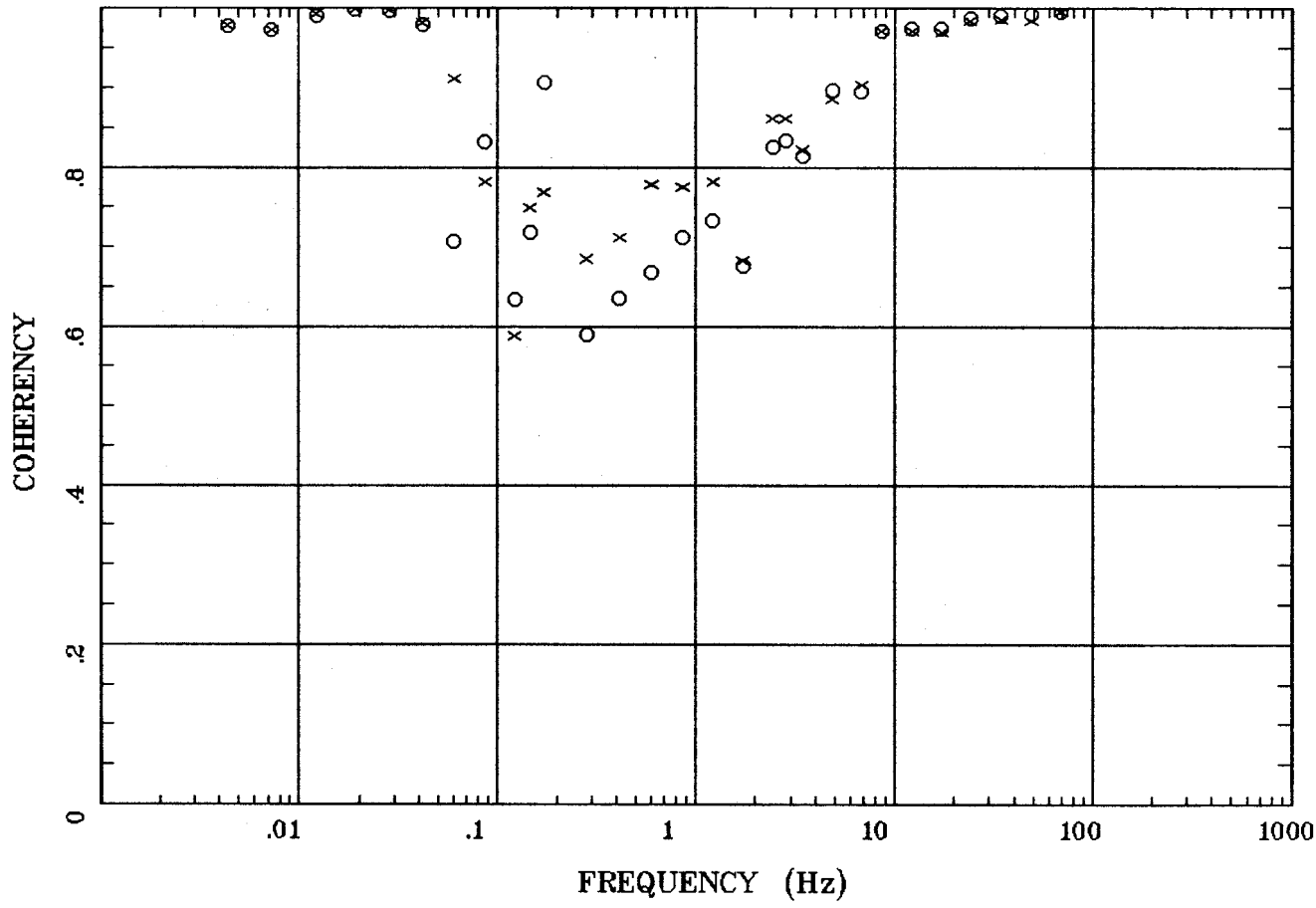


Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 24A

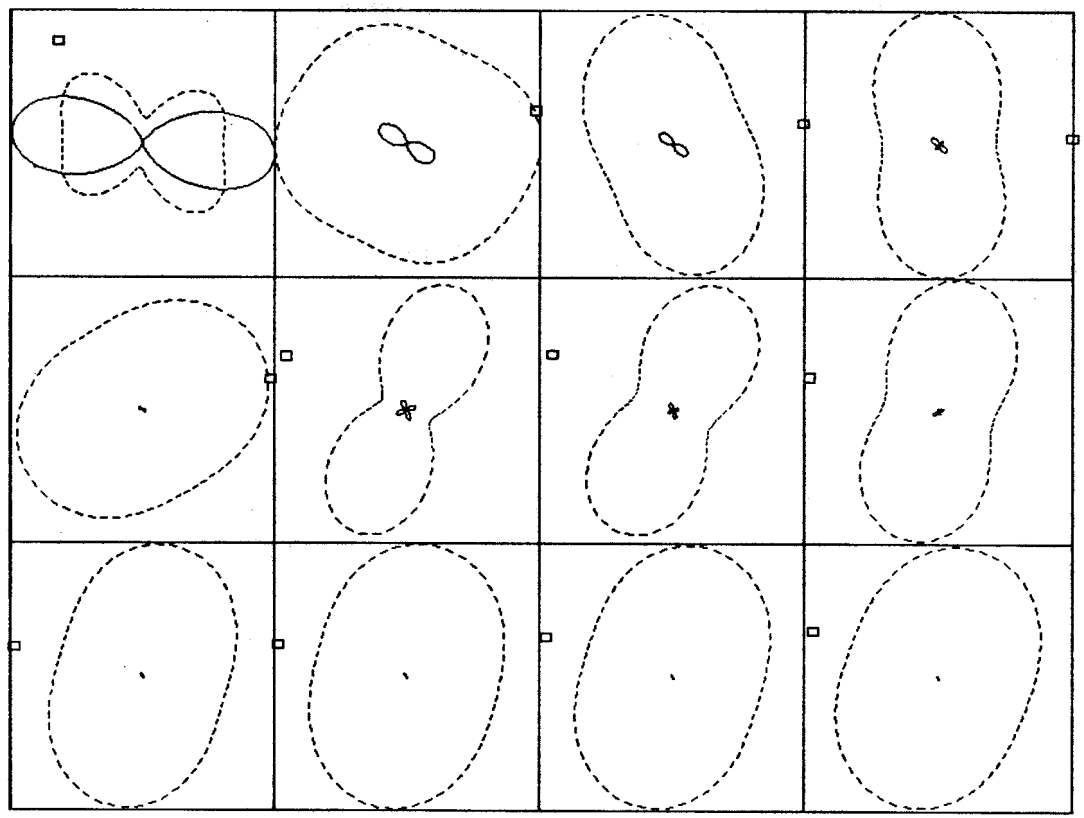
E MULT Coh. Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

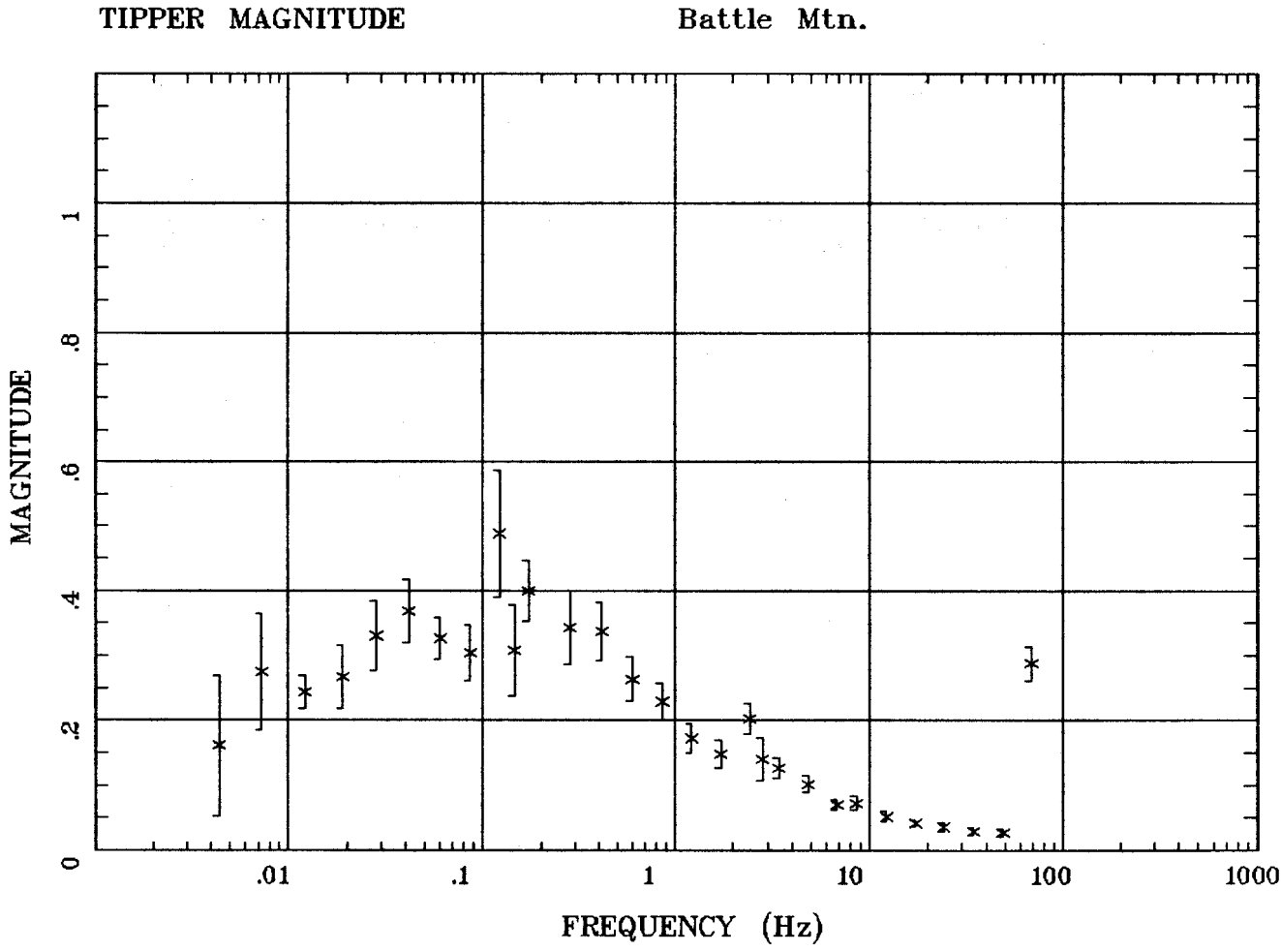
POLAR PLOTS Battle Mtn.



.0044 Hz	.0122 Hz	.0283 Hz	.0859 Hz
.147 Hz	.415 Hz	.859 Hz	1.724 Hz
3.447 Hz	6.826 Hz	17.236 Hz	34.375 Hz

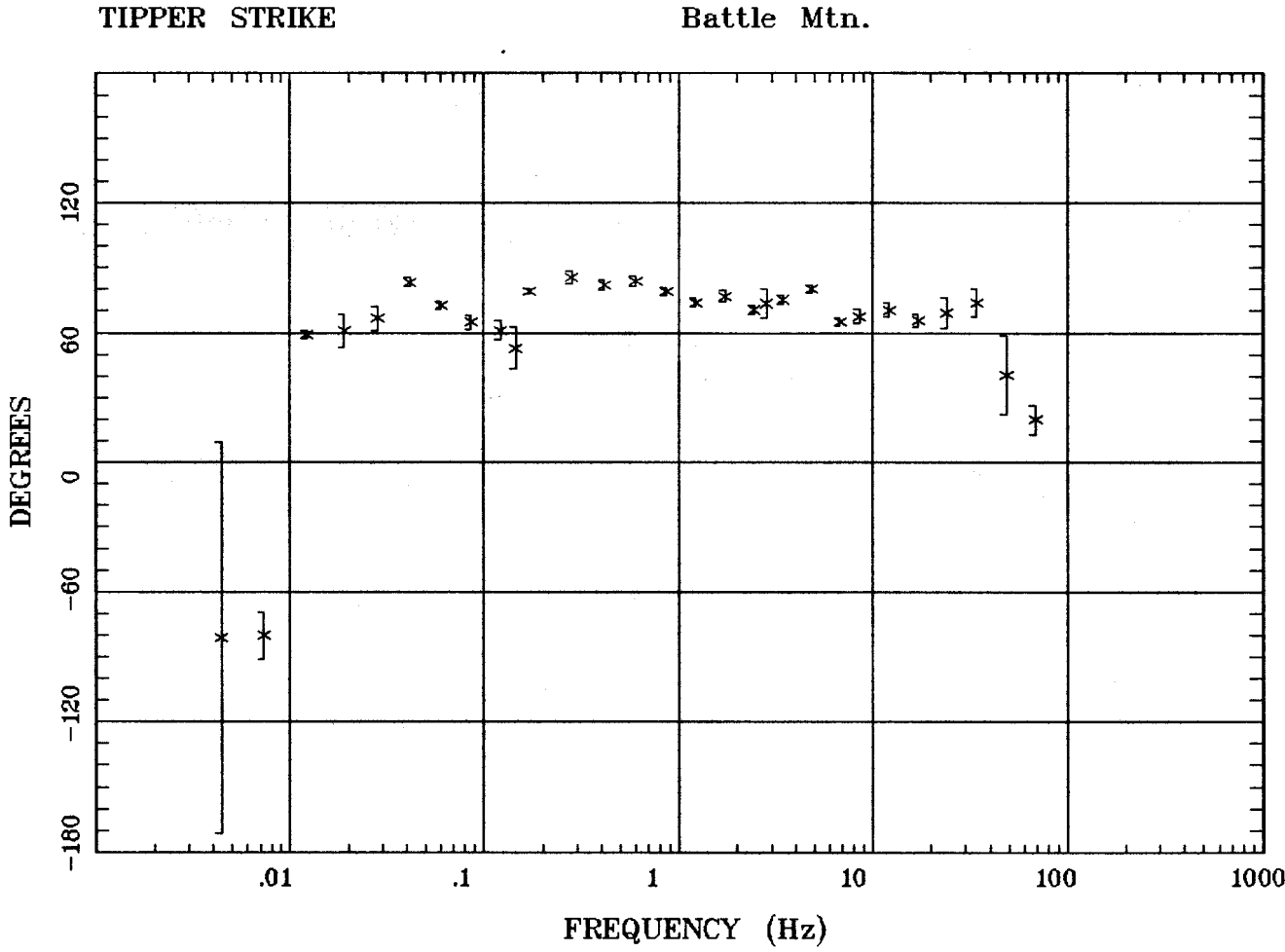
Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

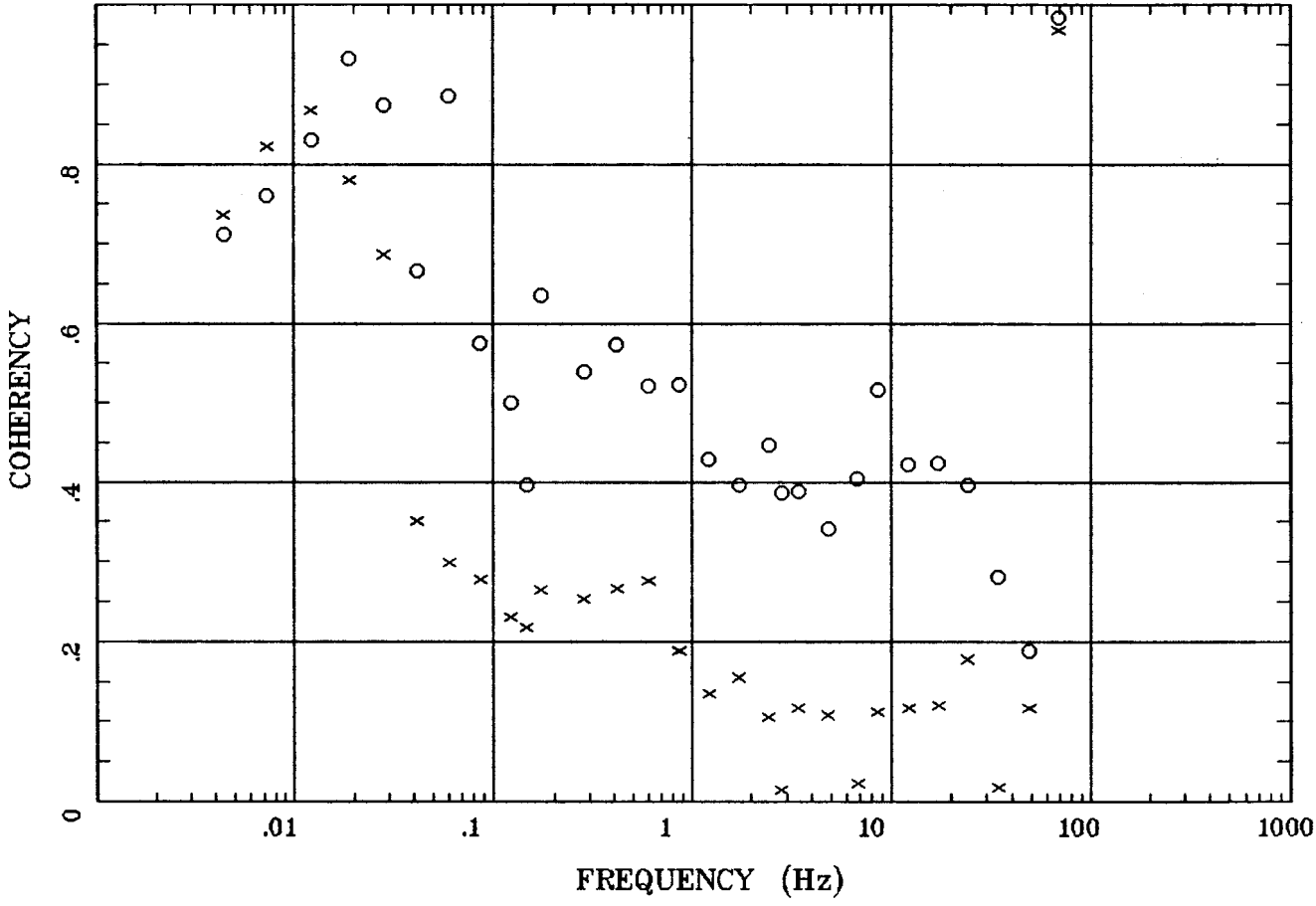
Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

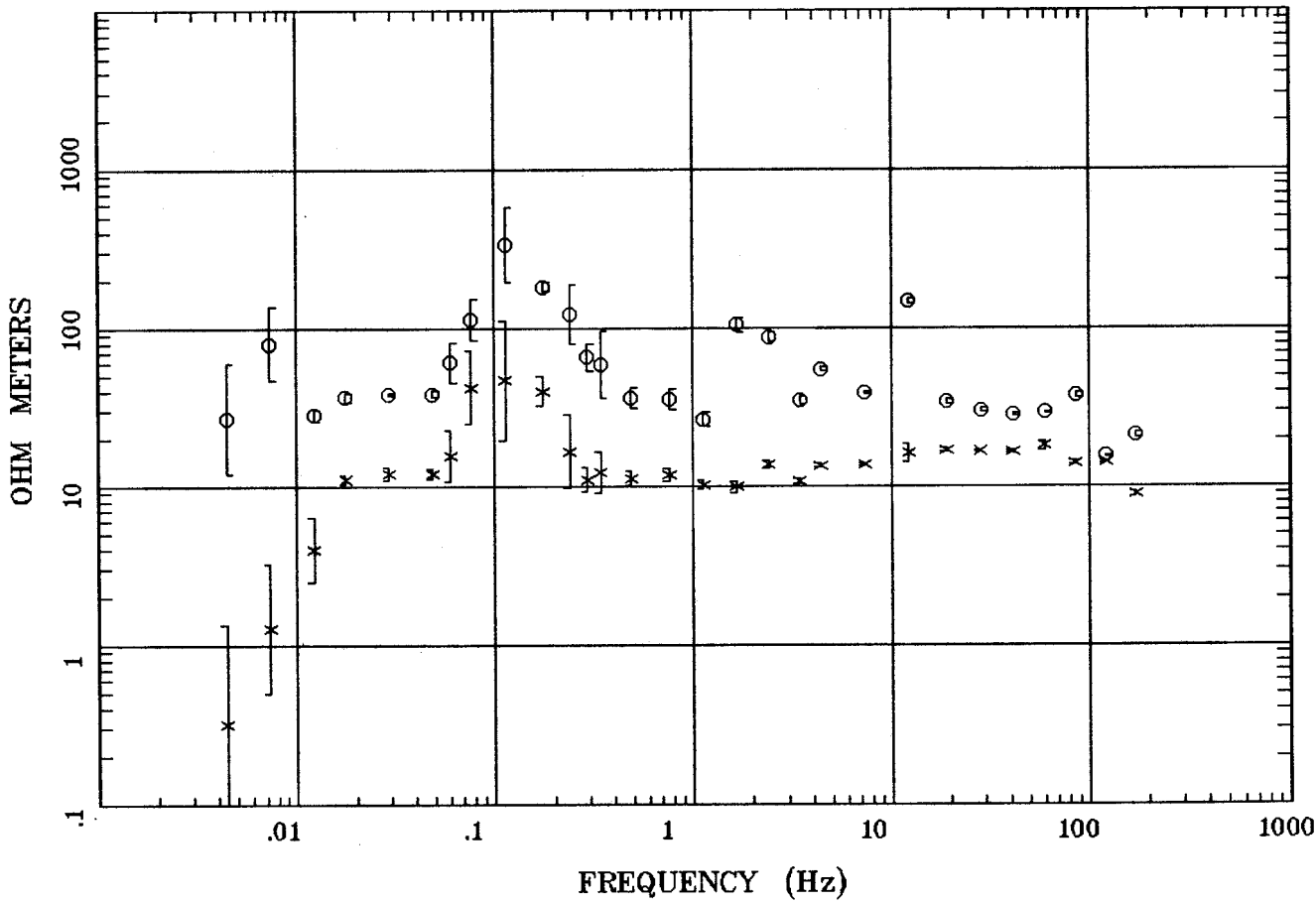
HzHx.x Coh HzHy.o Battle Mtn.



Client:
Remote: e-field local ref
Acquired: 10:2 Jul 12, 1997
Survey Co:

Rotation:
Filename: nn24c.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:37 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

APPARENT RESISTIVITY Battle Mtn.

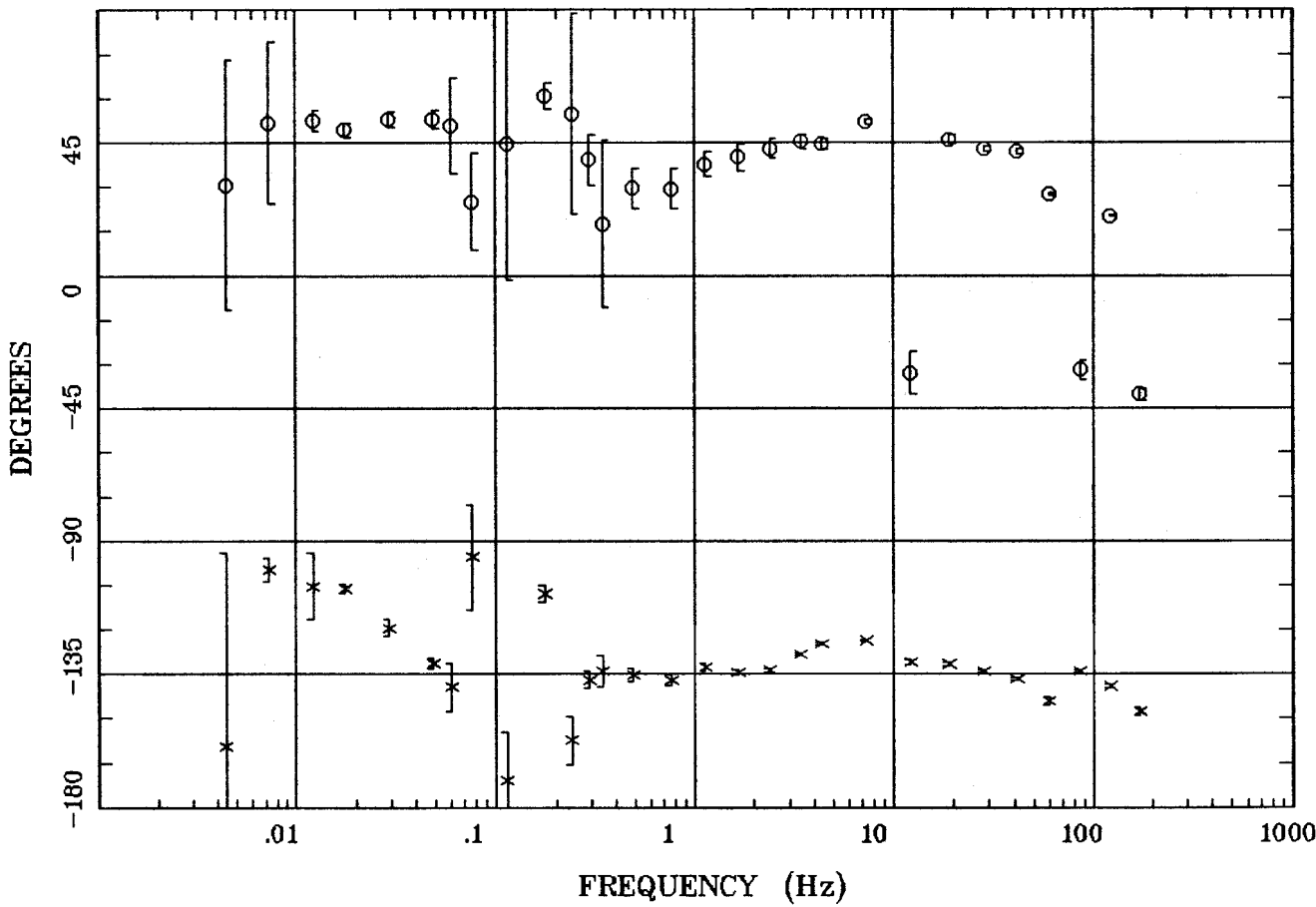


Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

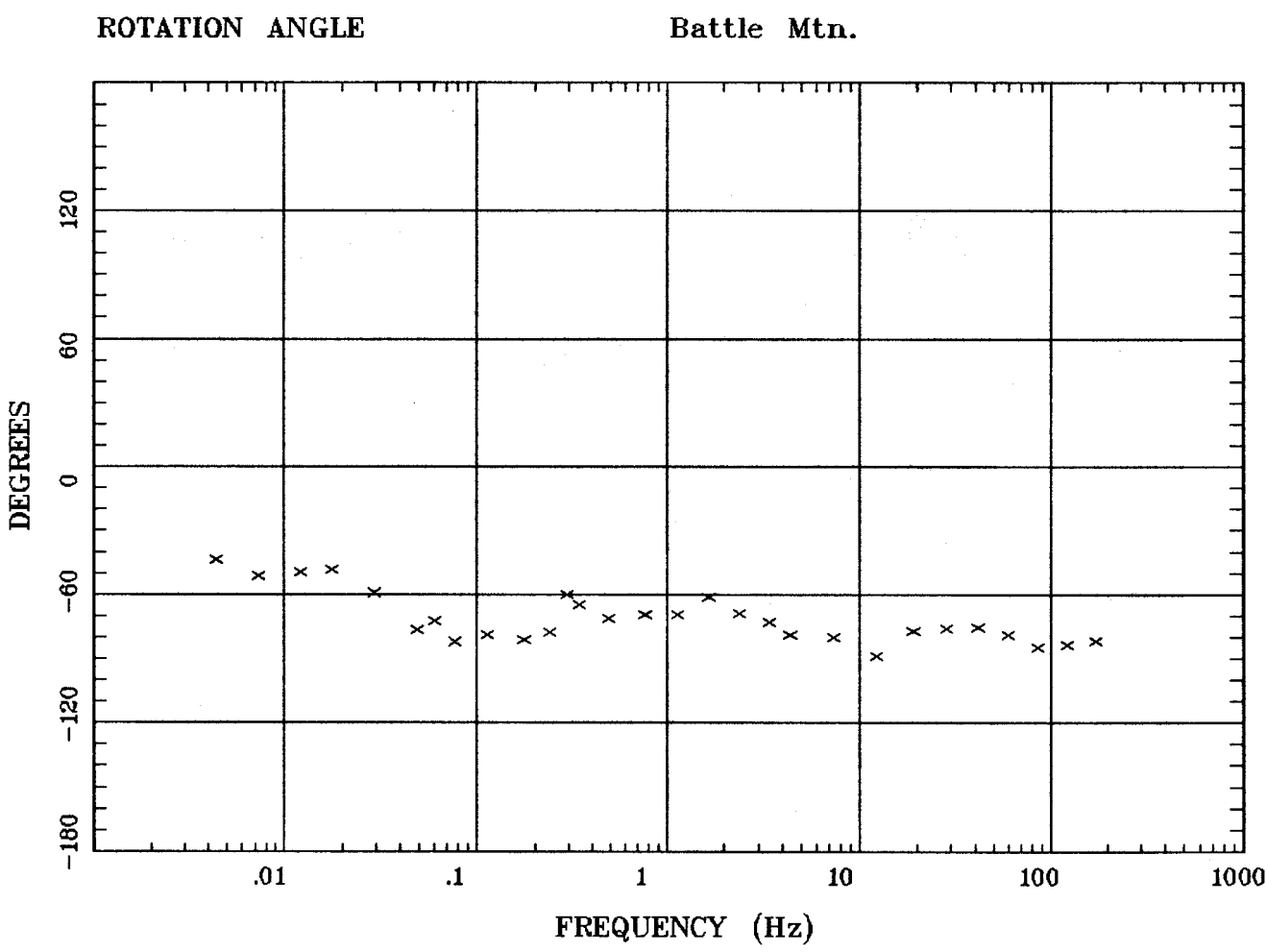
IMPEDANCE PHASE

Battle Mtn.



Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



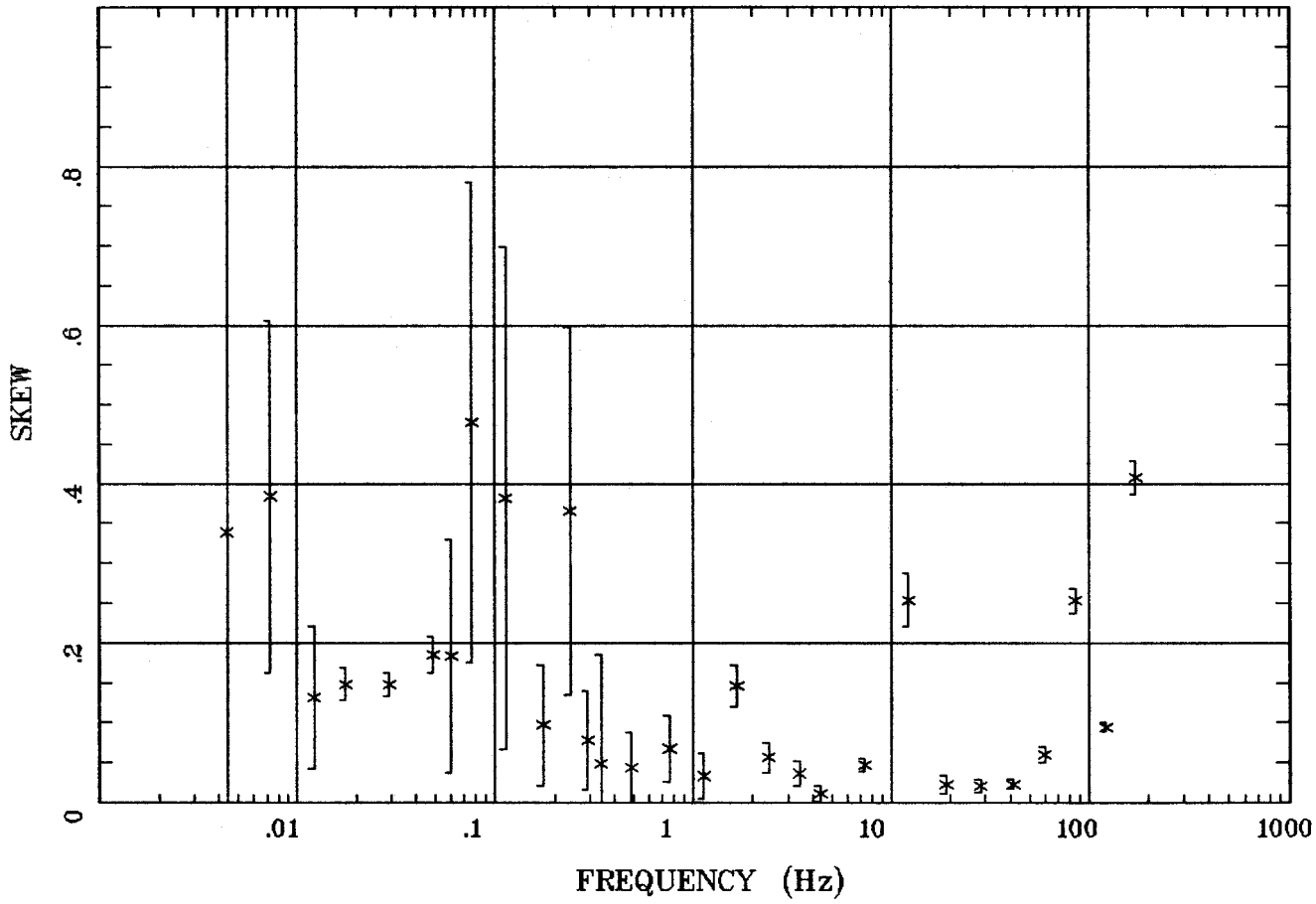
Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 25A

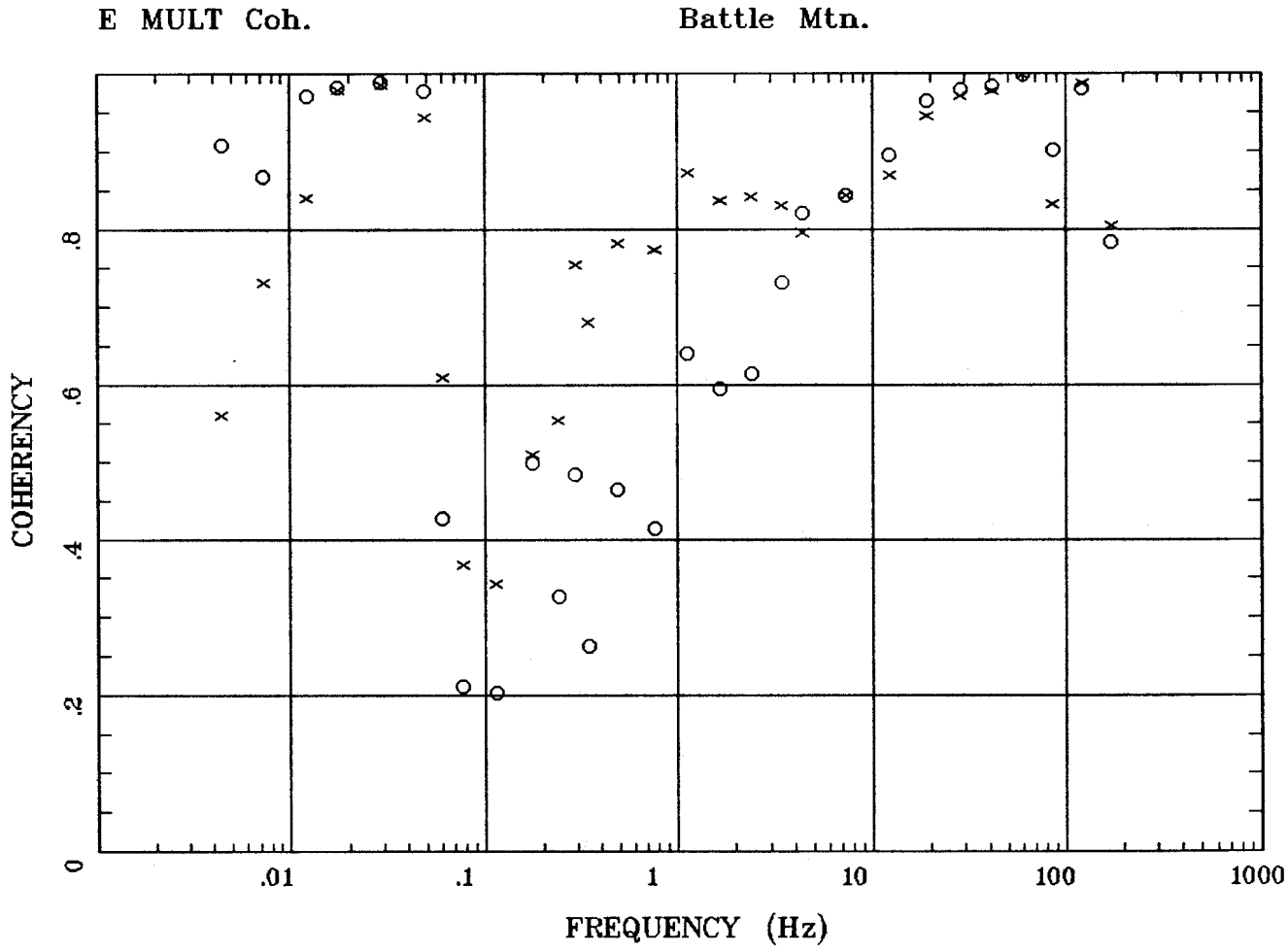
IMPEDANCE SKEW

Battle Mtn.



Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

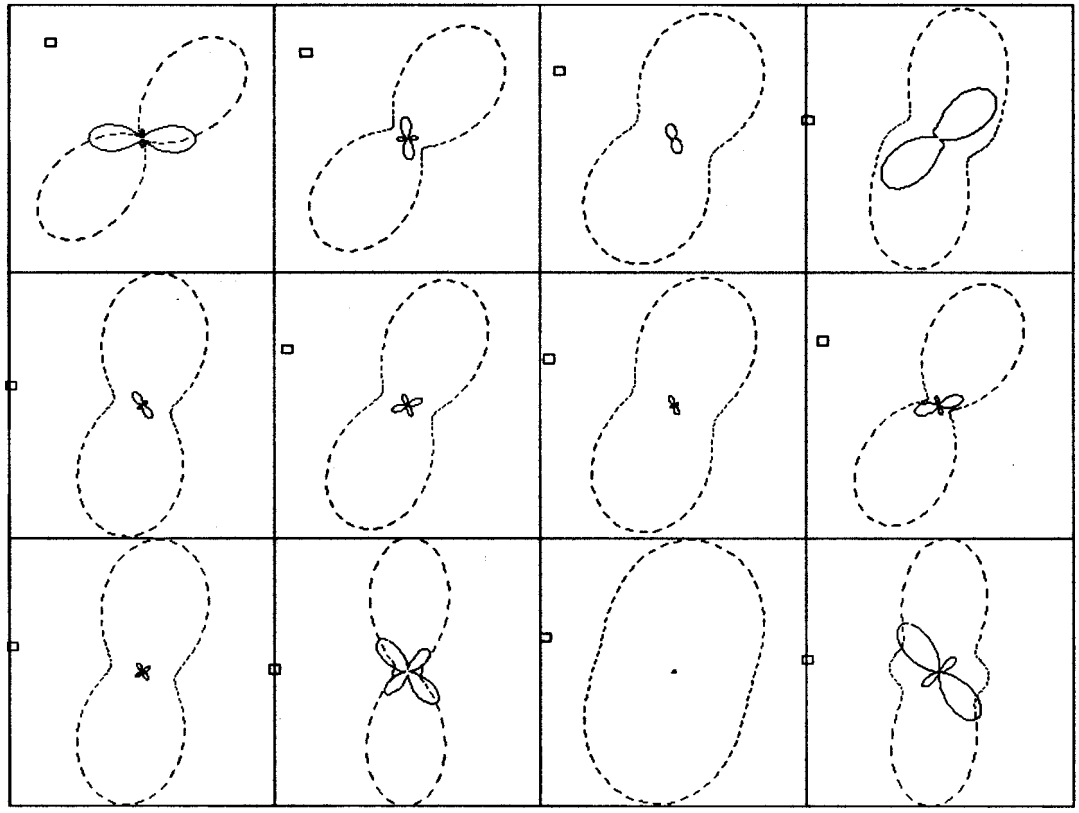


Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.



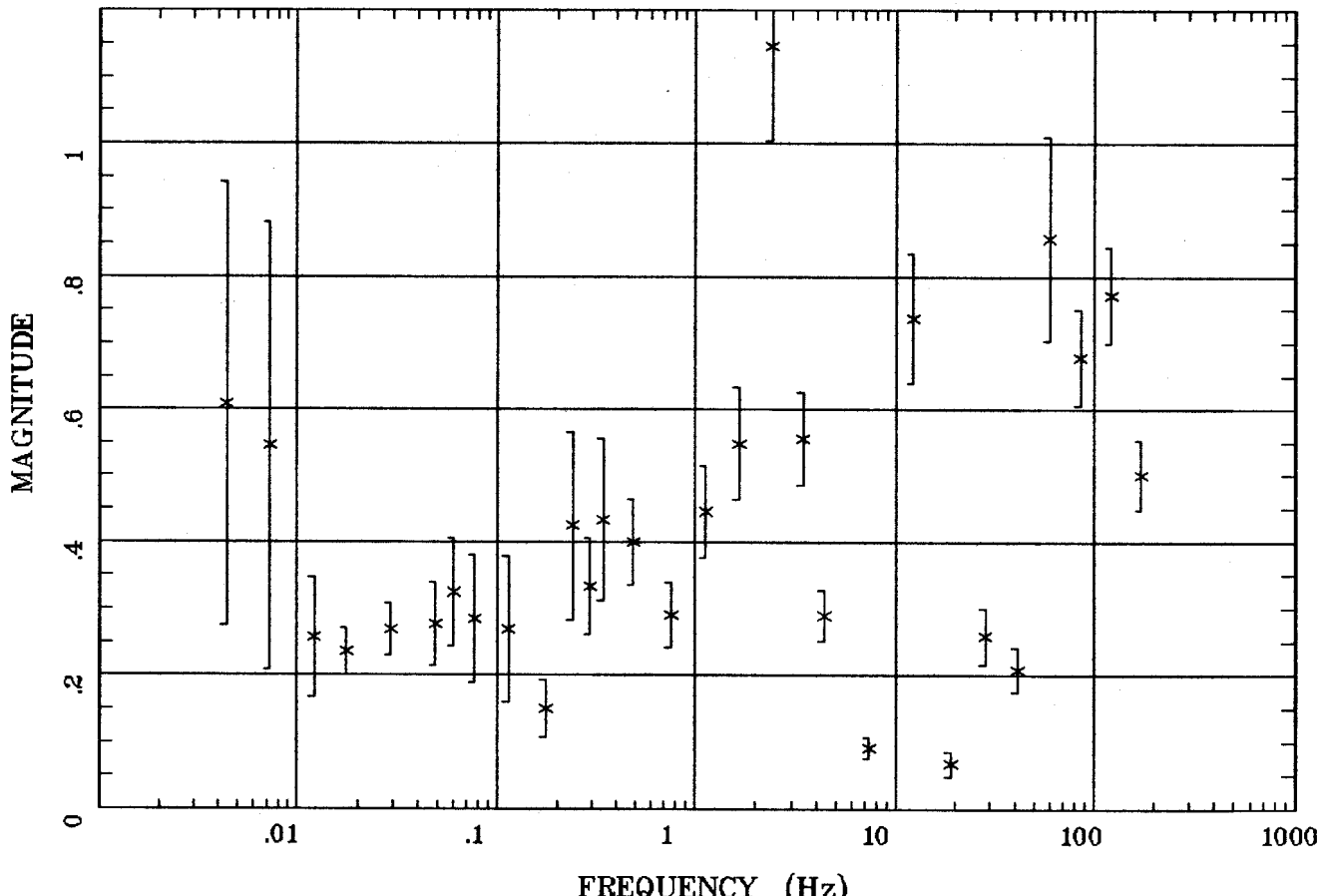
.0044 Hz	.0122 Hz	.0293 Hz	.0762 Hz
.176 Hz	.344 Hz	.762 Hz	1.660 Hz
4.394 Hz	12.207 Hz	41.504 Hz	85.938 Hz

Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE

Battle Mtn.

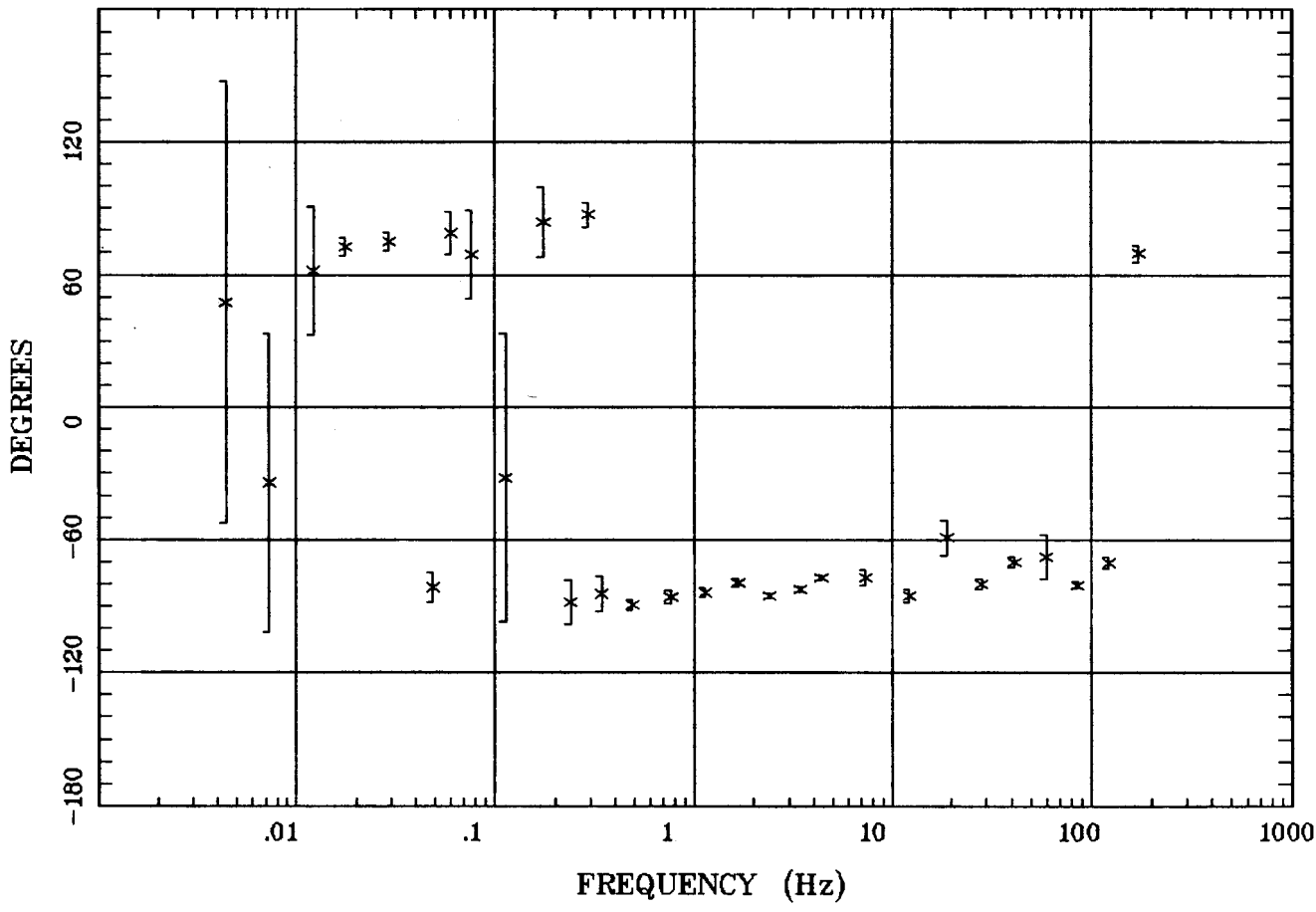


Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

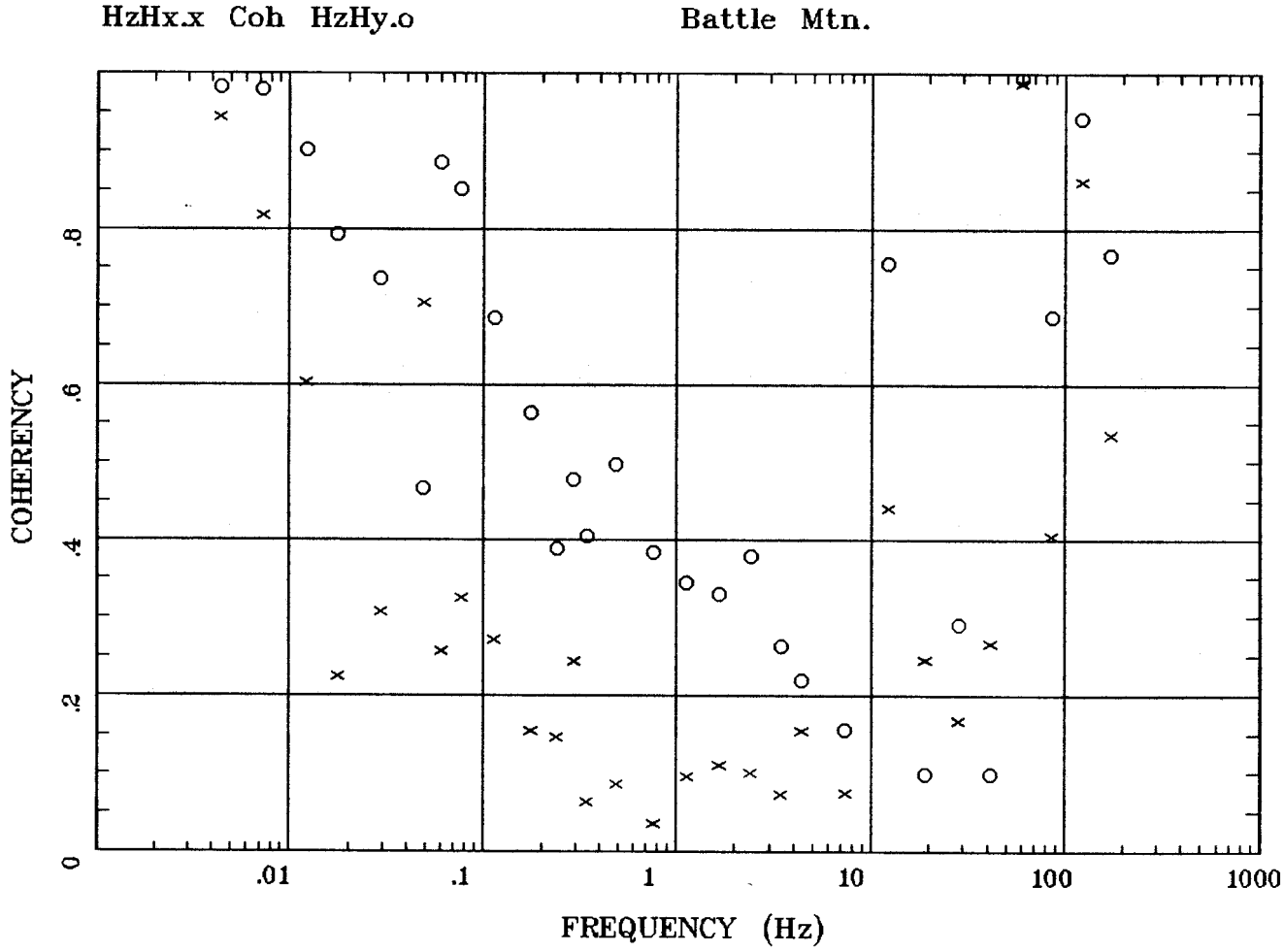
TIPPER STRIKE

Battle Mtn.



Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

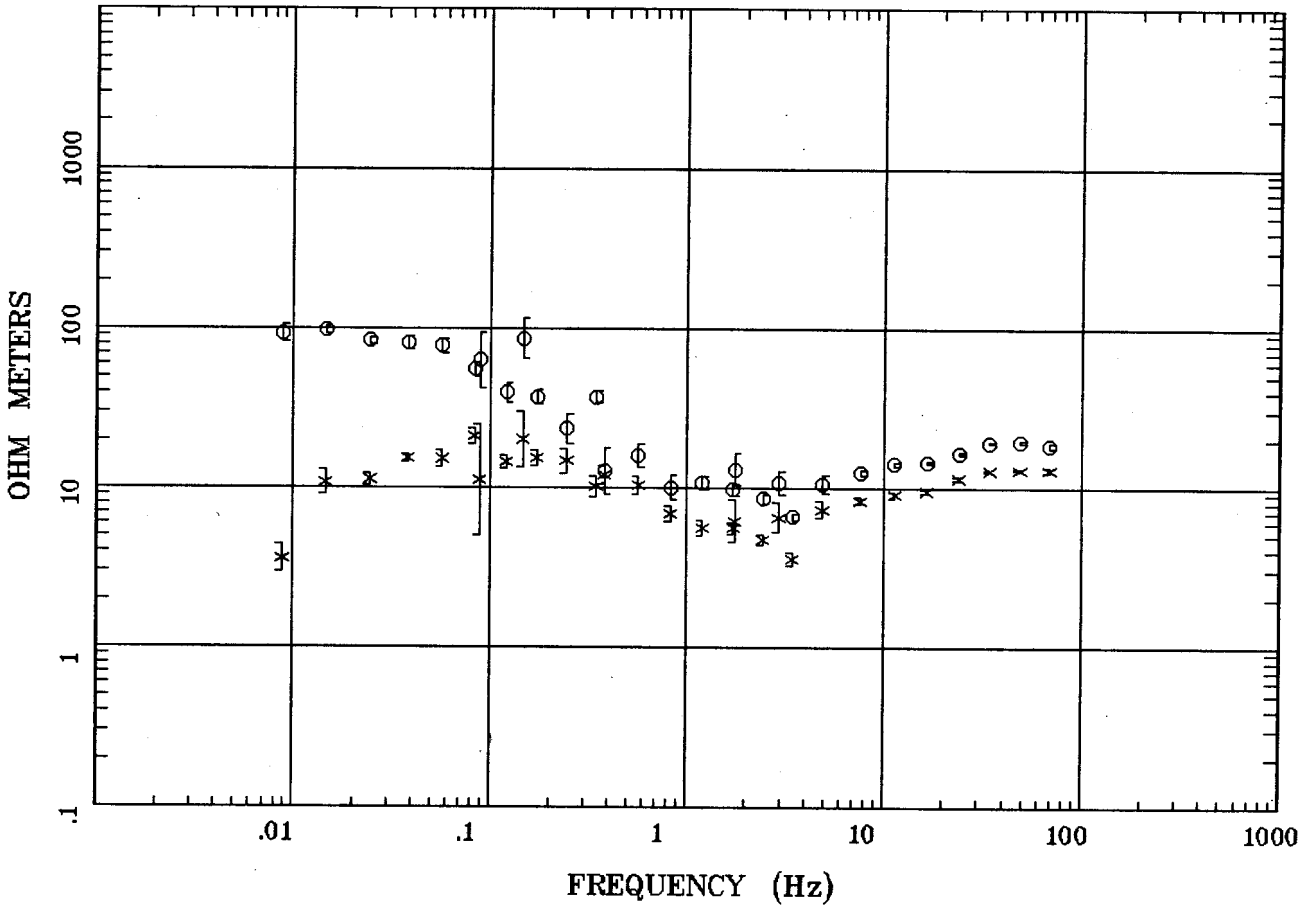


Client:
Remote: E local ref.
Acquired: 11:3 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn25a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:39 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

APPARENT RESISTIVITY

Battle Mountain, NV



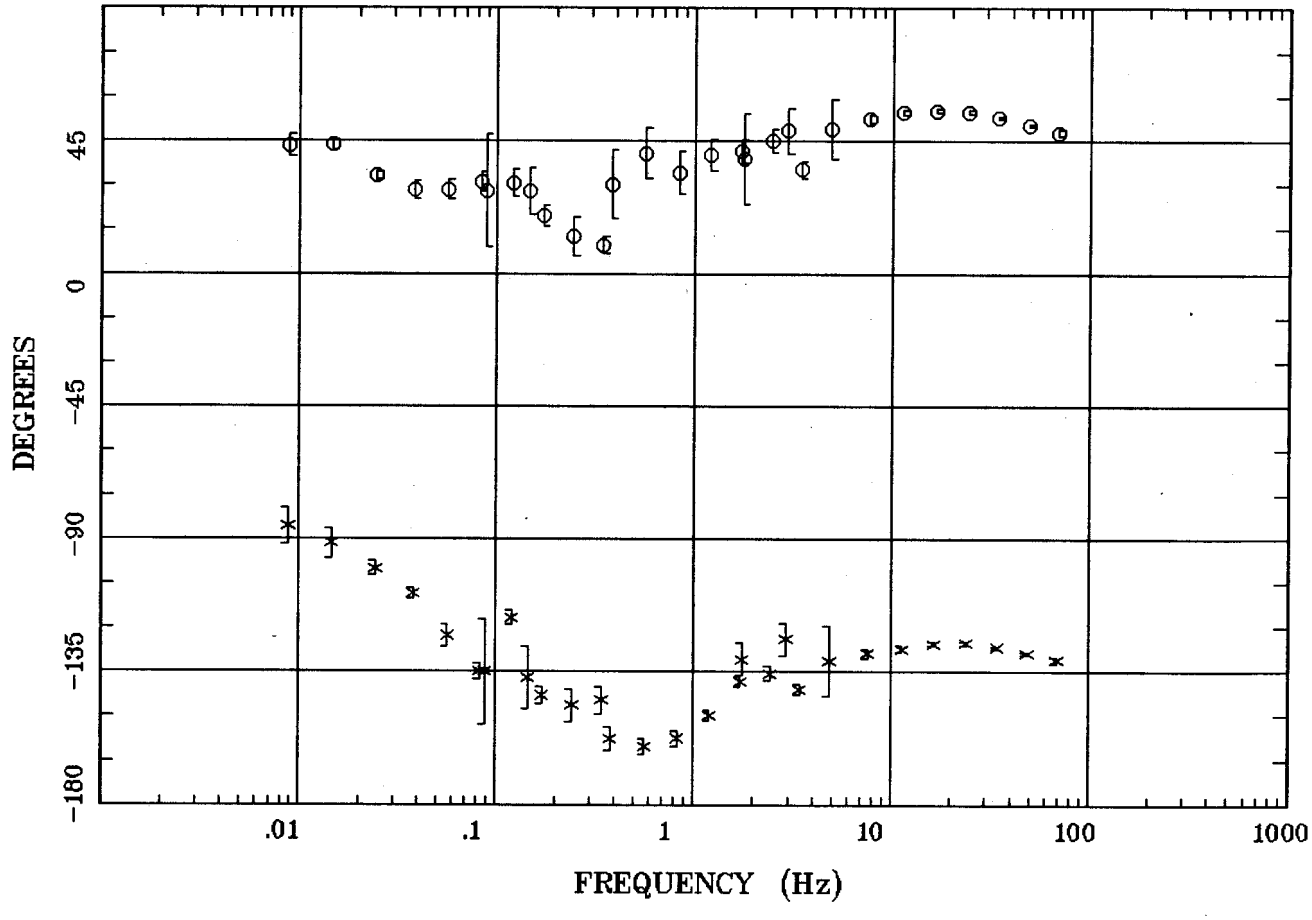
Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:24 Jan 23, 2001
< EMI – ElectroMagnetic Instruments >

Station 71

IMPEDANCE PHASE

Battle Mountain, NV



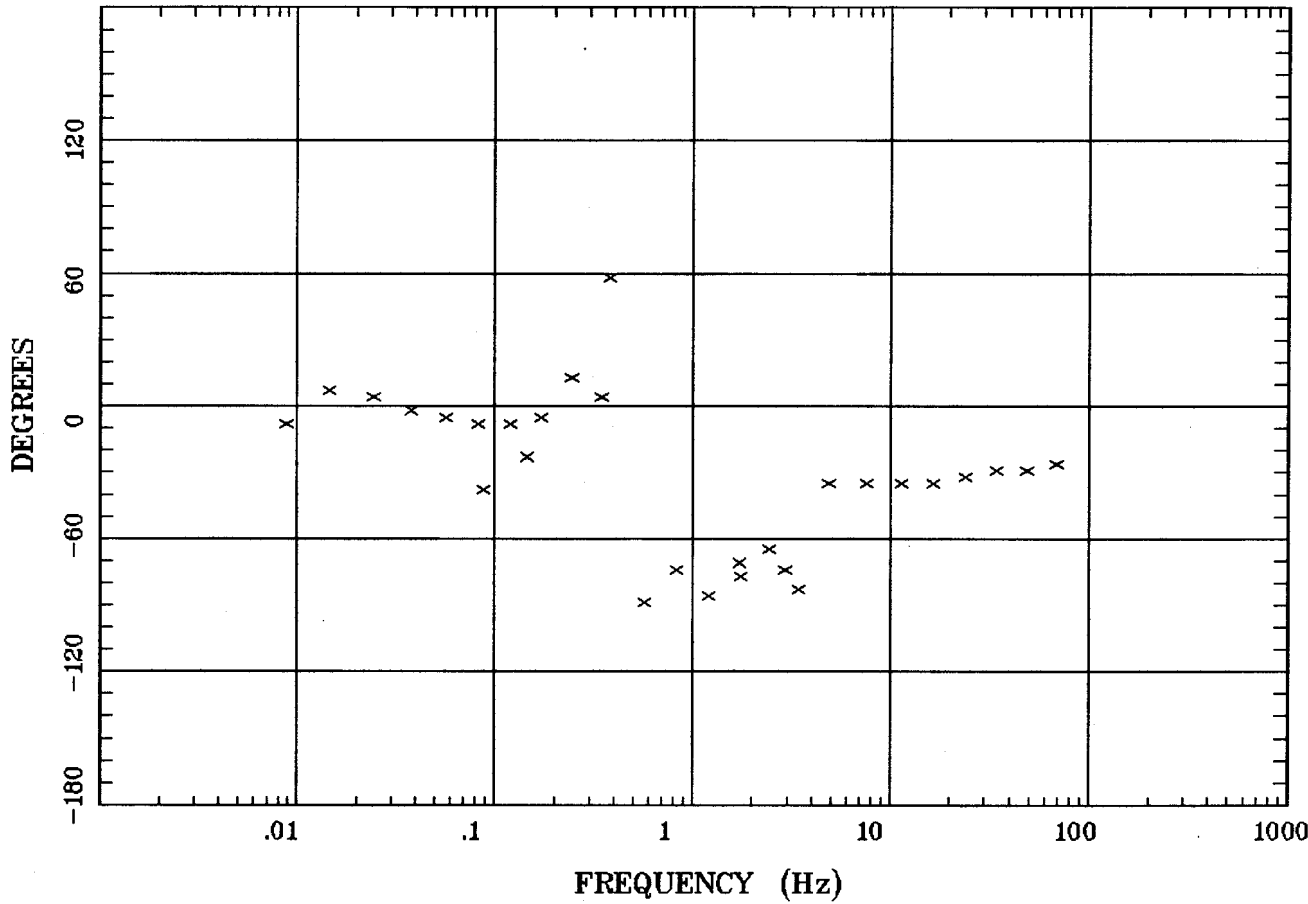
Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:24 Jan 23, 2001
< EMI - ElectroMagnetic Instruments >

Station 71

ROTATION ANGLE

Battle Mountain, NV



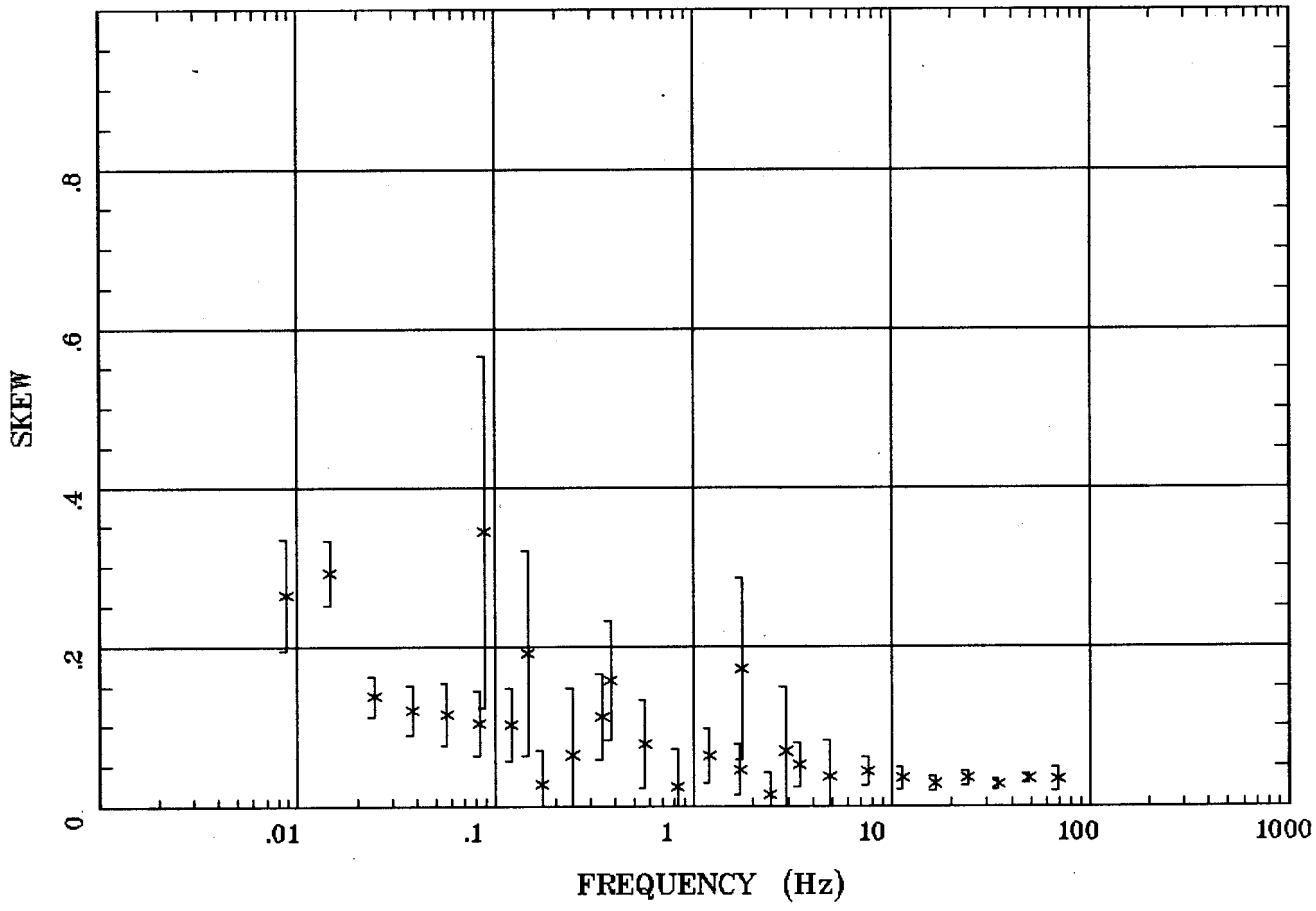
Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:24 Jan 23, 2001
< EMI - ElectroMagnetic Instruments >

Station 71

IMPEDANCE SKEW

Battle Mountain, NV



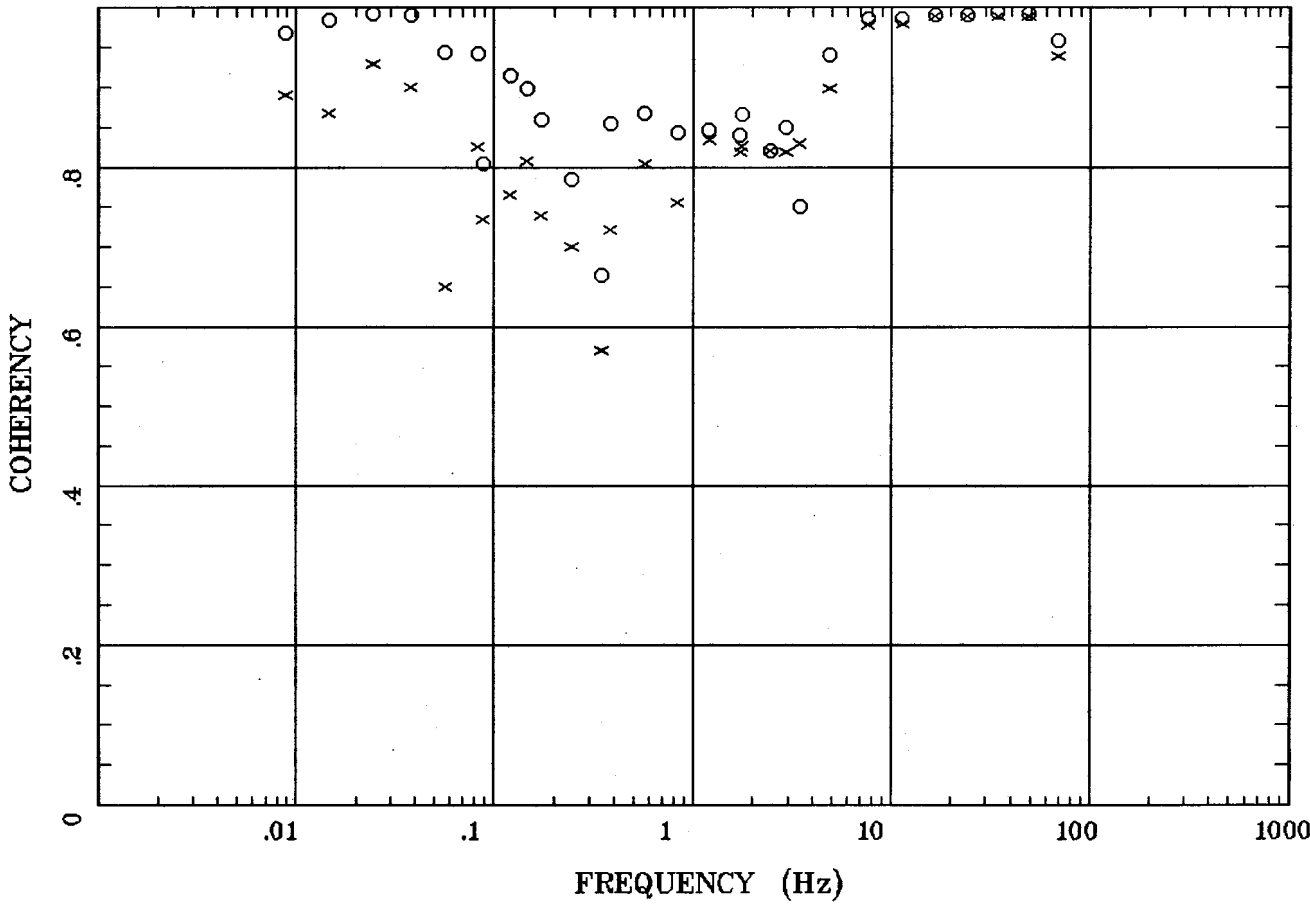
Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:24 Jan 23, 2001
< EMI – ElectroMagnetic Instruments >

Station 71

E MULT Coh.

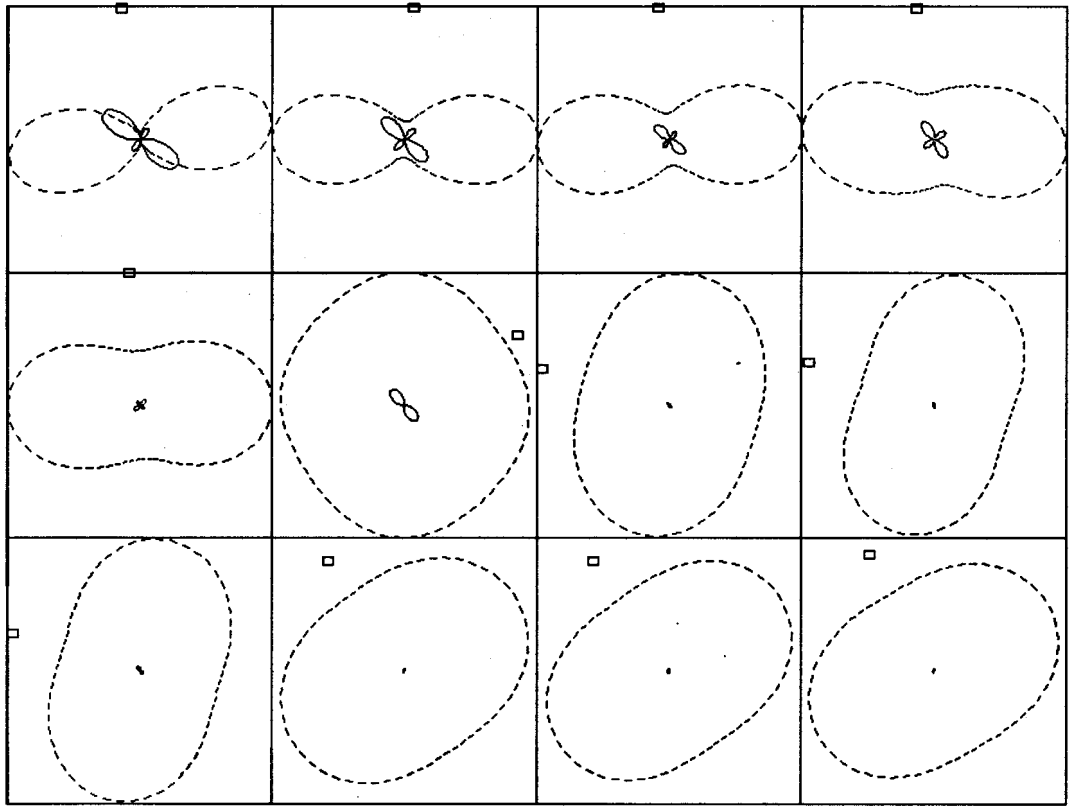
Battle Mountain, NV



Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:24 Jan 23, 2001
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS Battle Mountain, NV



.0088 Hz	.0244 Hz	.0566 Hz	.120 Hz
.172 Hz	.381 Hz	.830 Hz	1.719 Hz
2.930 Hz	4.883 Hz	16.602 Hz	34.375 Hz

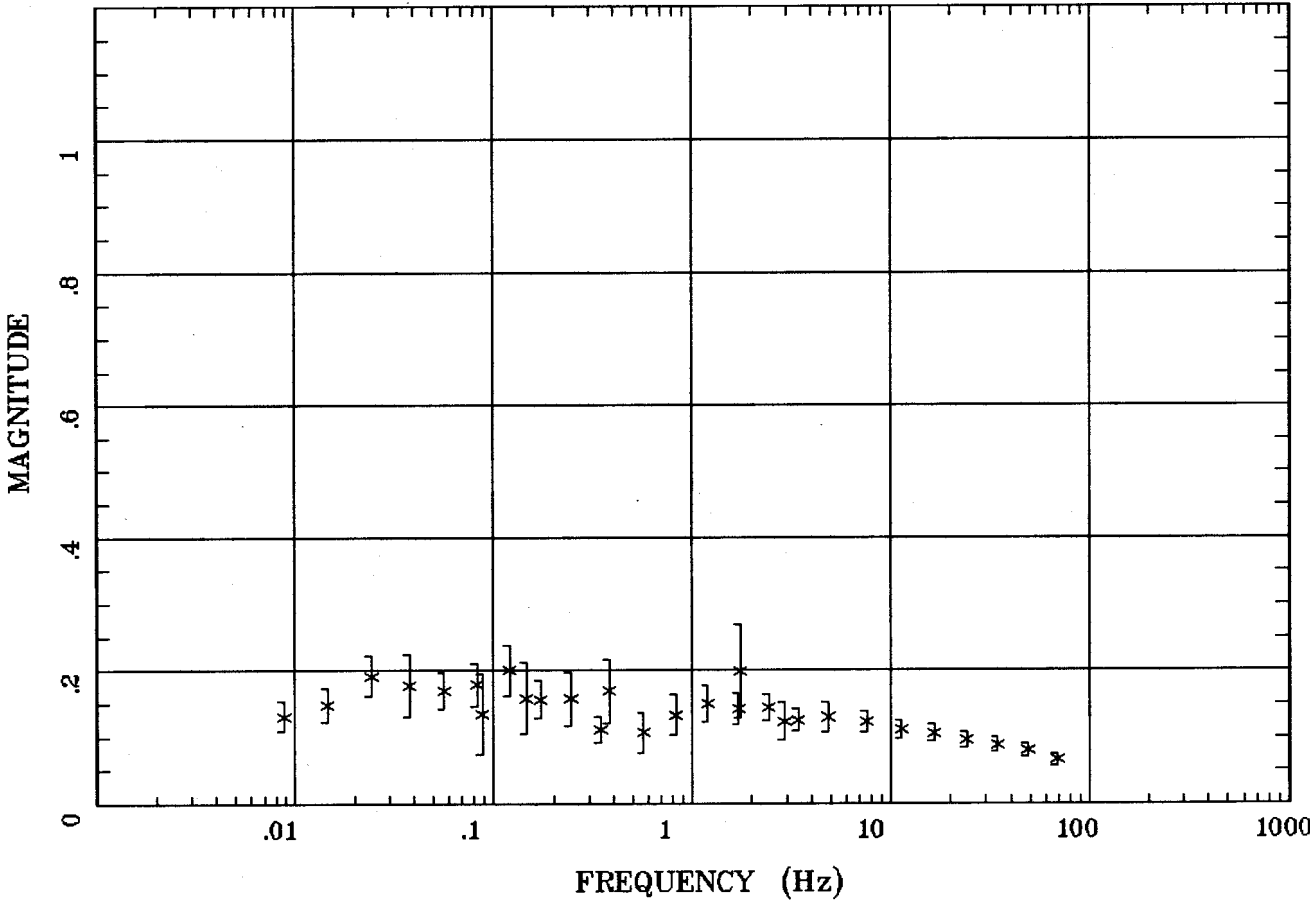
Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:24 Jan 23, 2001
< EMI – ElectroMagnetic Instruments >

Station 71

TIPPER MAGNITUDE

Battle Mountain, NV

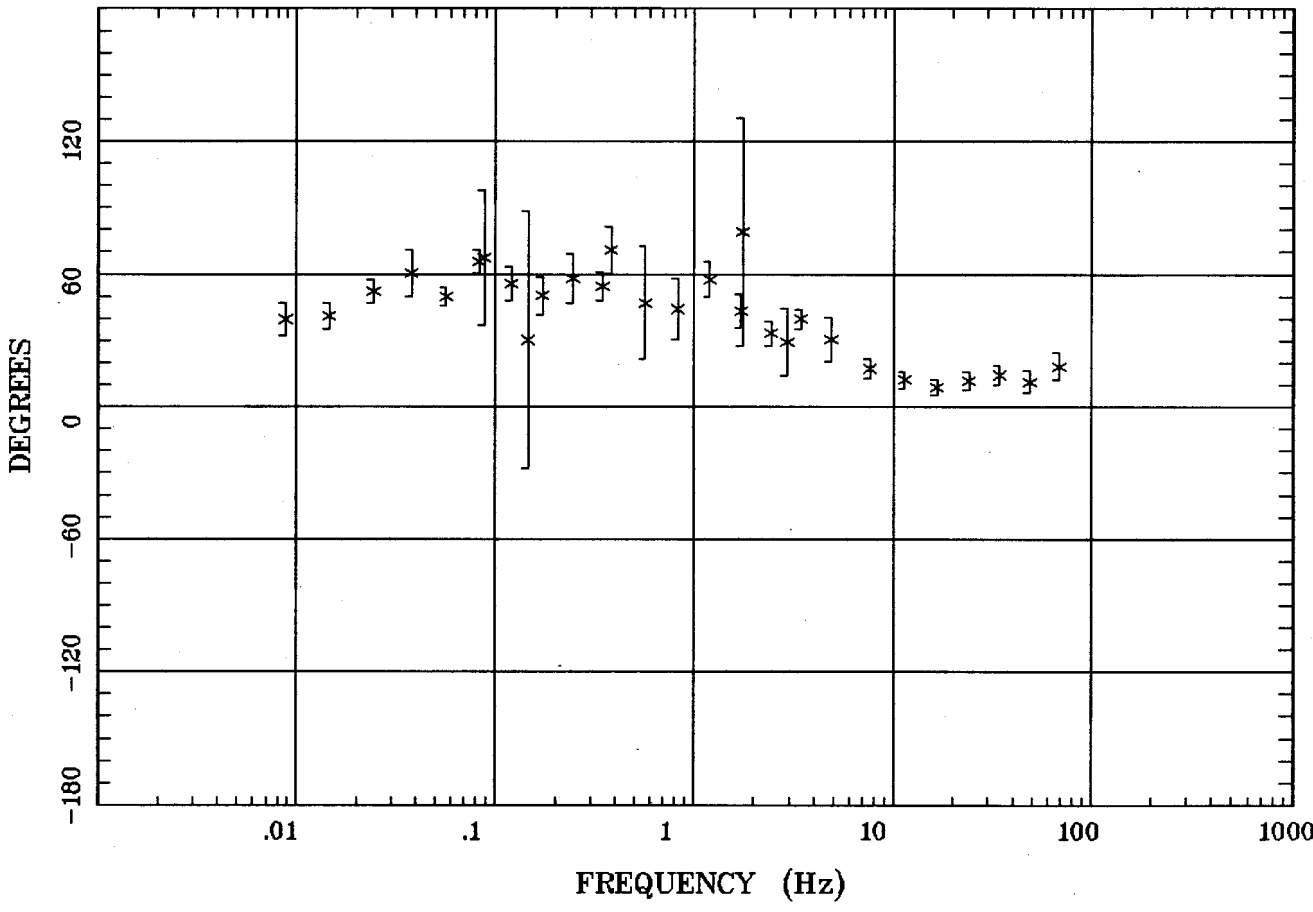


Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:25 Jan 23, 2001
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE

Battle Mountain, NV



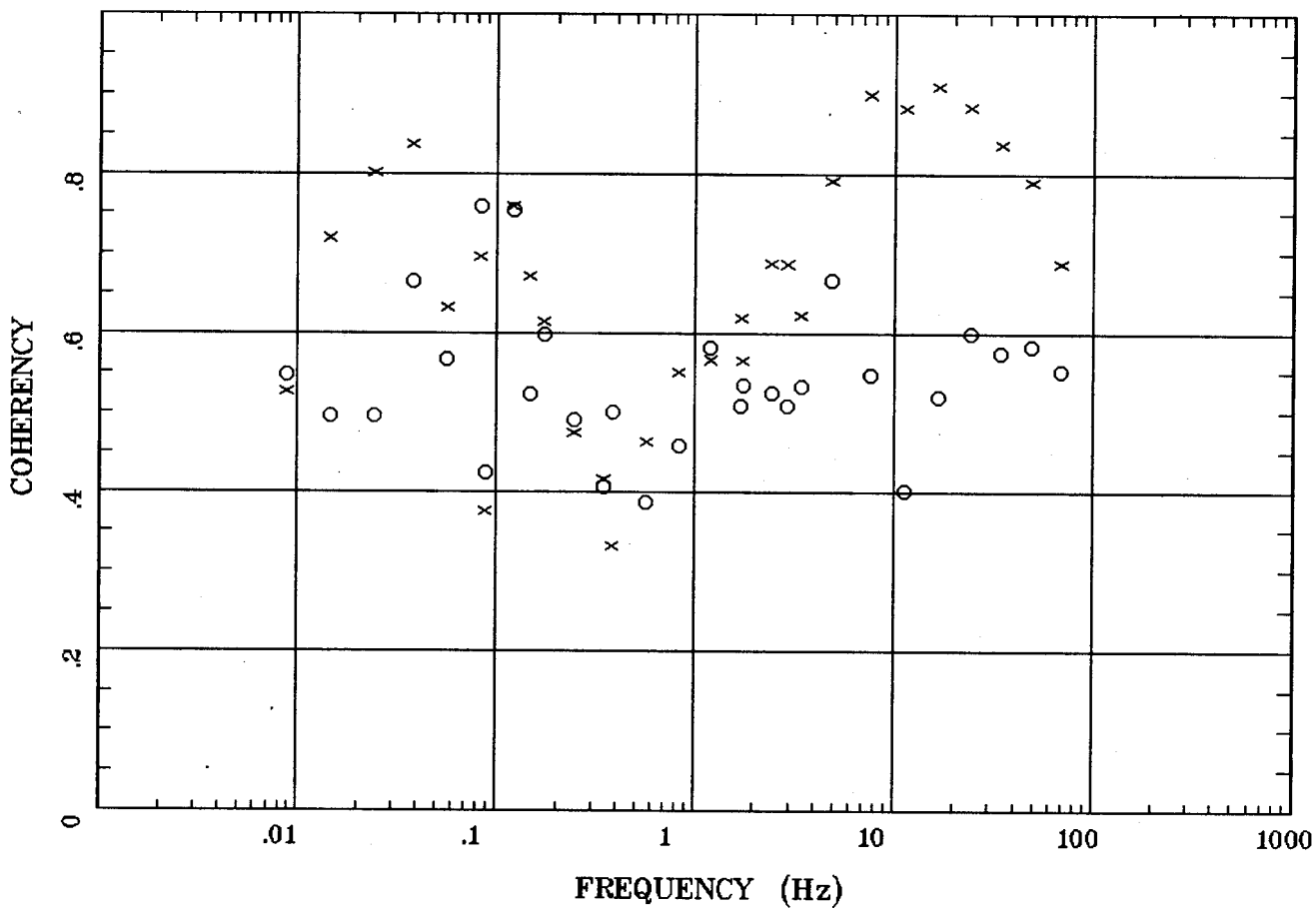
Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:25 Jan 23, 2001
< EMI - ElectroMagnetic Instruments >

Station 71

HzHx.x Coh HzHy.o

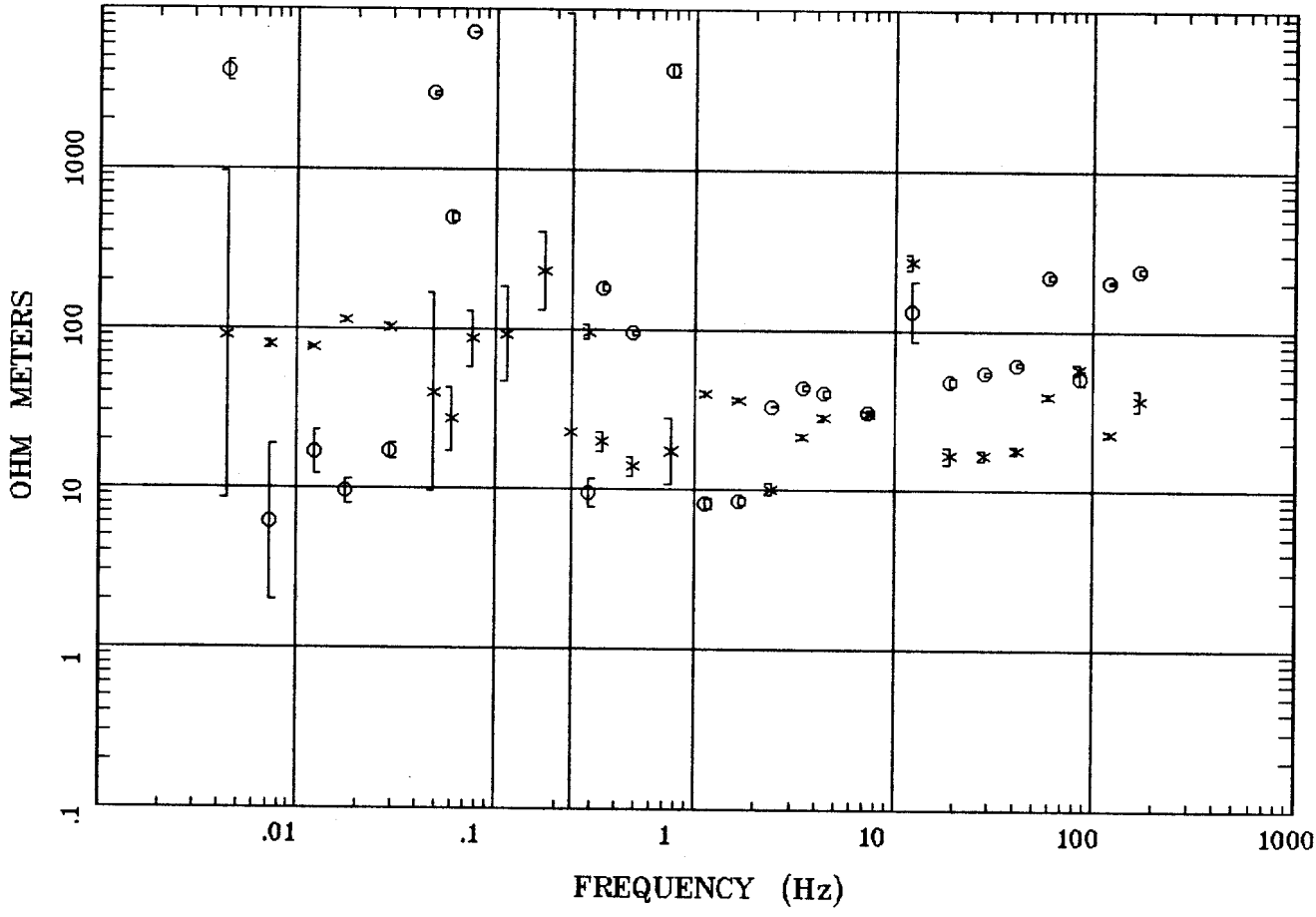
Battle Mountain, NV



Client:
Remote: local
Acquired: 10:3 Jul 31, 1999
Survey Co:USGS

Rotation:
Filename: hr71.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch3 Ch4
Plotted: 15:25 Jan 23, 2001
< EMI – ElectroMagnetic Instruments >

APPARENT RESISTIVITY Battle Mtn.

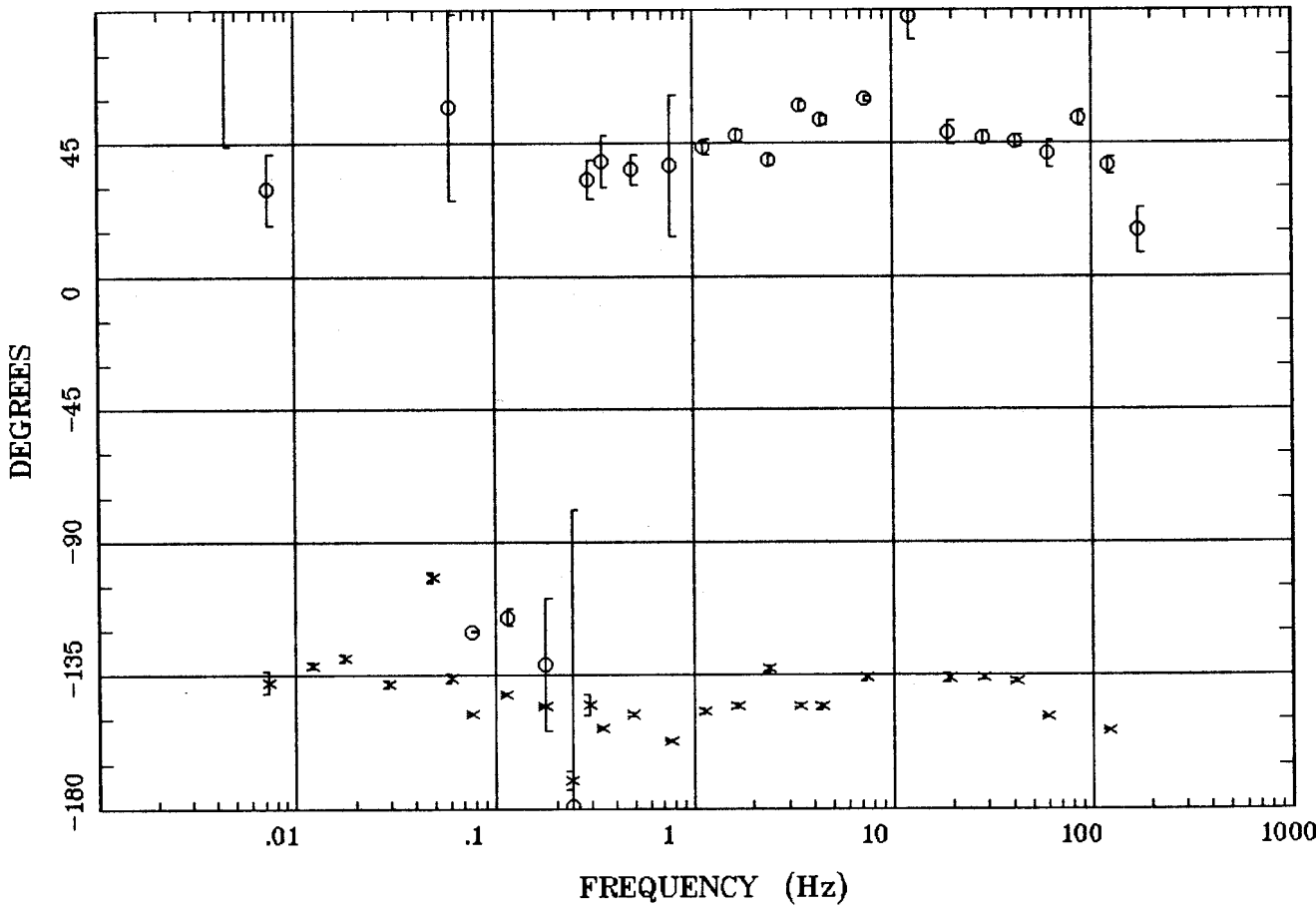


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

IMPEDANCE PHASE

Battle Mtn.

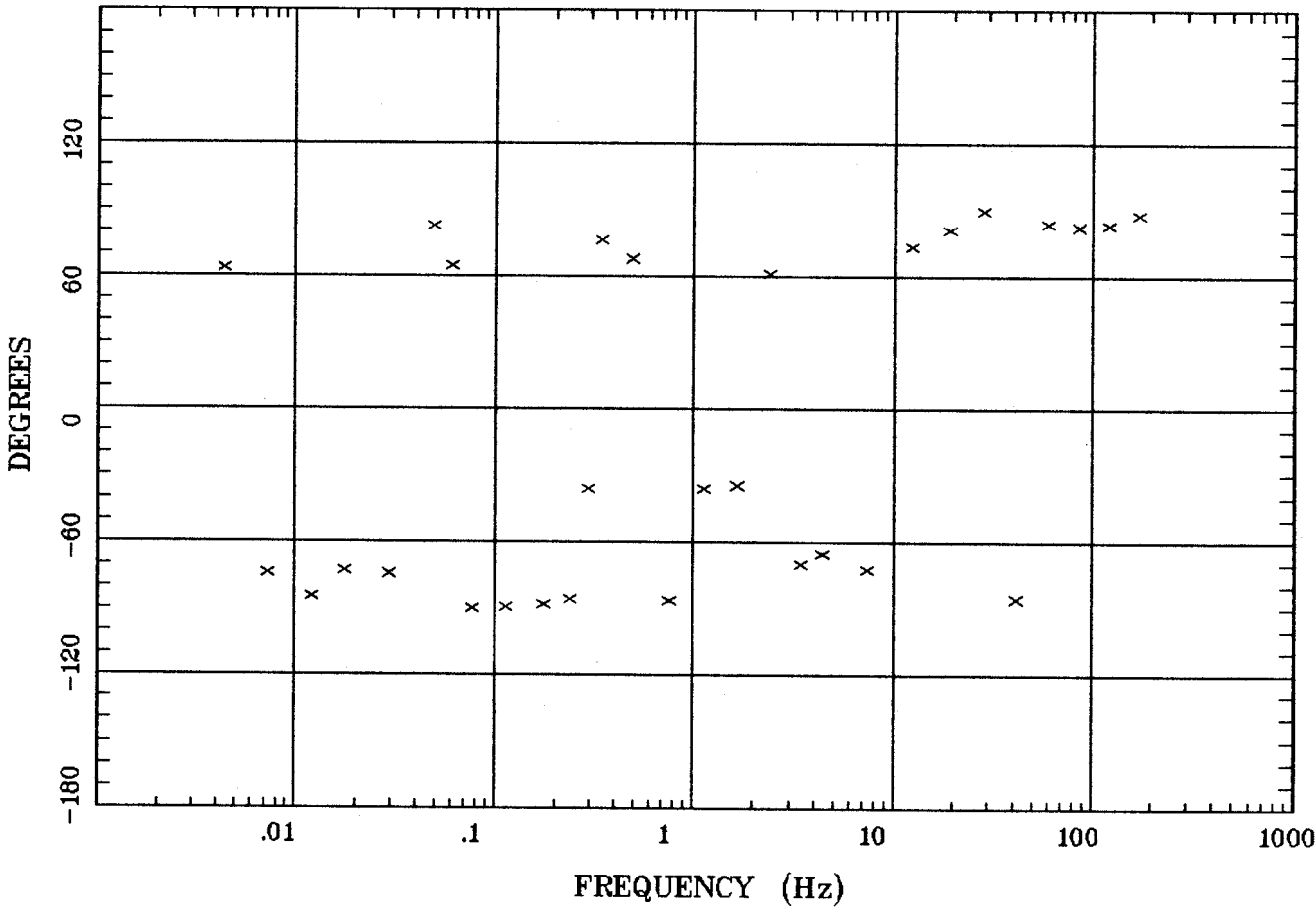


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

ROTATION ANGLE

Battle Mtn.

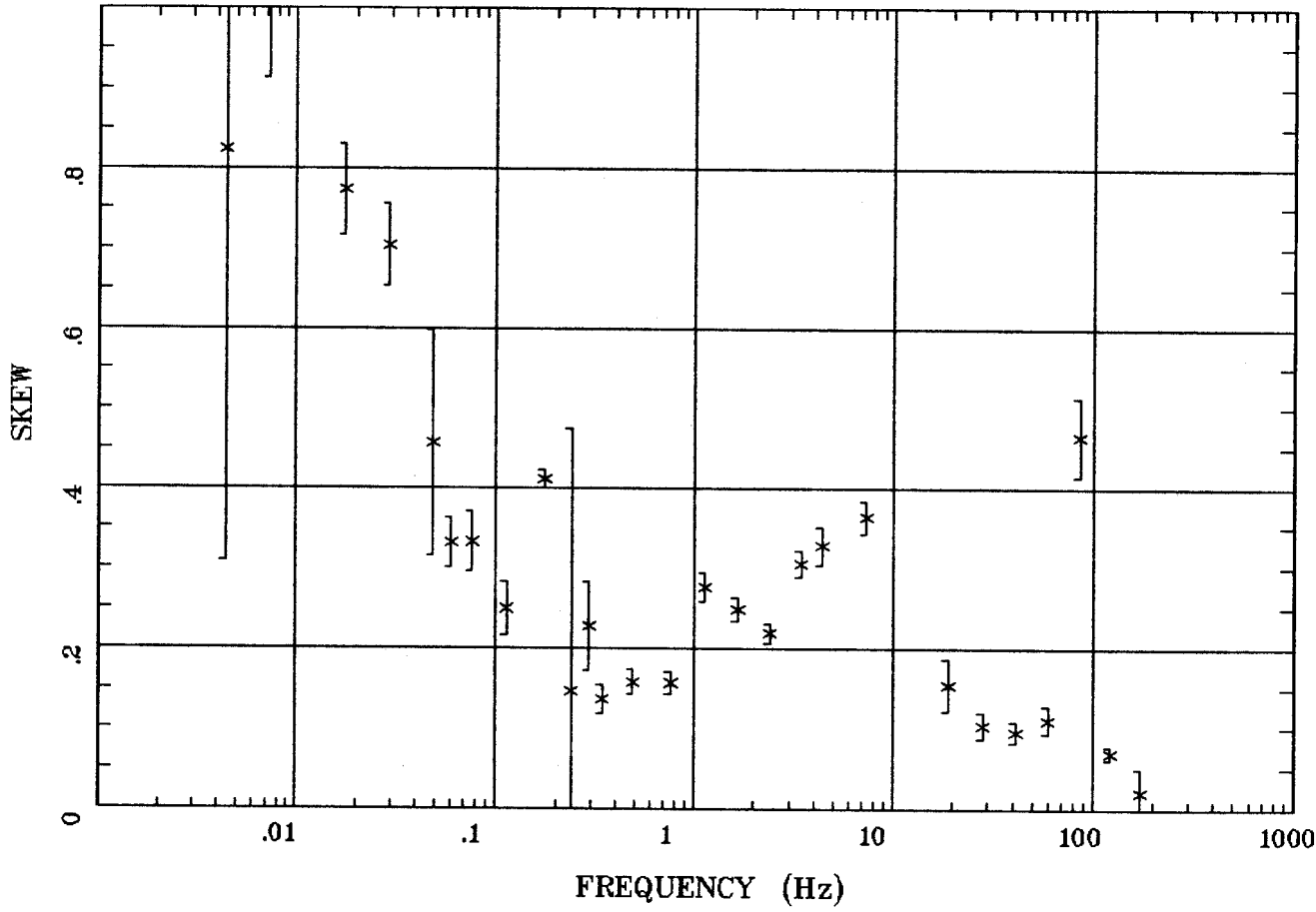


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

Battle Mtn.

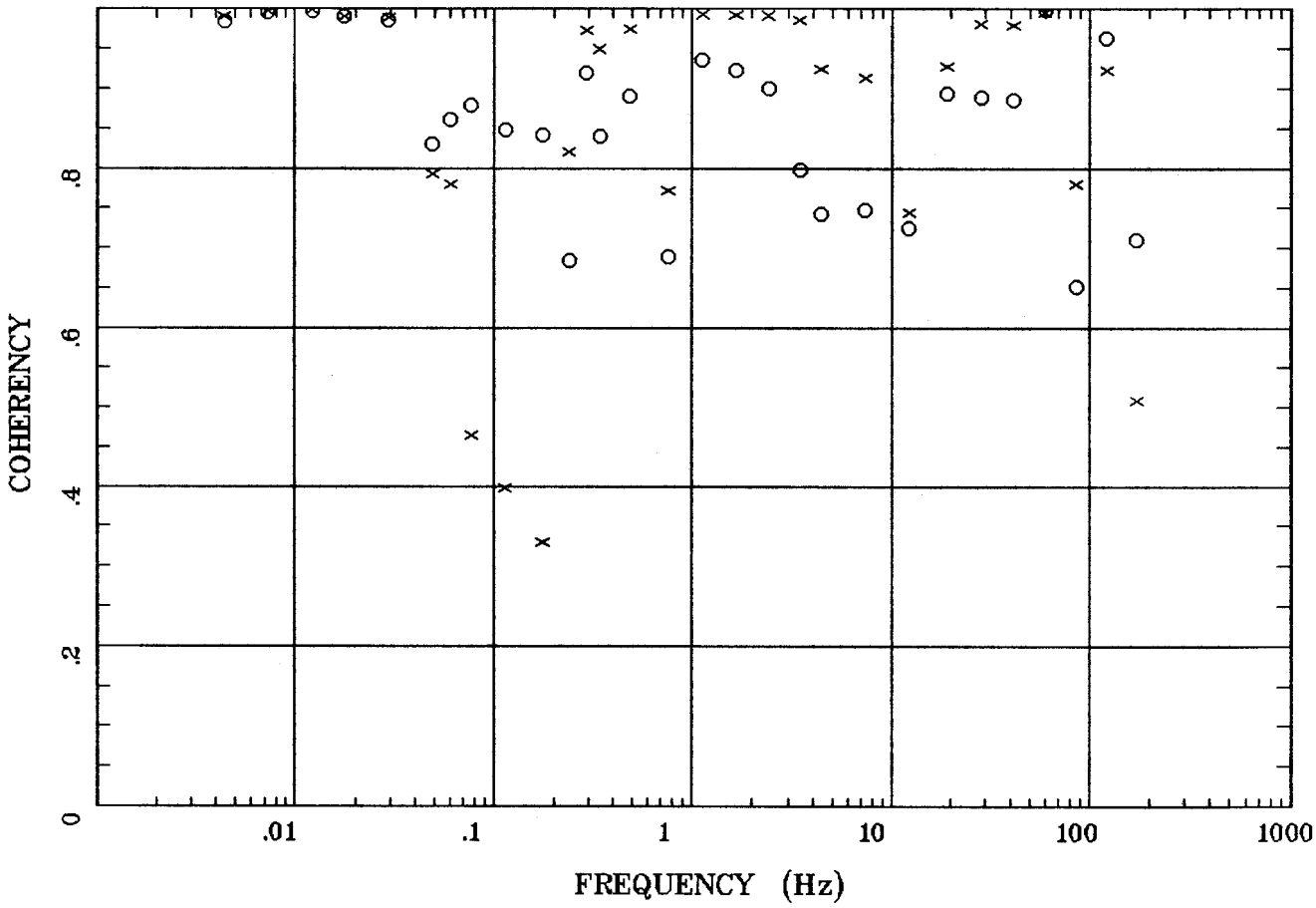


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 26A

E MULT Coh. Battle Mtn.

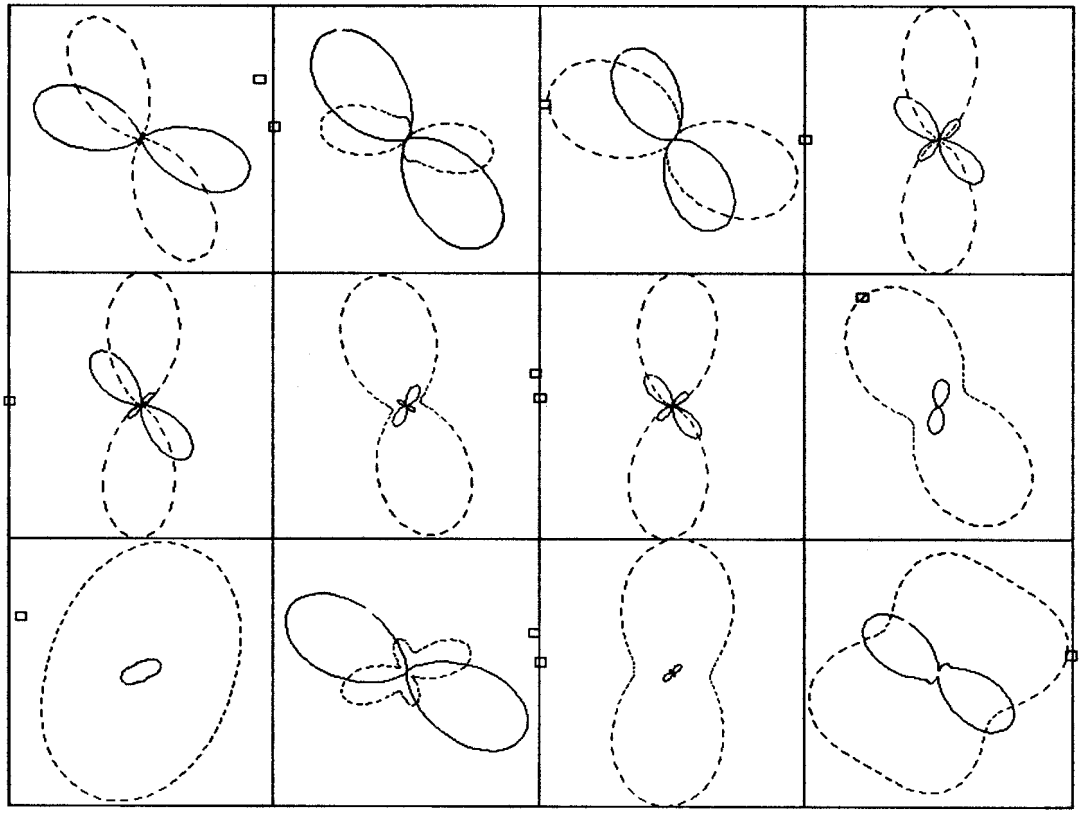


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Battle Mtn.

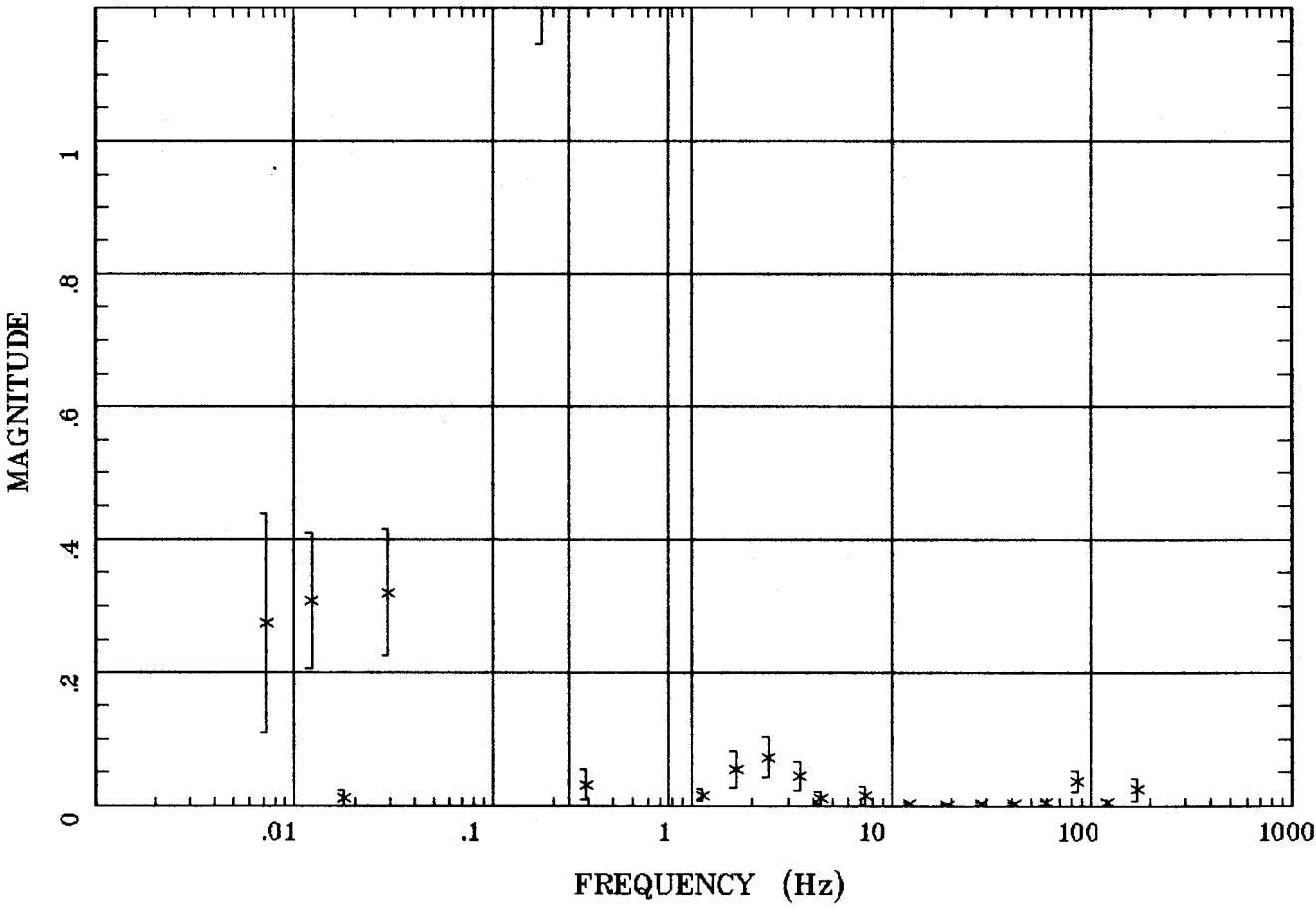


.0044 Hz	.0122 Hz	.0293 Hz	.0762 Hz
.176 Hz	.344 Hz	.762 Hz	1.660 Hz
4.394 Hz	12.207 Hz	41.504 Hz	85.938 Hz

Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER MAGNITUDE Battle Mtn.

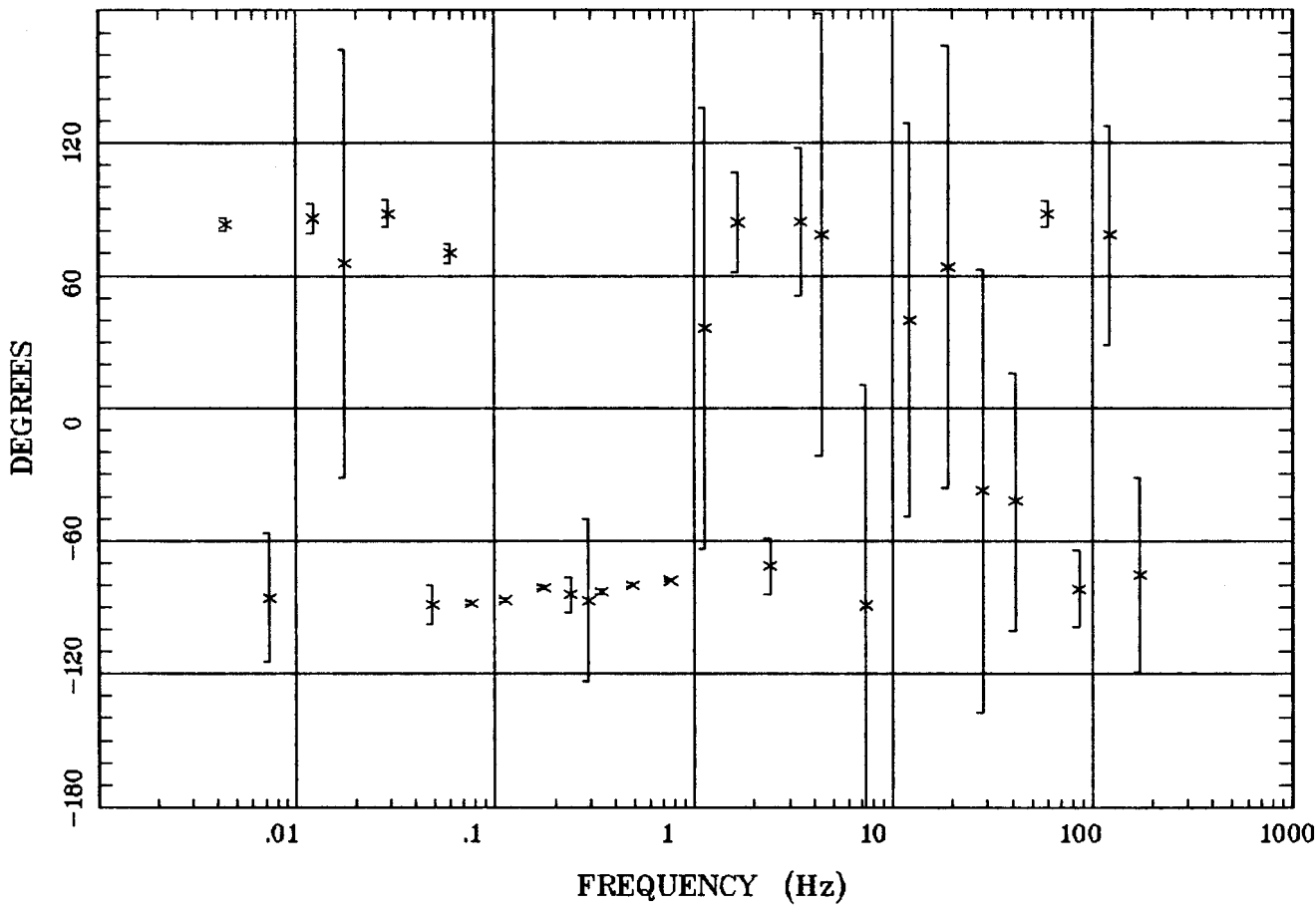


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

TIPPER STRIKE

Battle Mtn.



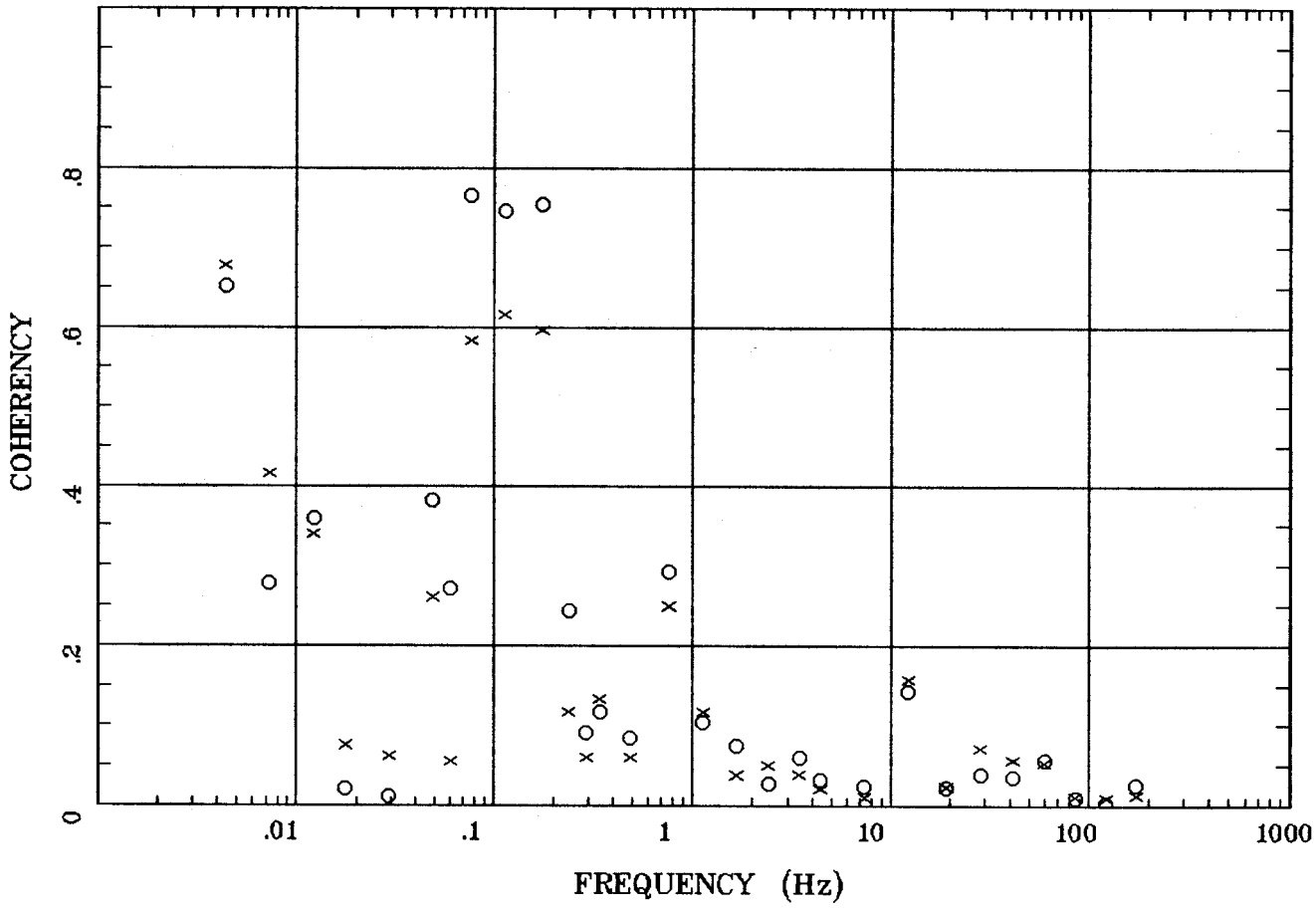
Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI – ElectroMagnetic Instruments >

Station 26A

HzHx.x Coh HzHy.o

Battle Mtn.

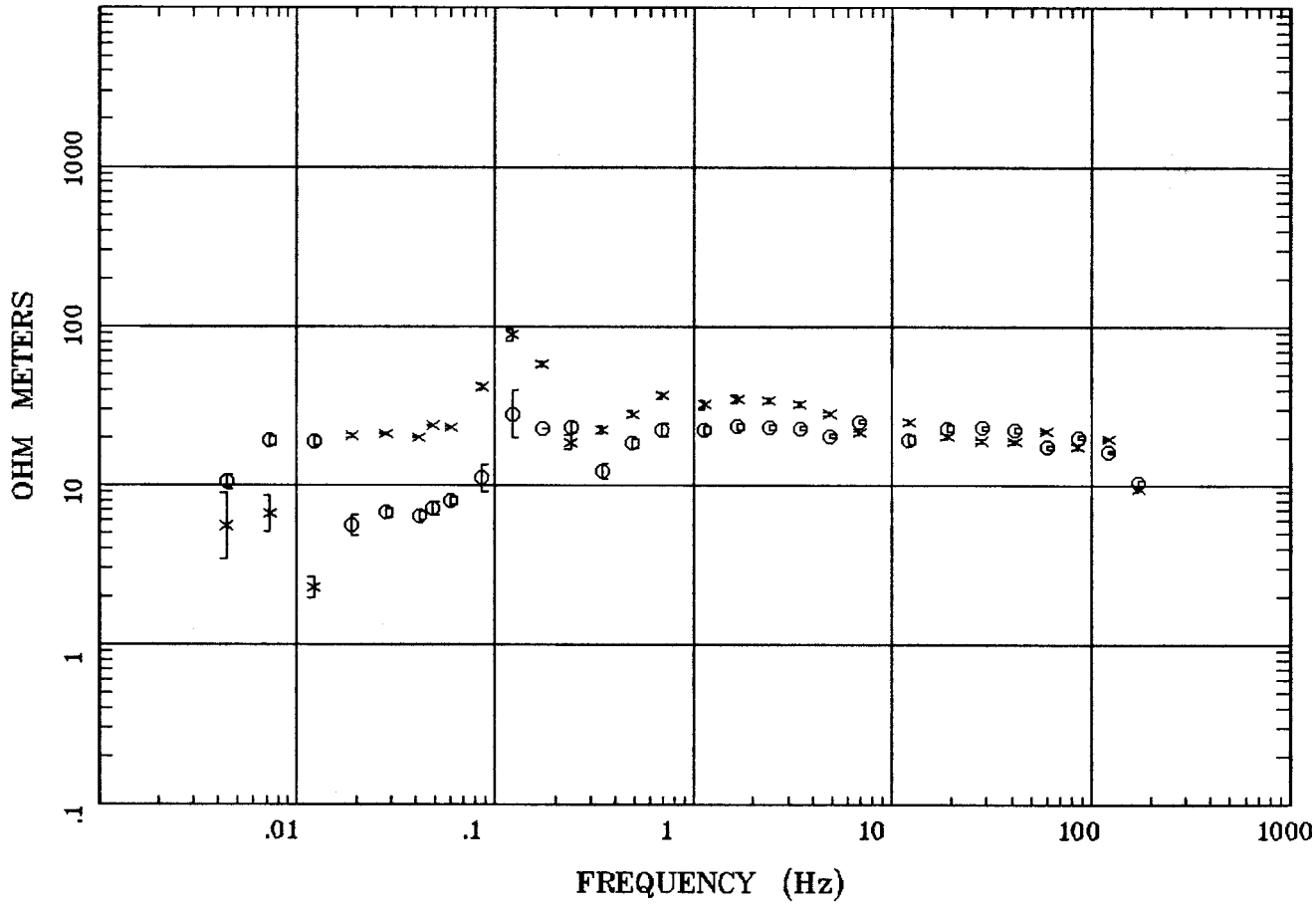


Client:
Remote: E local ref.
Acquired: 17:5 Jul 14, 1997
Survey Co:

Rotation:
Filename: nn26a.all
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 08:40 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 27A

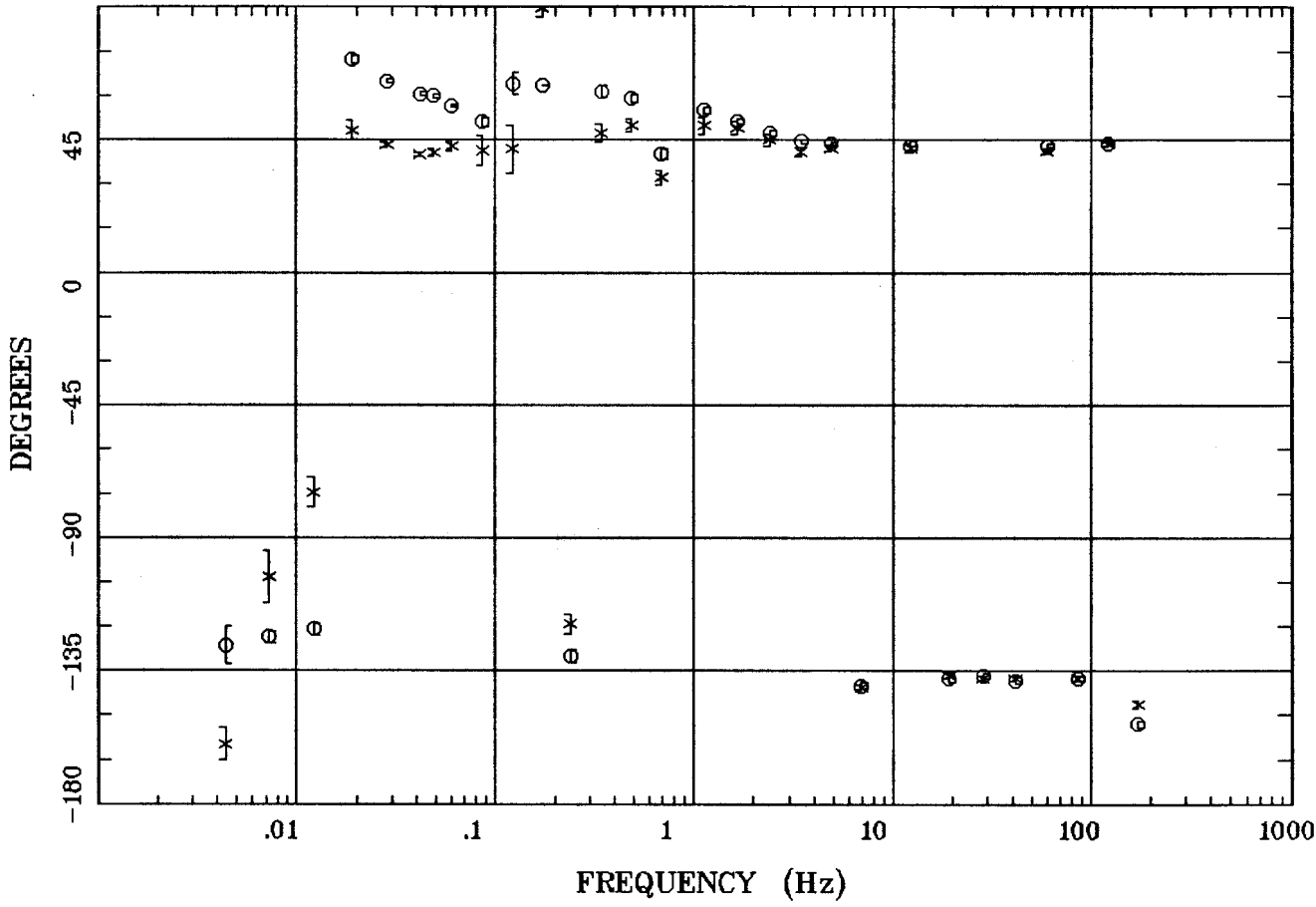
APPARENT RESISTIVITY ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:43 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

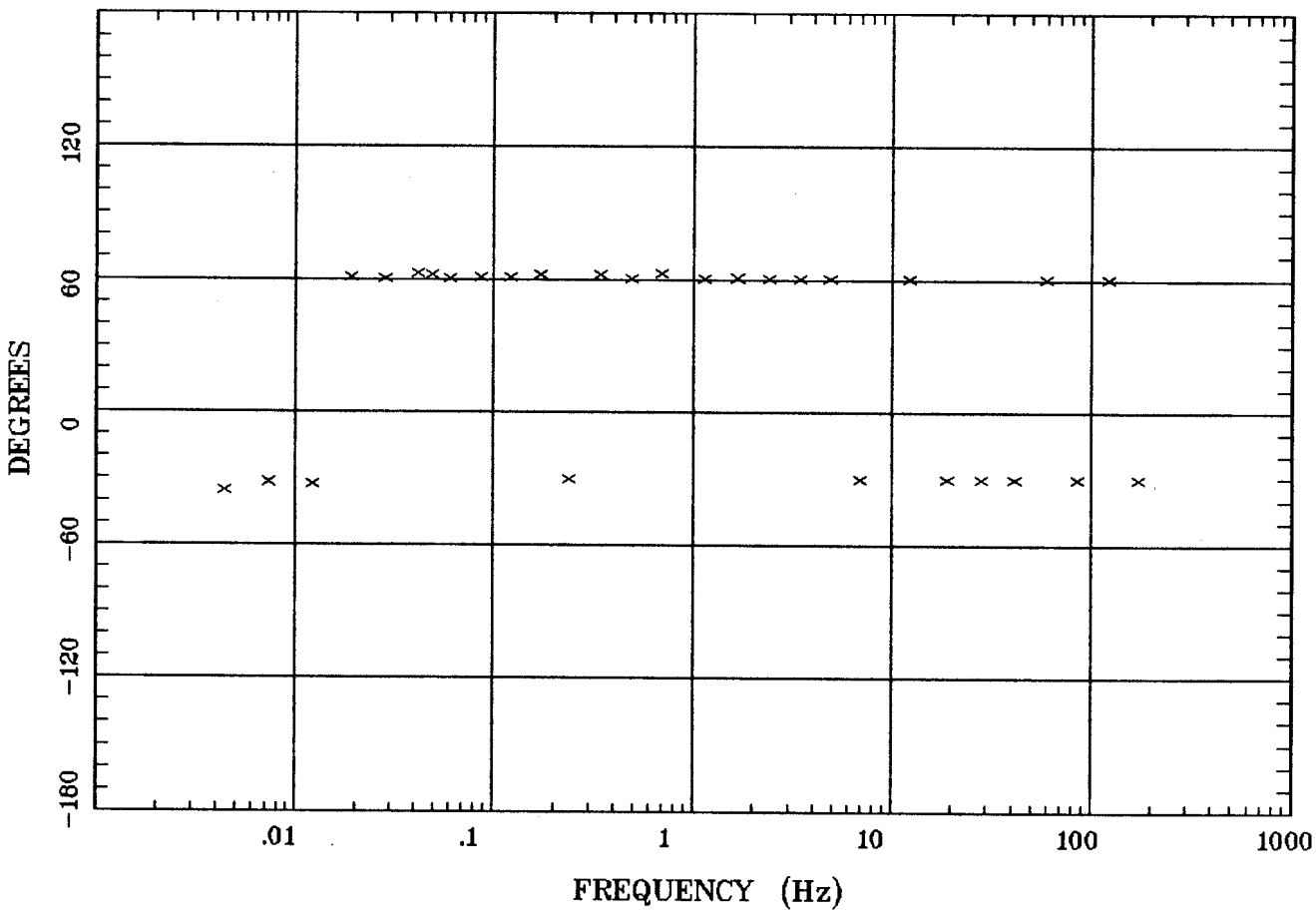
IMPEDANCE PHASE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:43 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

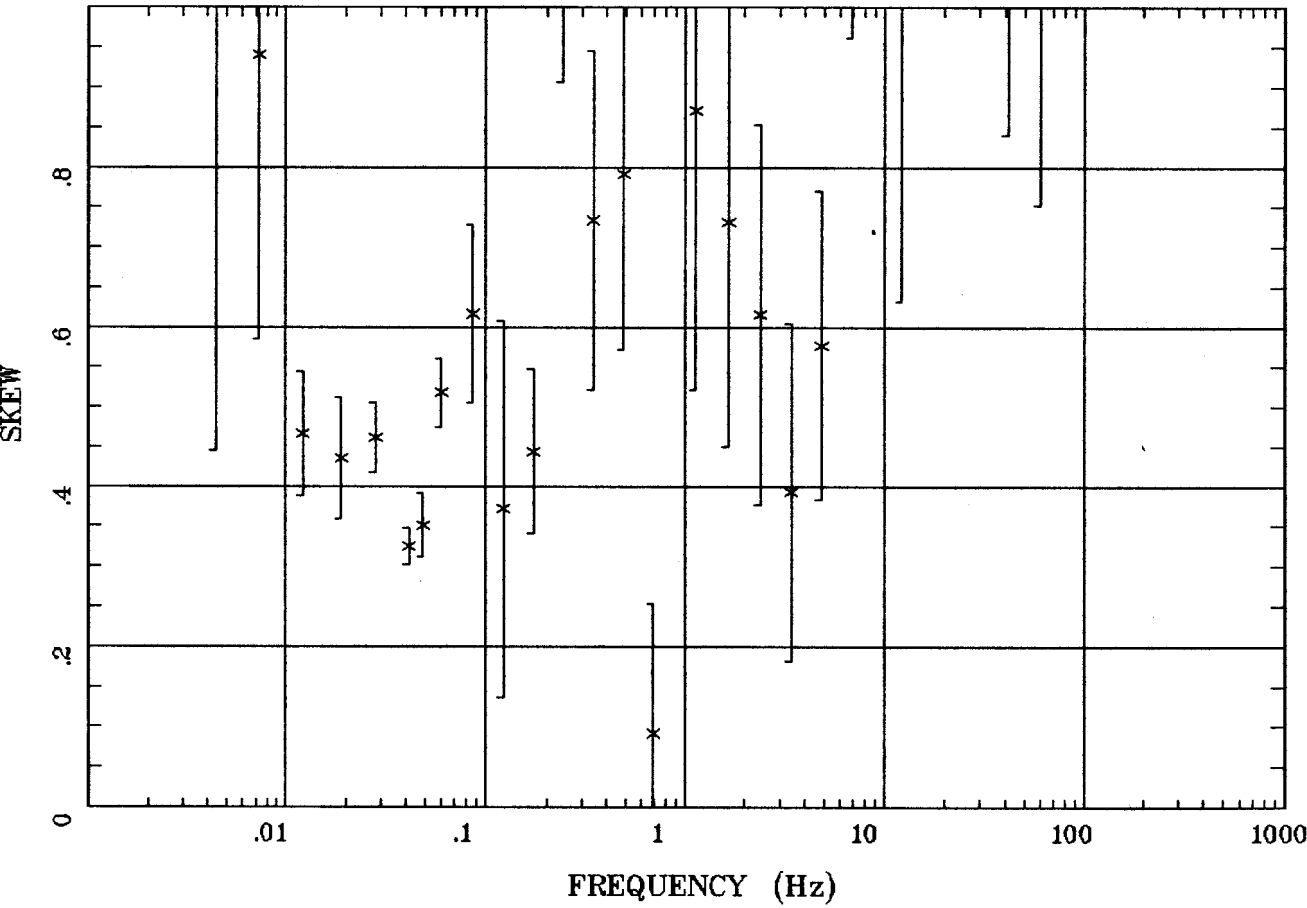
ROTATION ANGLE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

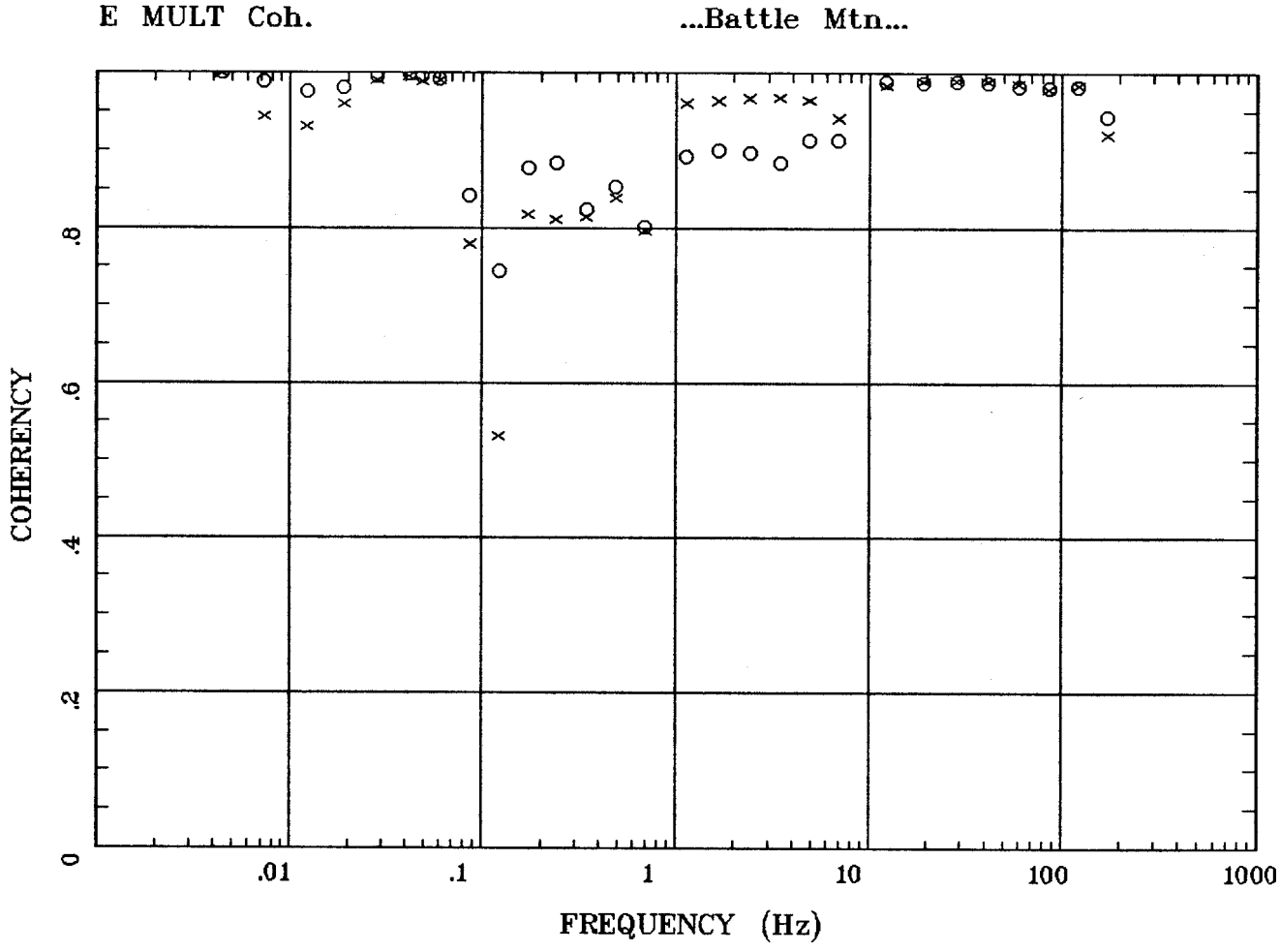
Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:43 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

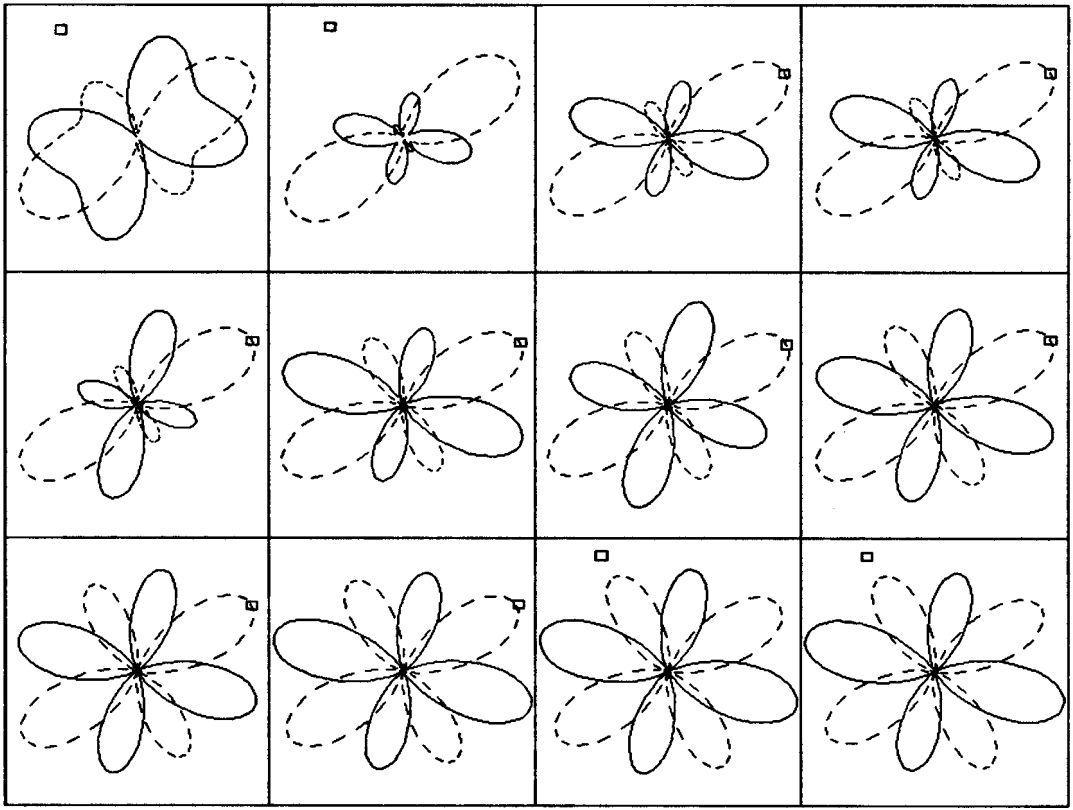
Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:43 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:43 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

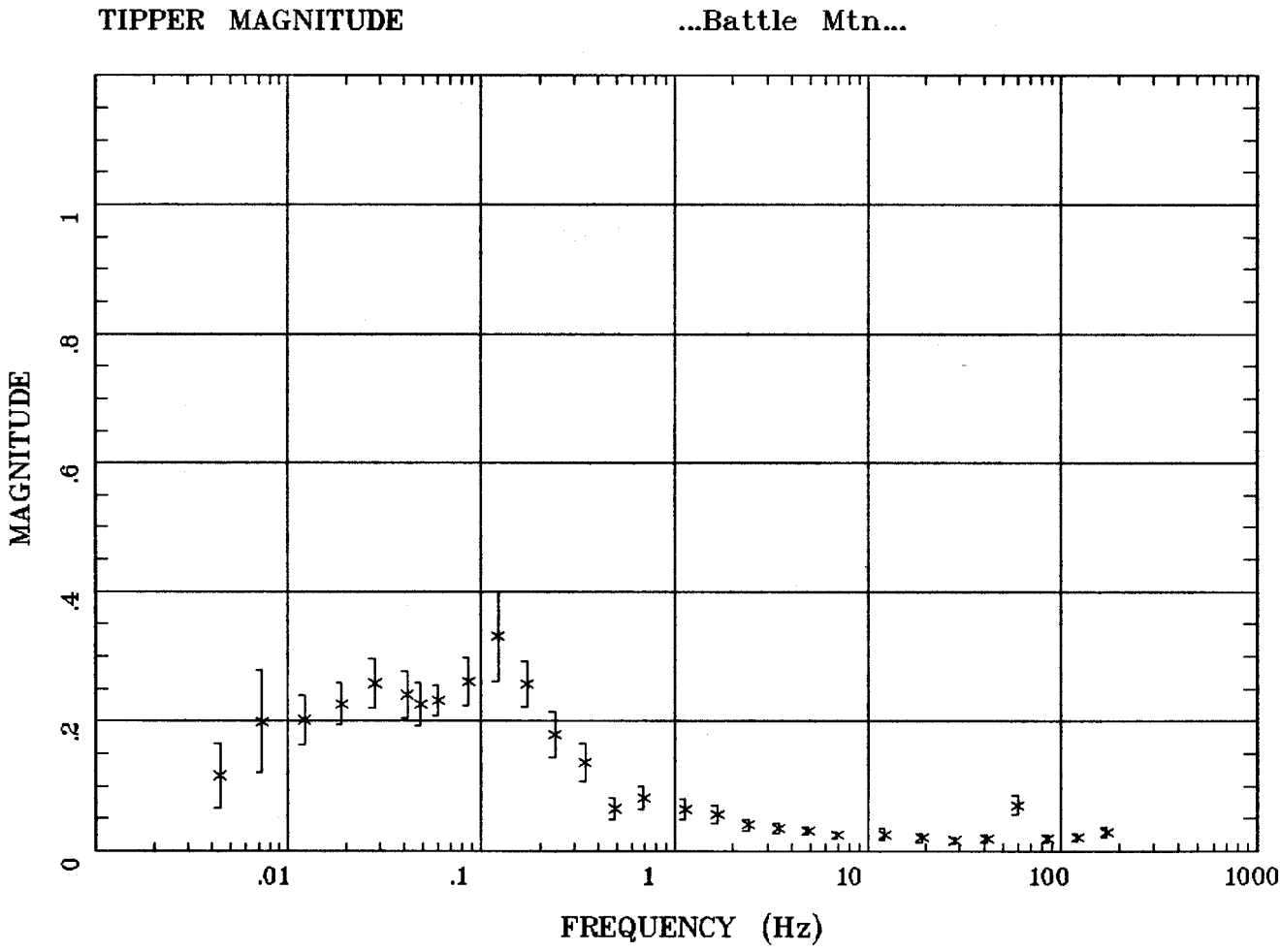
POLAR PLOTS ...Battle Mtn...



.0044 Hz	.0122 Hz	.0283 Hz	.0601 Hz
.122 Hz	.344 Hz	.689 Hz	1.660 Hz
4.883 Hz	12.207 Hz	41.504 Hz	85.938 Hz

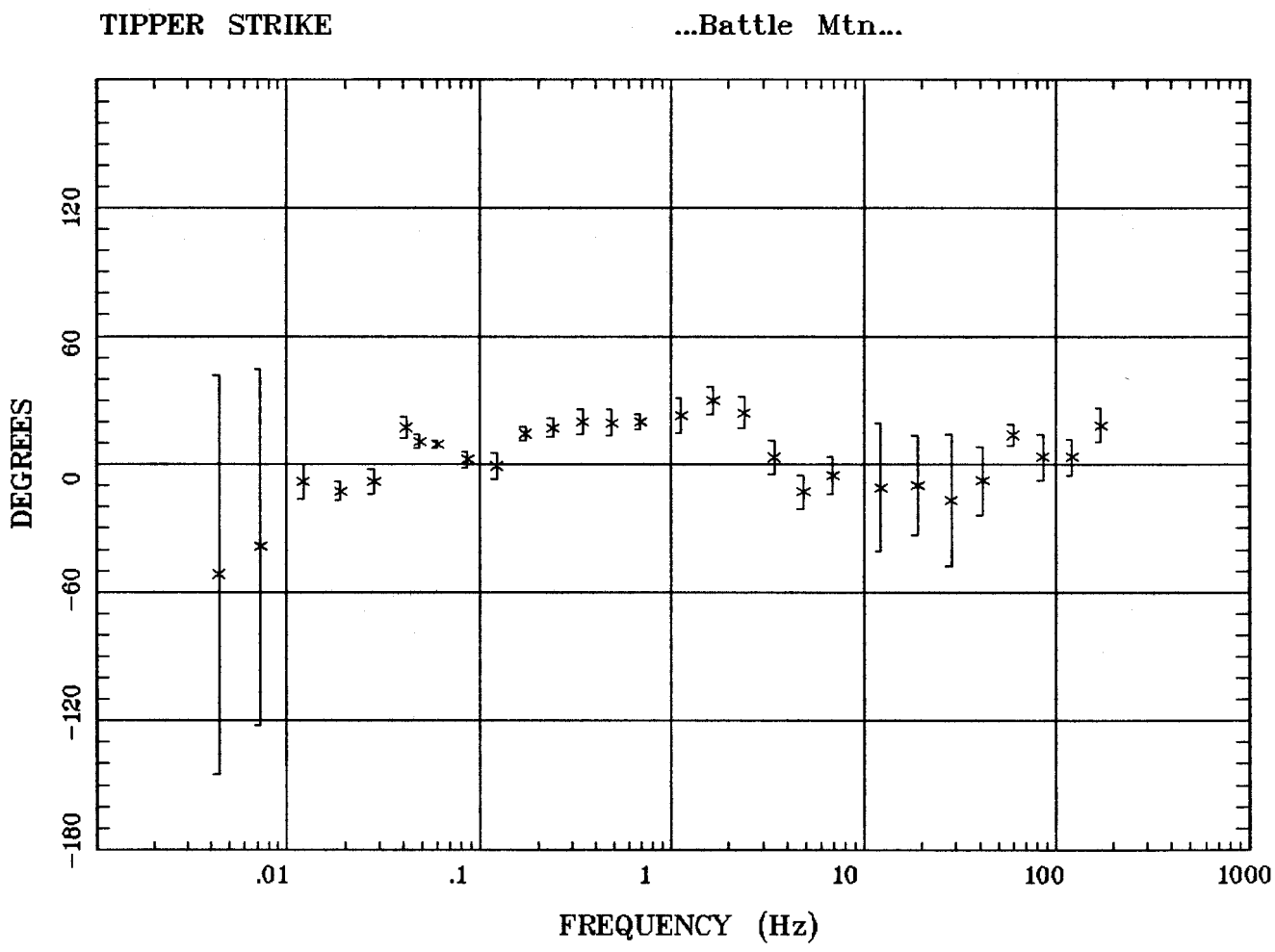
Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:43 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



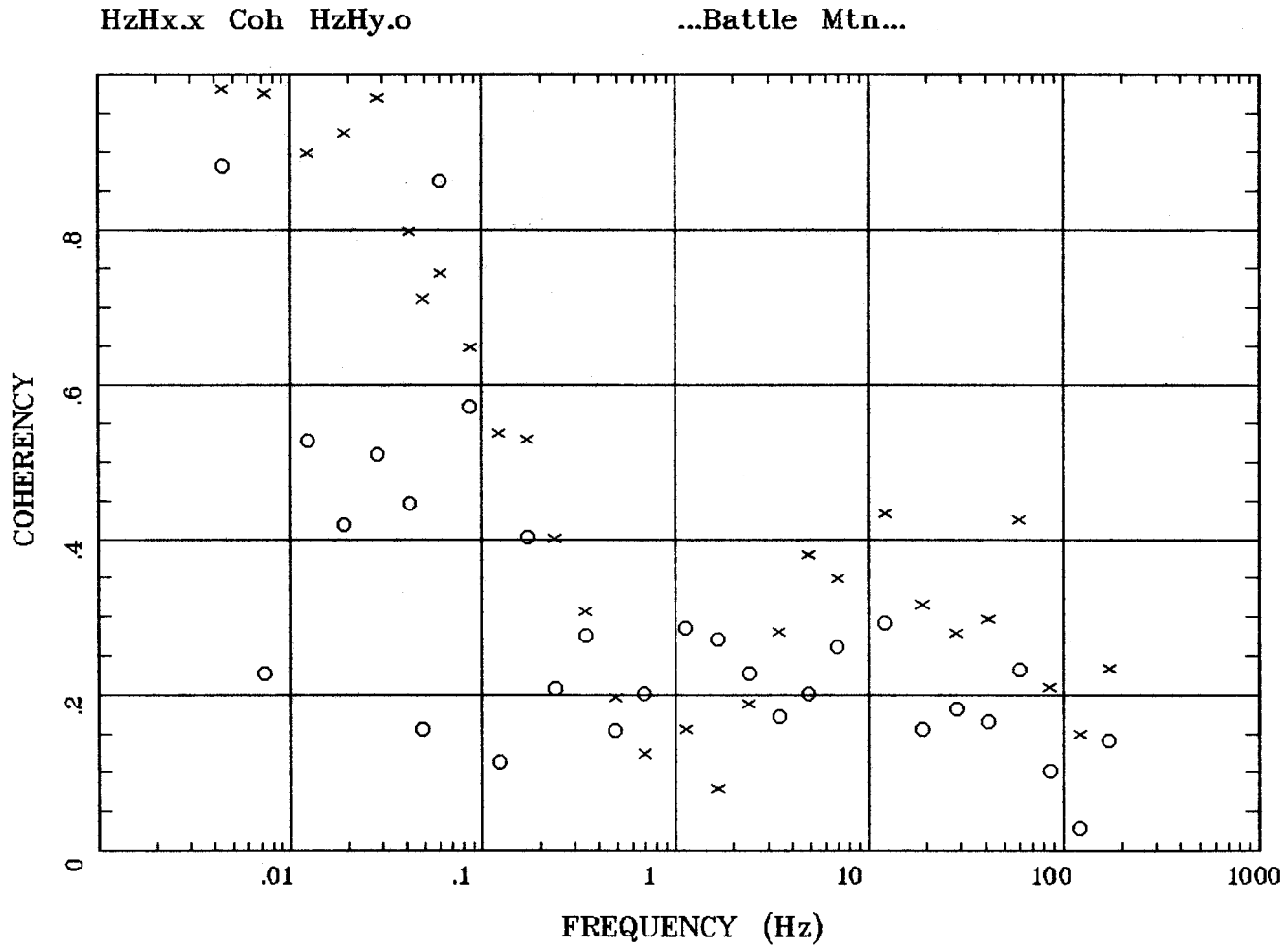
Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

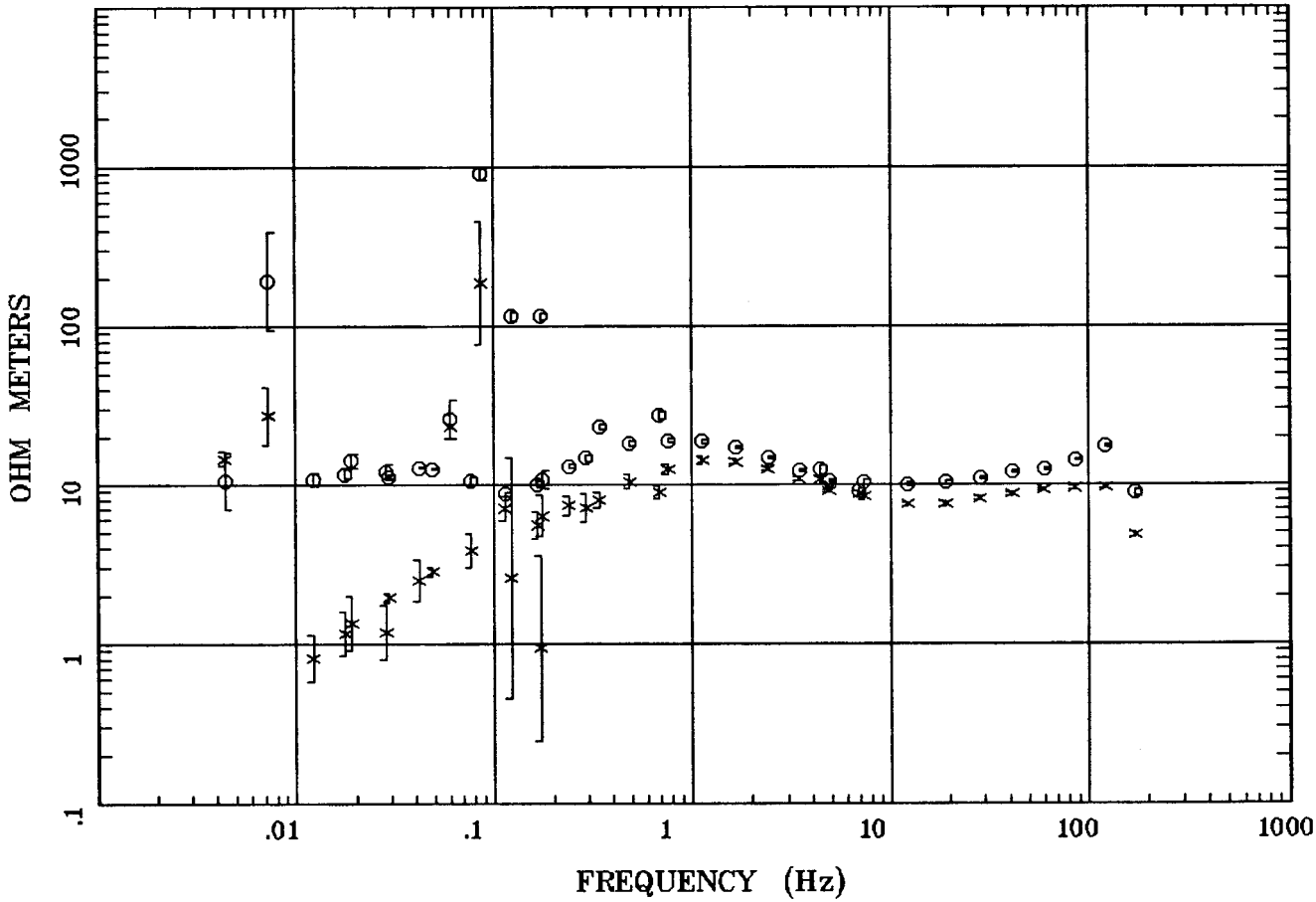
Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 12:0 Jul 21, 1997
Survey Co:

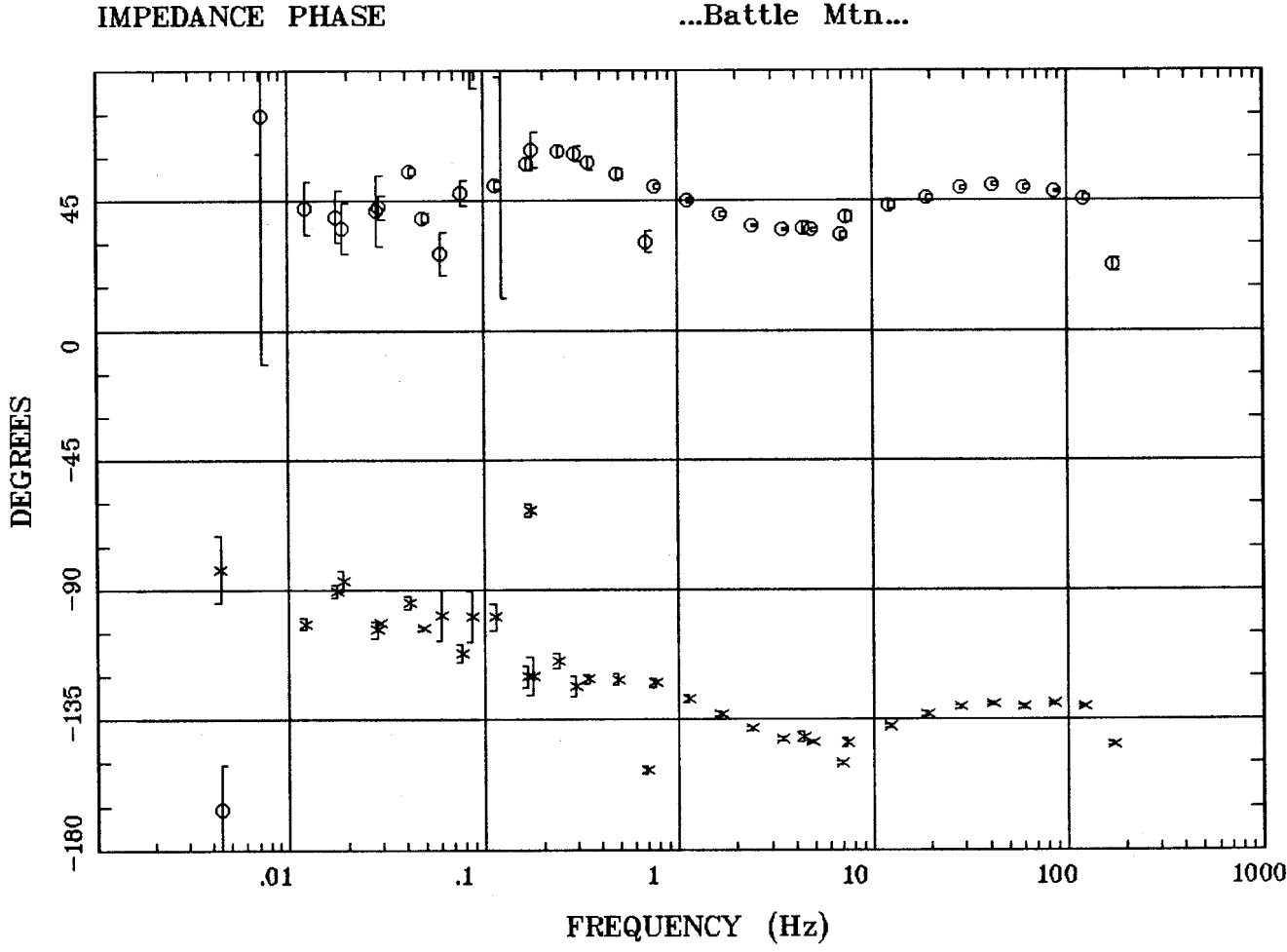
Rotation:
Filename: nn27a.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

APPARENT RESISTIVITY ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

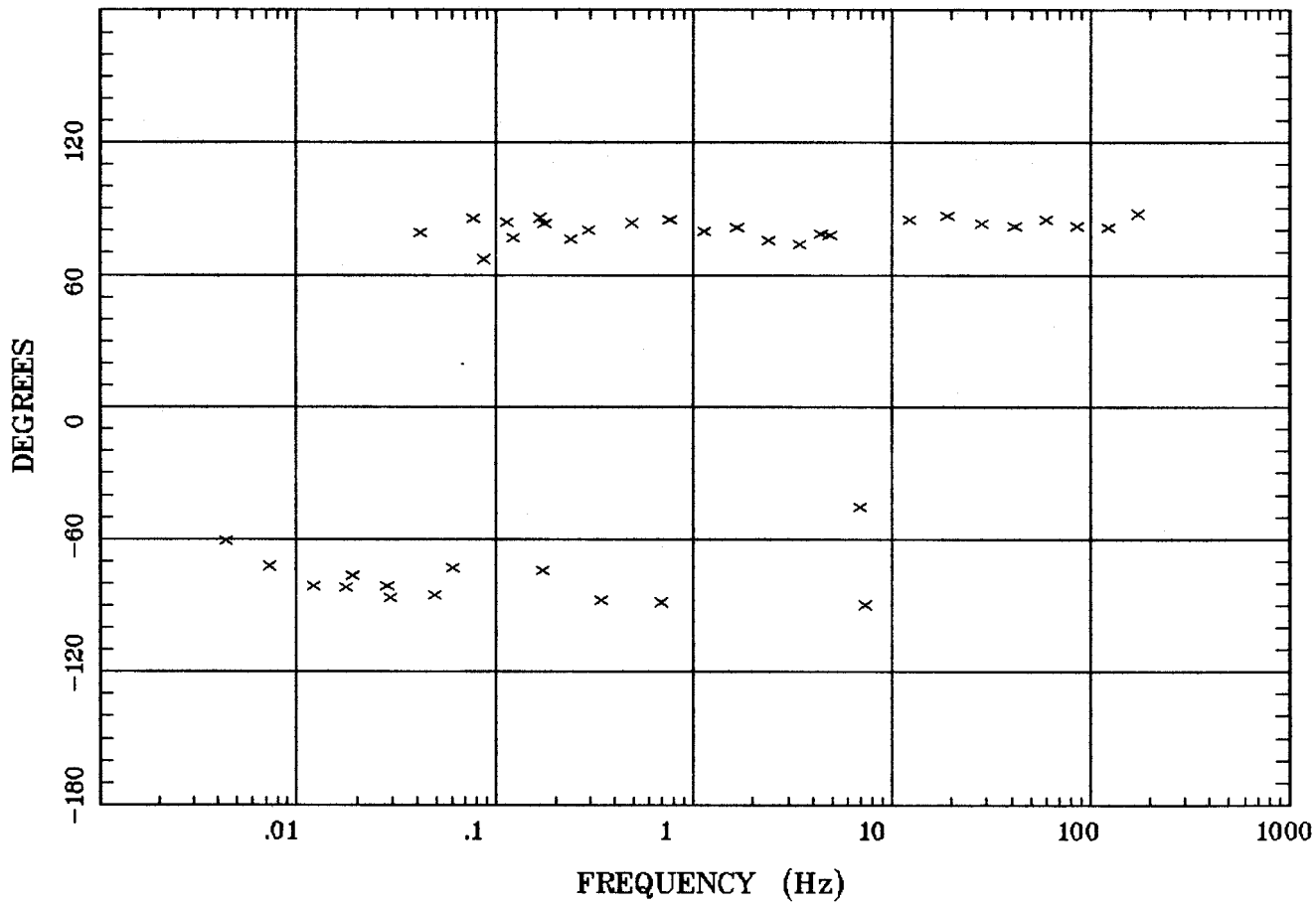
Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

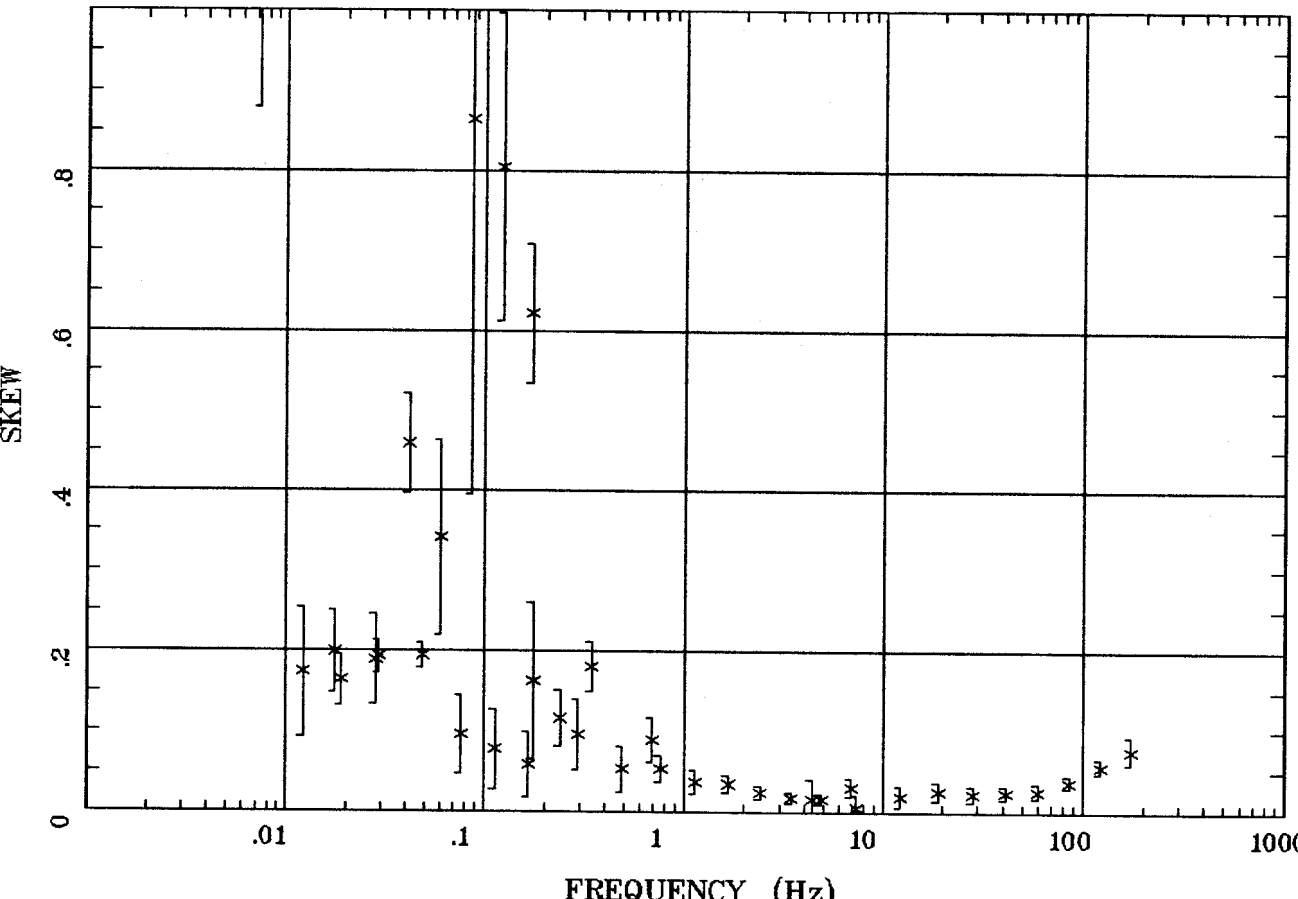
ROTATION ANGLE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

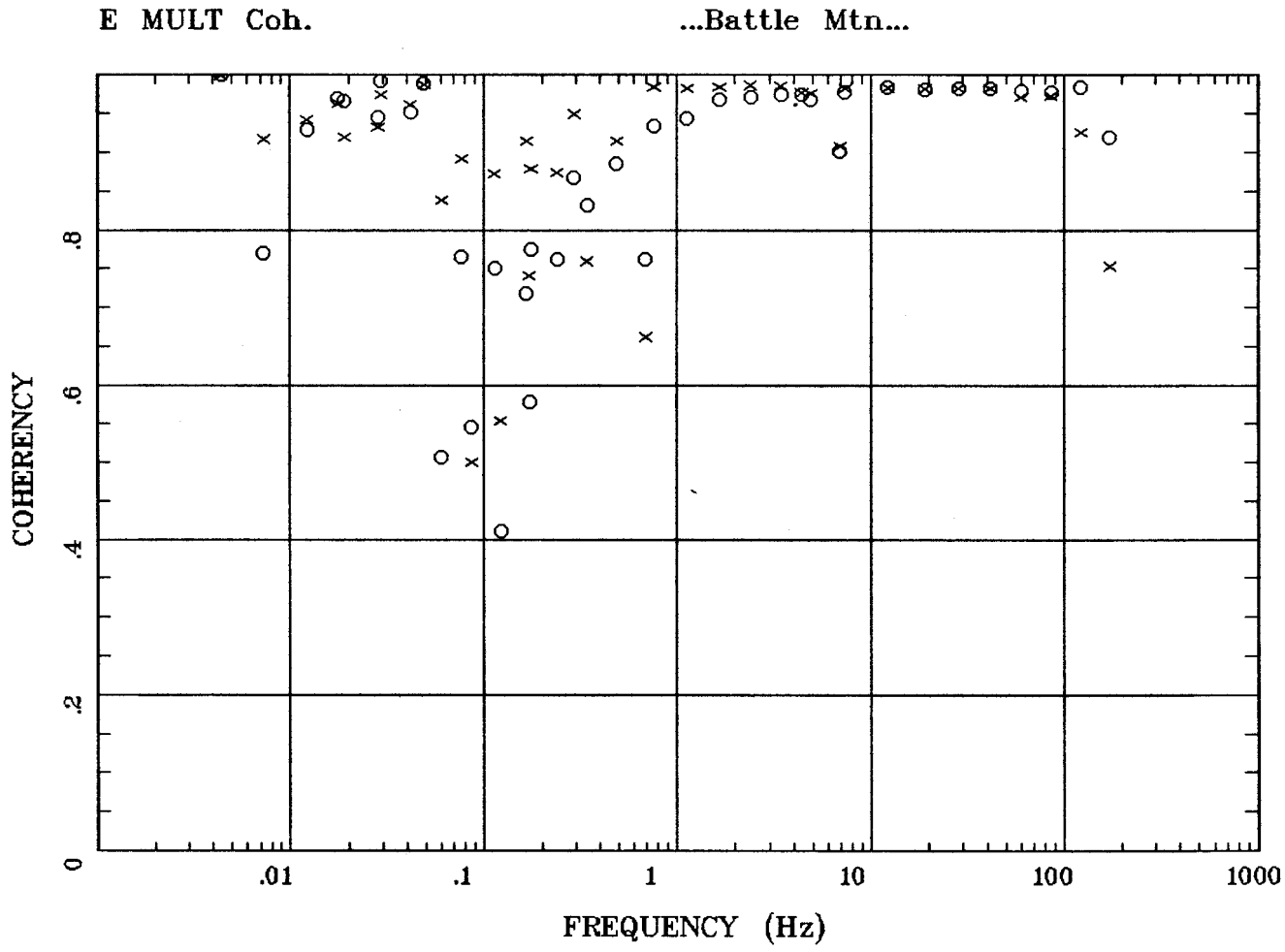
Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

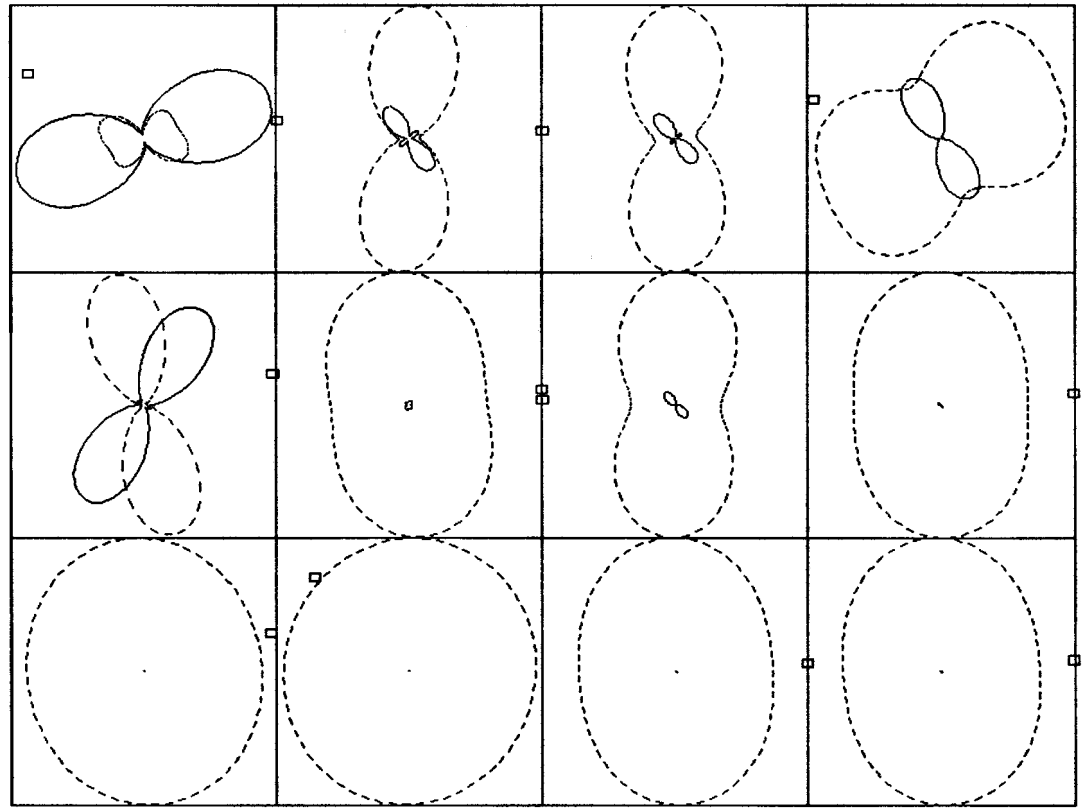
Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:44 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS ...Battle Mtn...

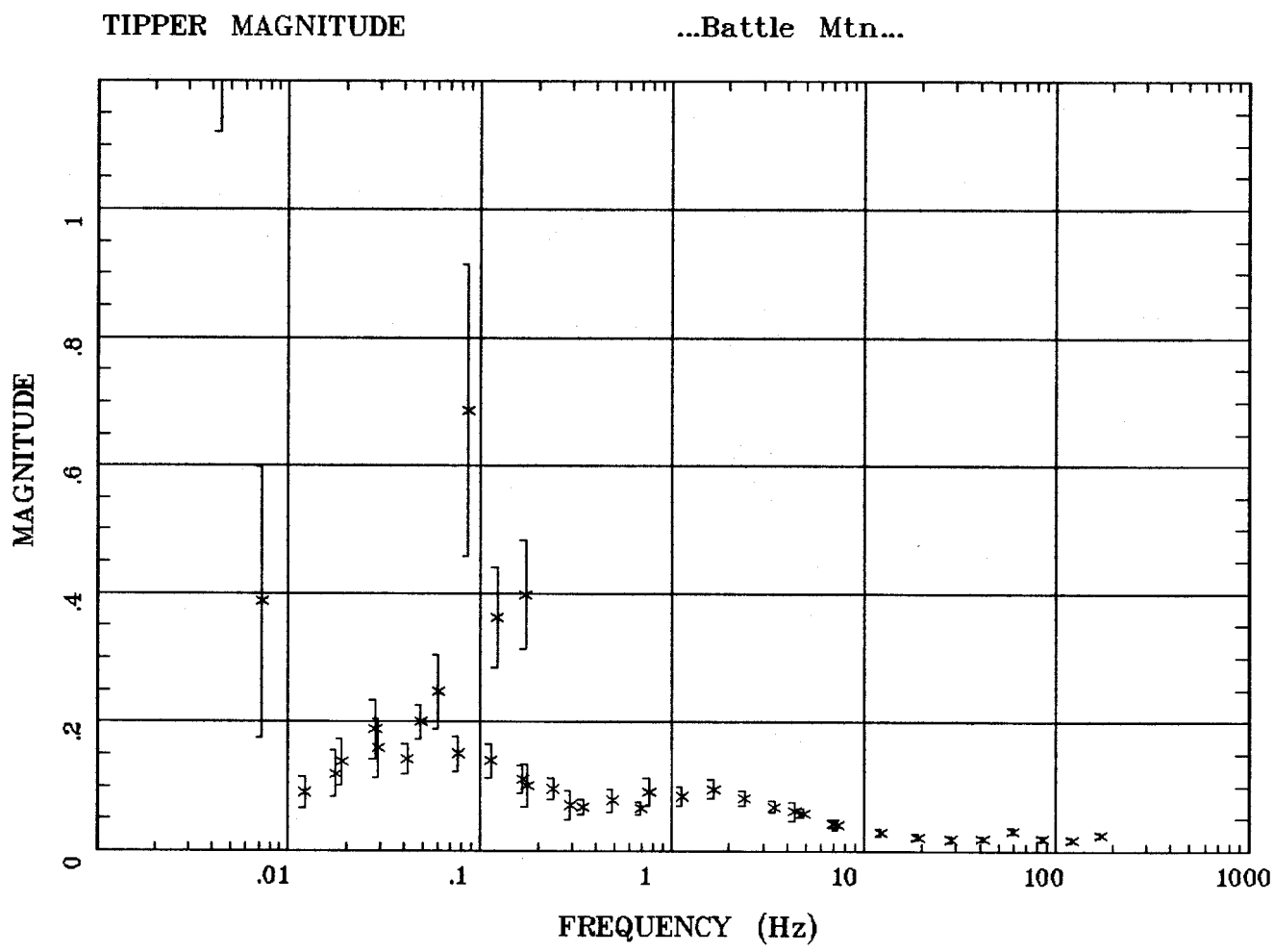


.0044 Hz	.0176 Hz	.0293 Hz	.0601 Hz
.122 Hz	.176 Hz	.344 Hz	.762 Hz
3.438 Hz	6.894 Hz	19.043 Hz	60.059 Hz

Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:45 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

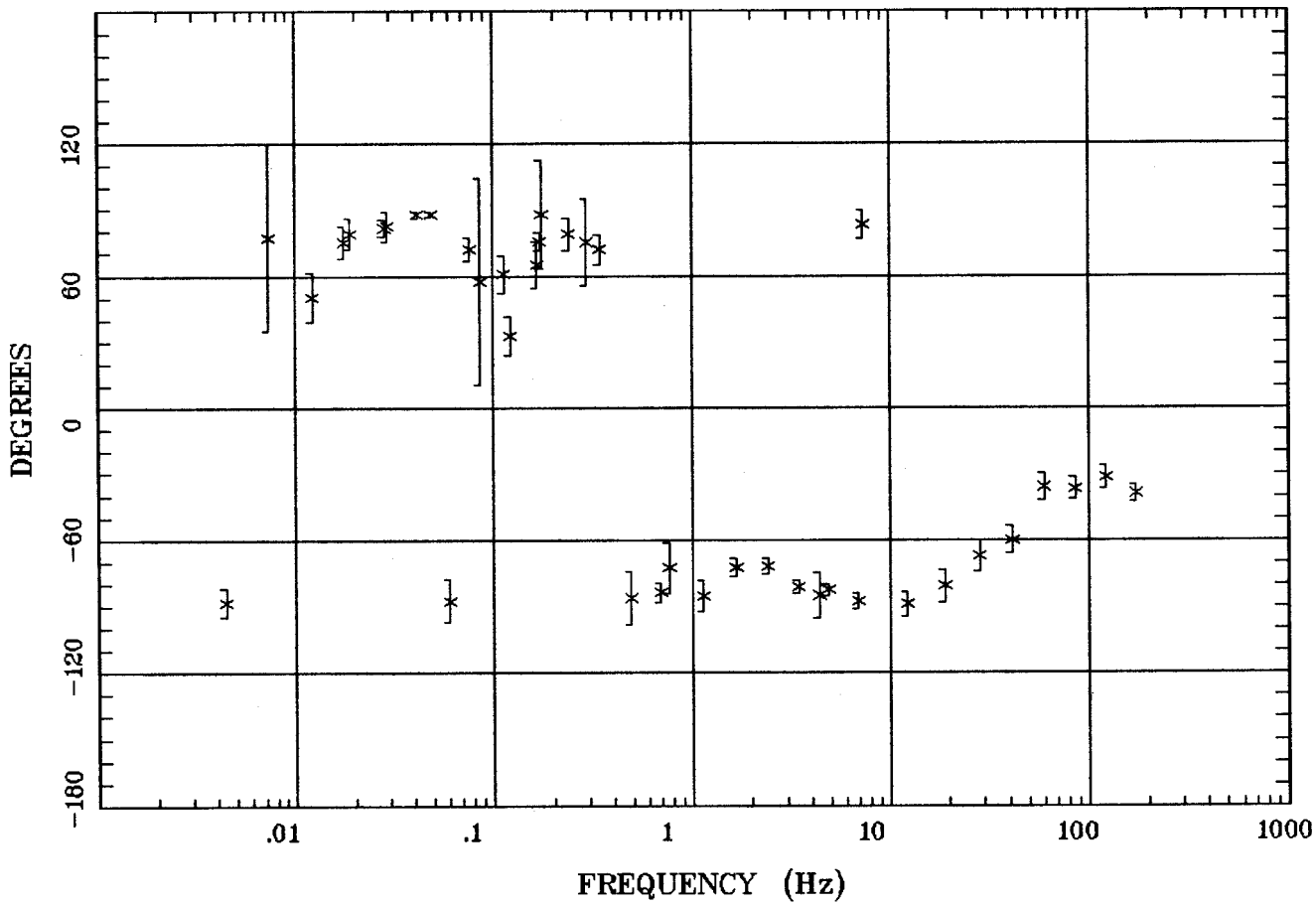
Station 28A



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:45 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

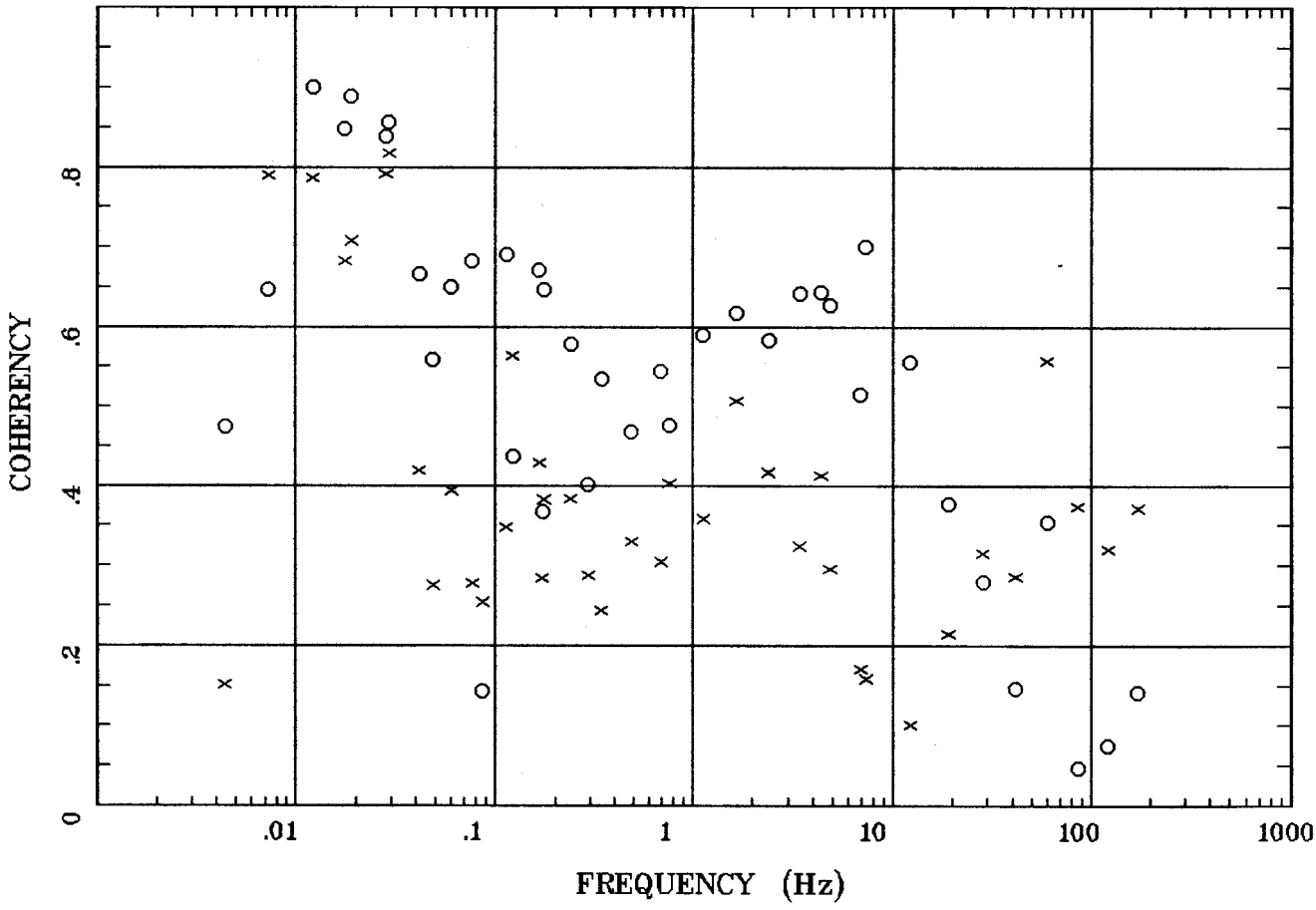
TIPPER STRIKE ...Battle Mtn...



Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:45 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

HzHx.x Coh HzHy.o ...Battle Mtn...

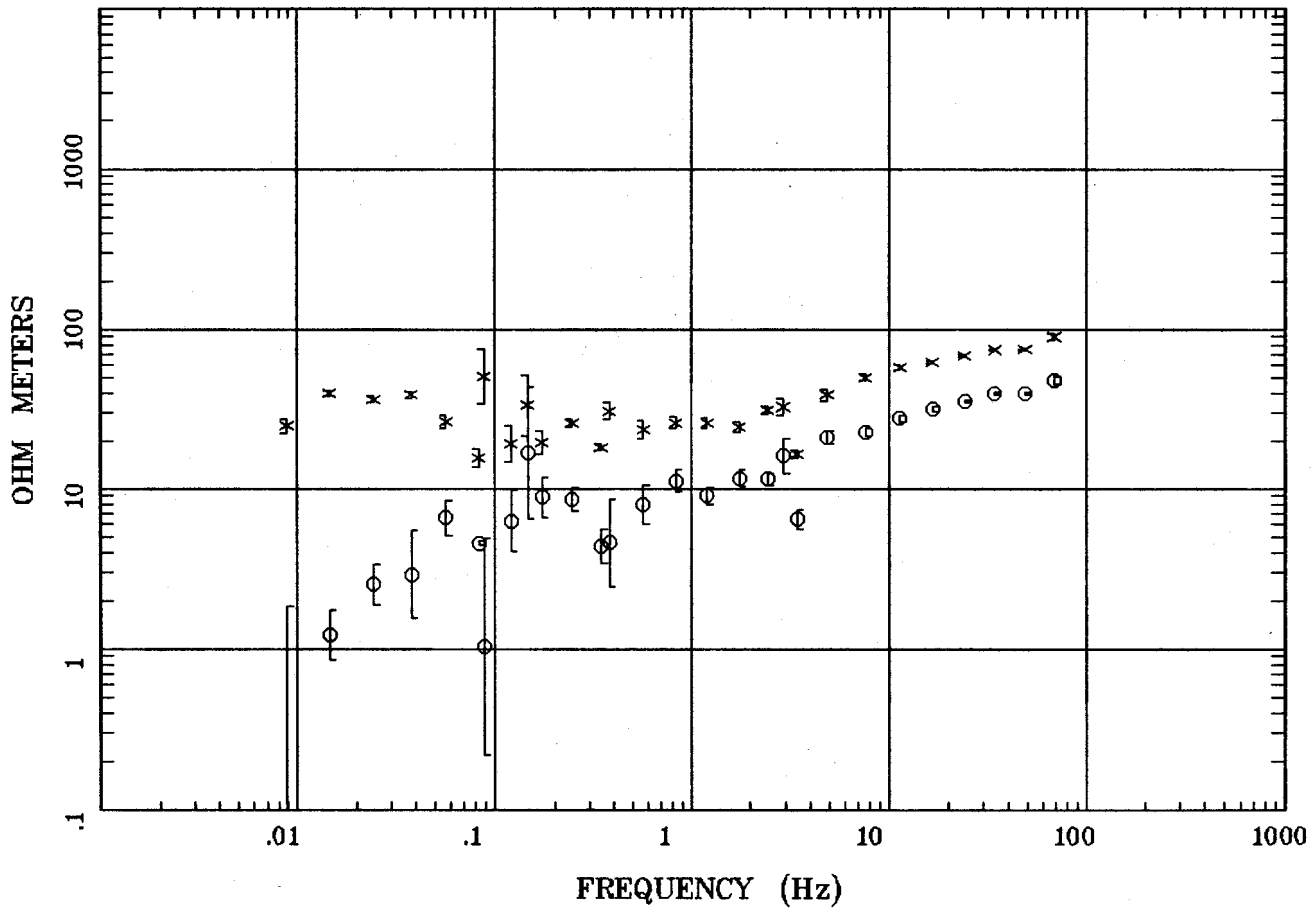


Client:
Remote: E local ref.
Acquired: 18:4 Jul 21, 1997
Survey Co:

Rotation:
Filename: nn28.all
Channels: Ch6 Ch7 Ch8 Ch9 Ch10Ch1 Ch2
Plotted: 08:45 Dec 08, 2000
< EMI - ElectroMagnetic Instruments >

Station 1

APPARENT RESISTIVITY Carlin, Nevada

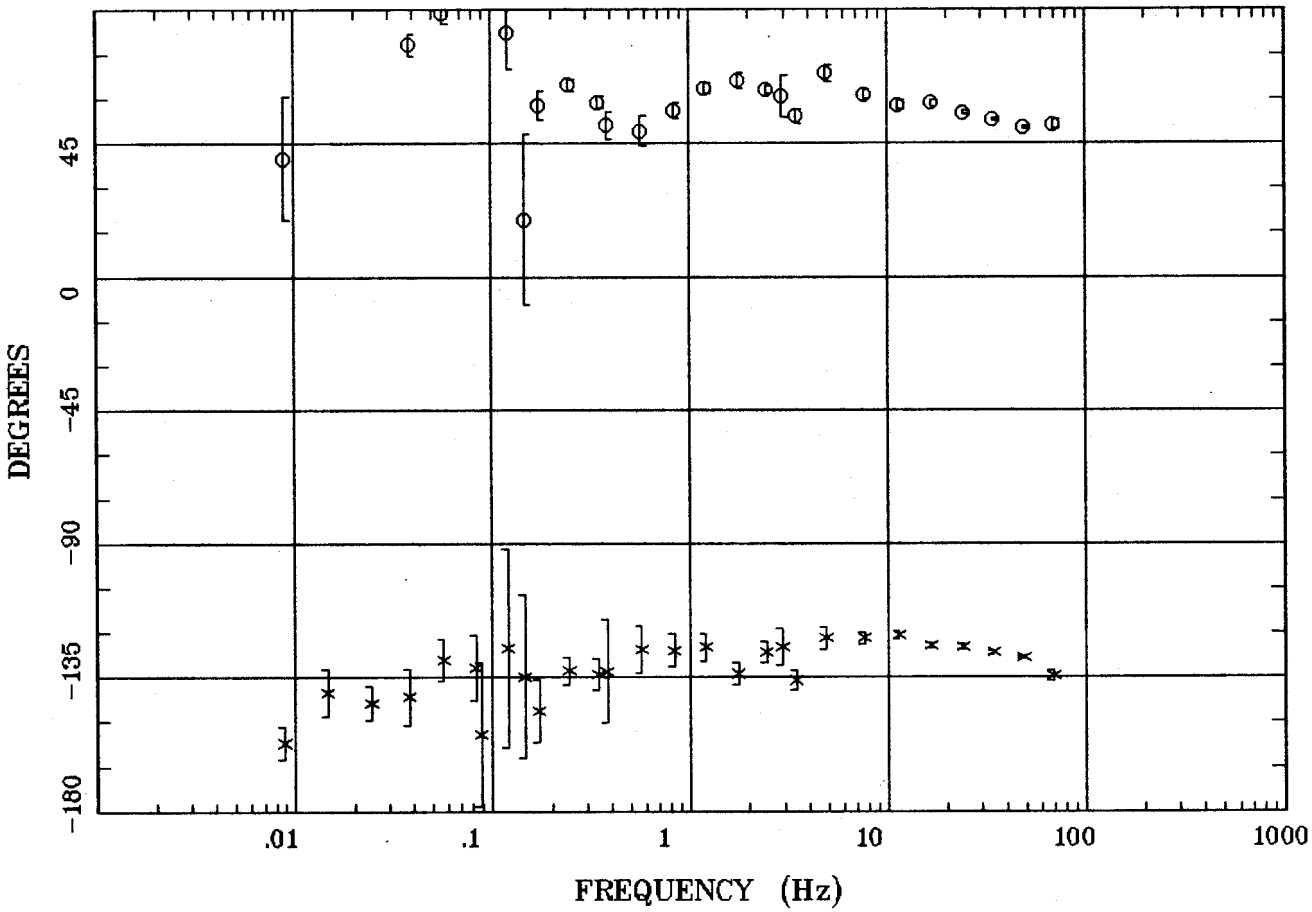


Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

Station 1

IMPEDANCE PHASE Carlin, Nevada



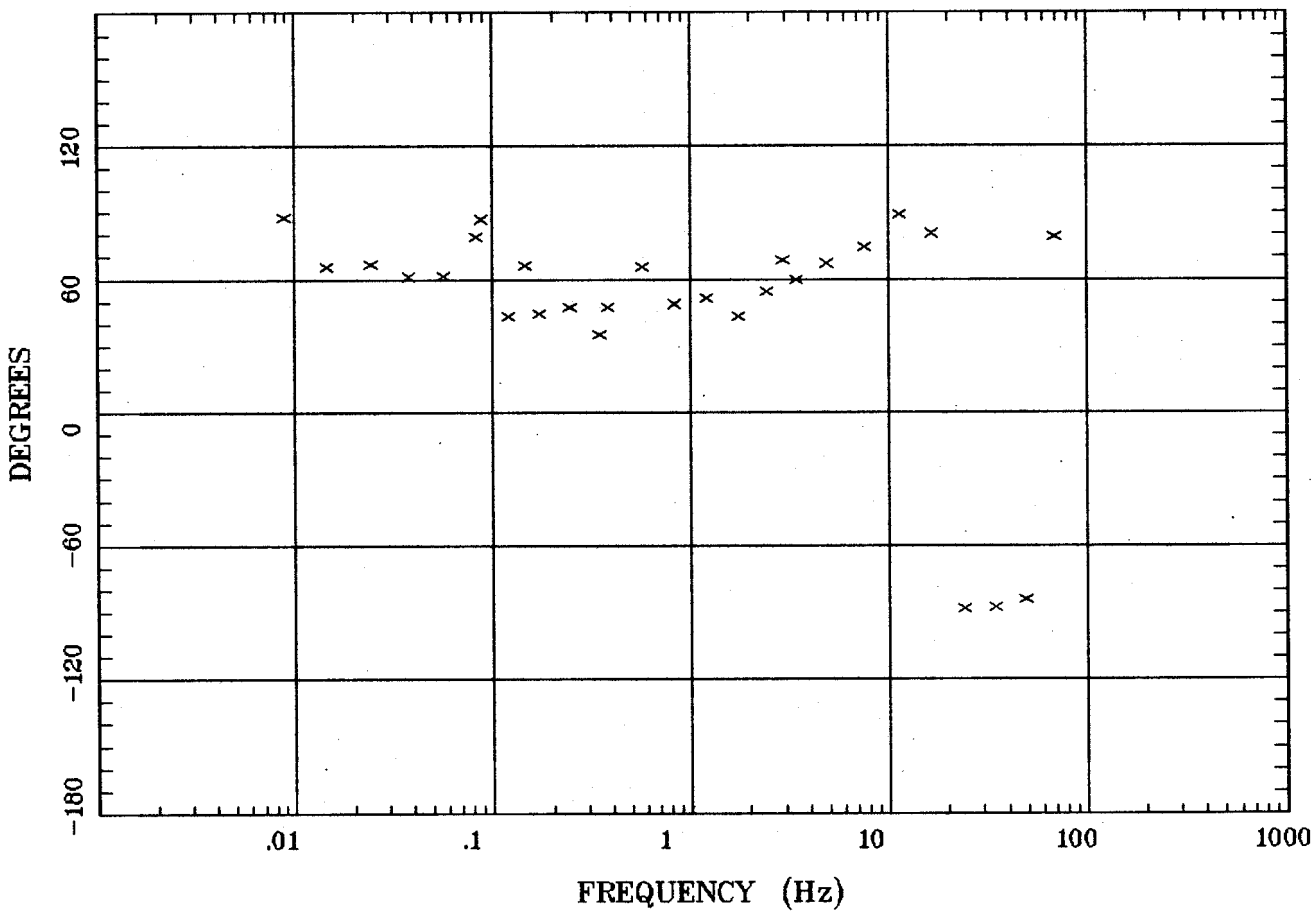
Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

Station 1

ROTATION ANGLE

Carlin, Nevada



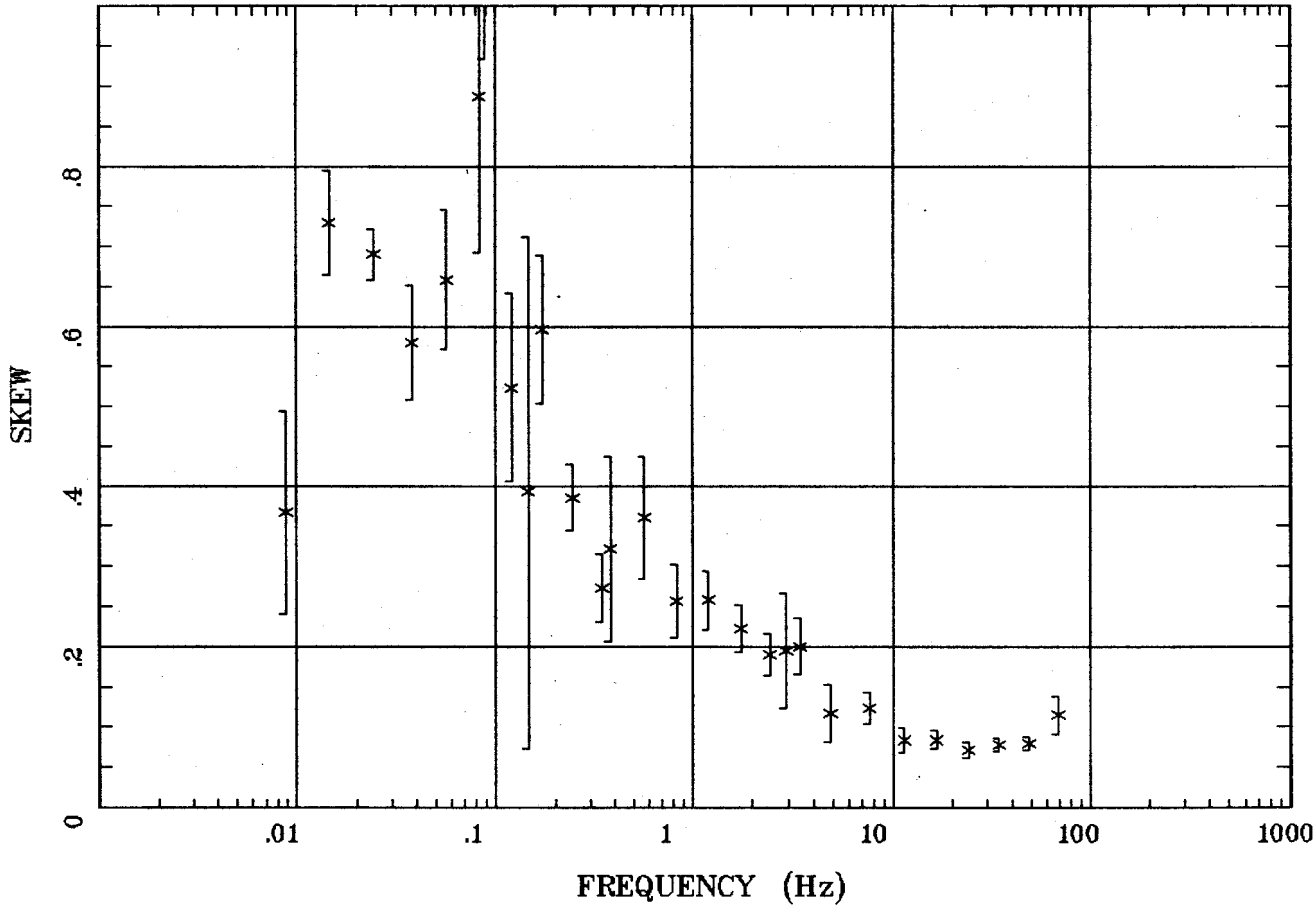
Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

Station 1

IMPEDANCE SKEW

Carlin, Nevada

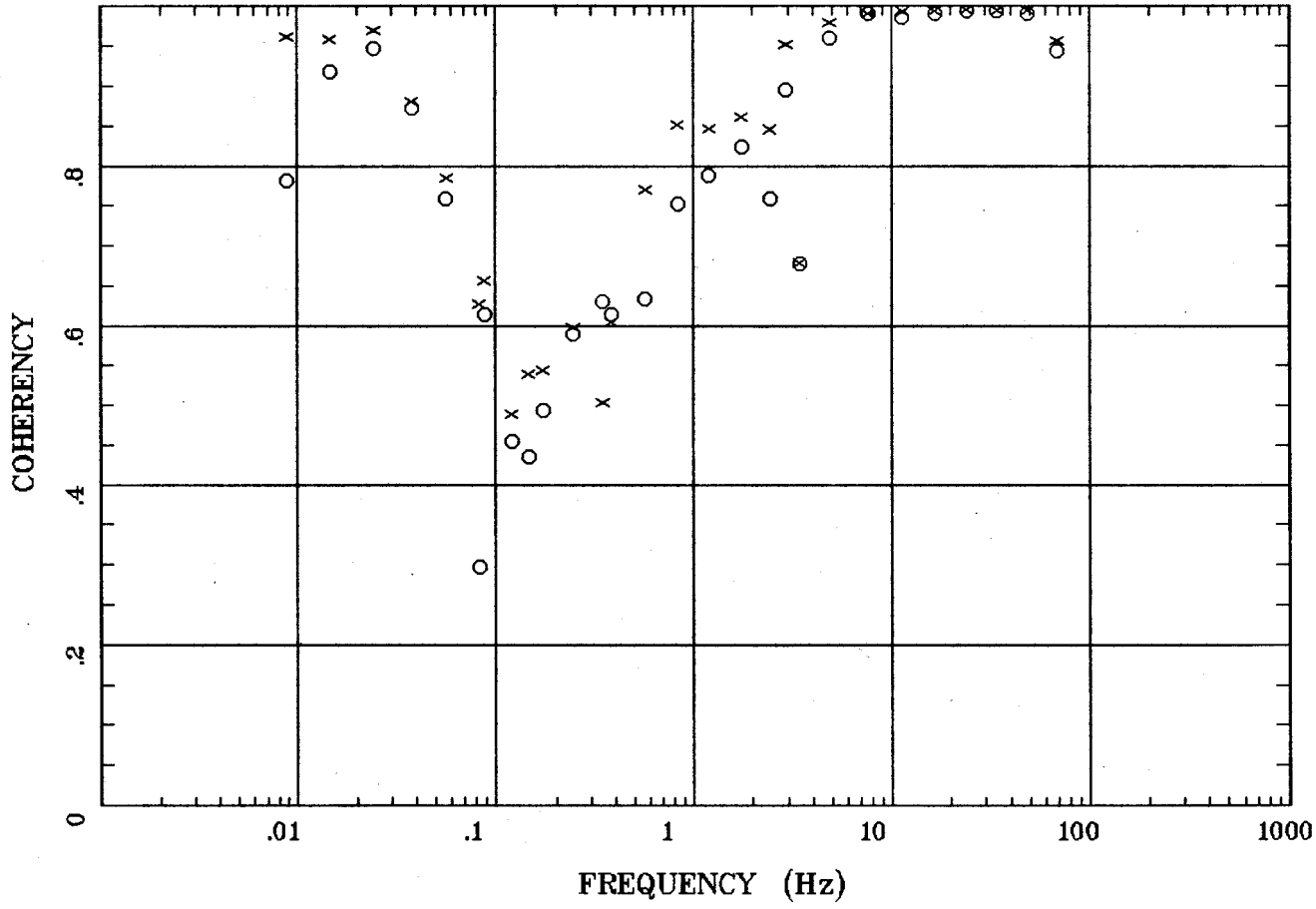


Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

Station 1

E MULT Coh. Carlin, Nevada

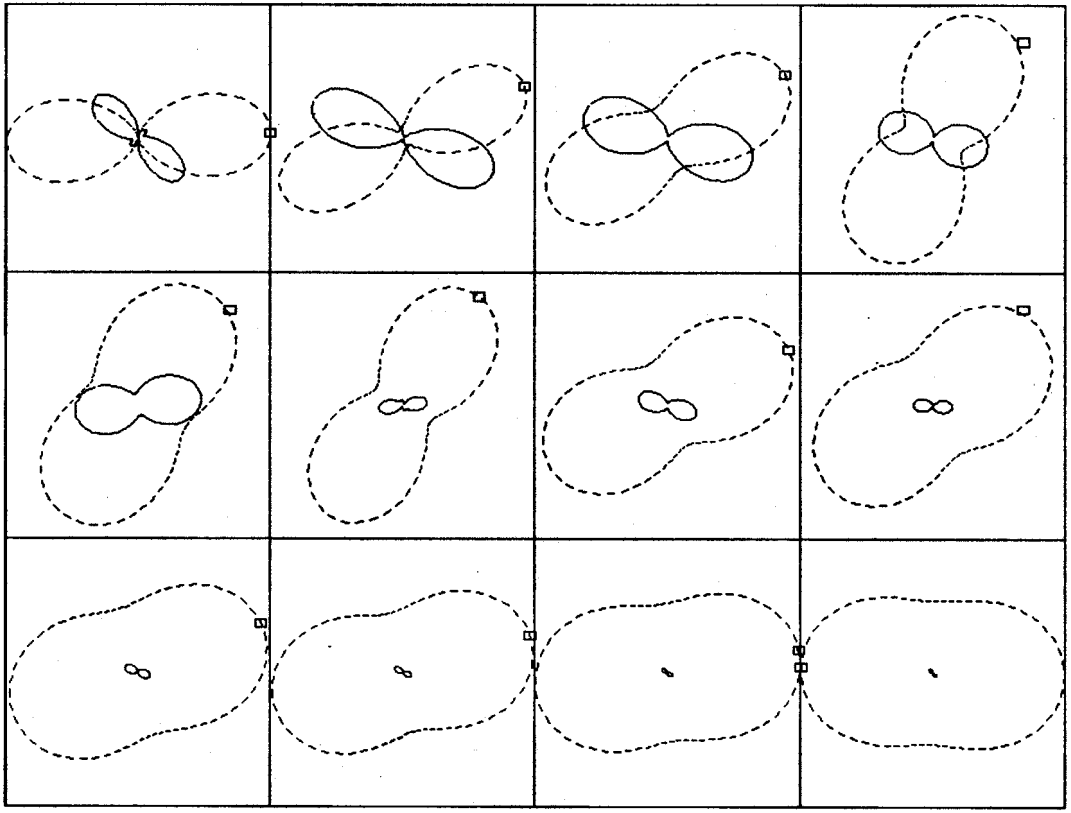


Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

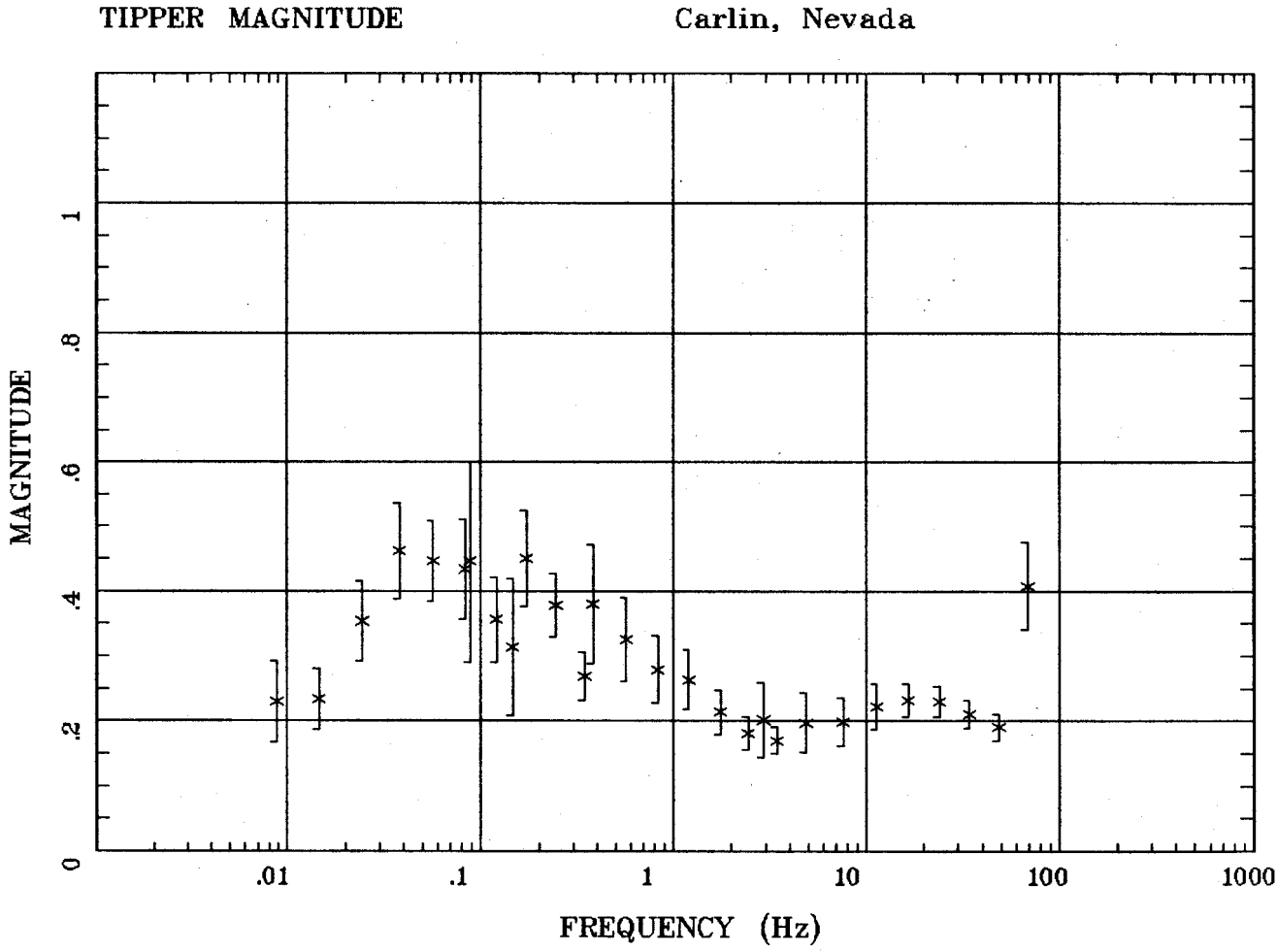
Carlin, Nevada



.0088 Hz	.0244 Hz	.0566 Hz	.120 Hz
.172 Hz	.345 Hz	.566 Hz	1.758 Hz
2.930 Hz	7.617 Hz	16.602 Hz	34.375 Hz

Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >



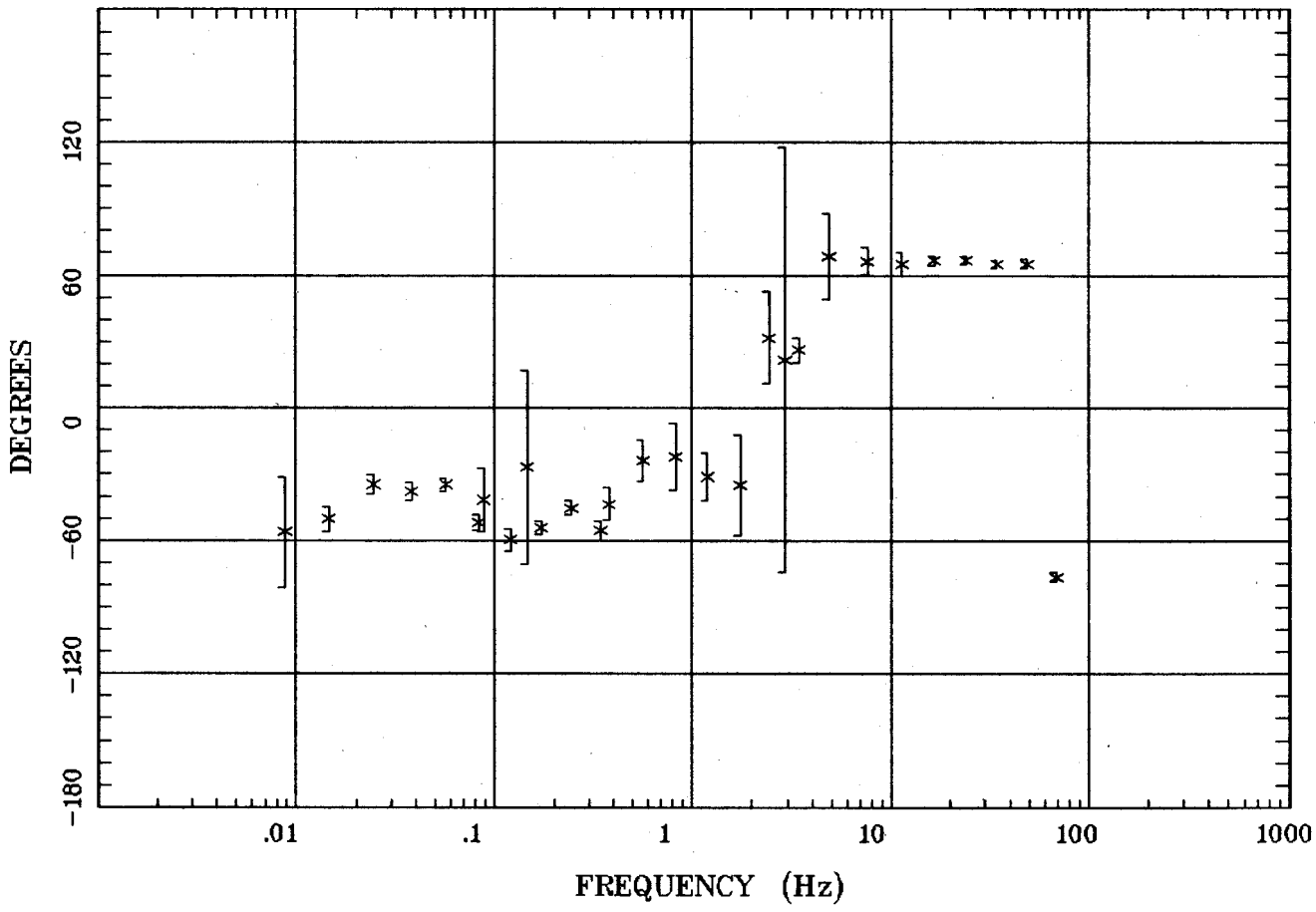
Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

Station 1

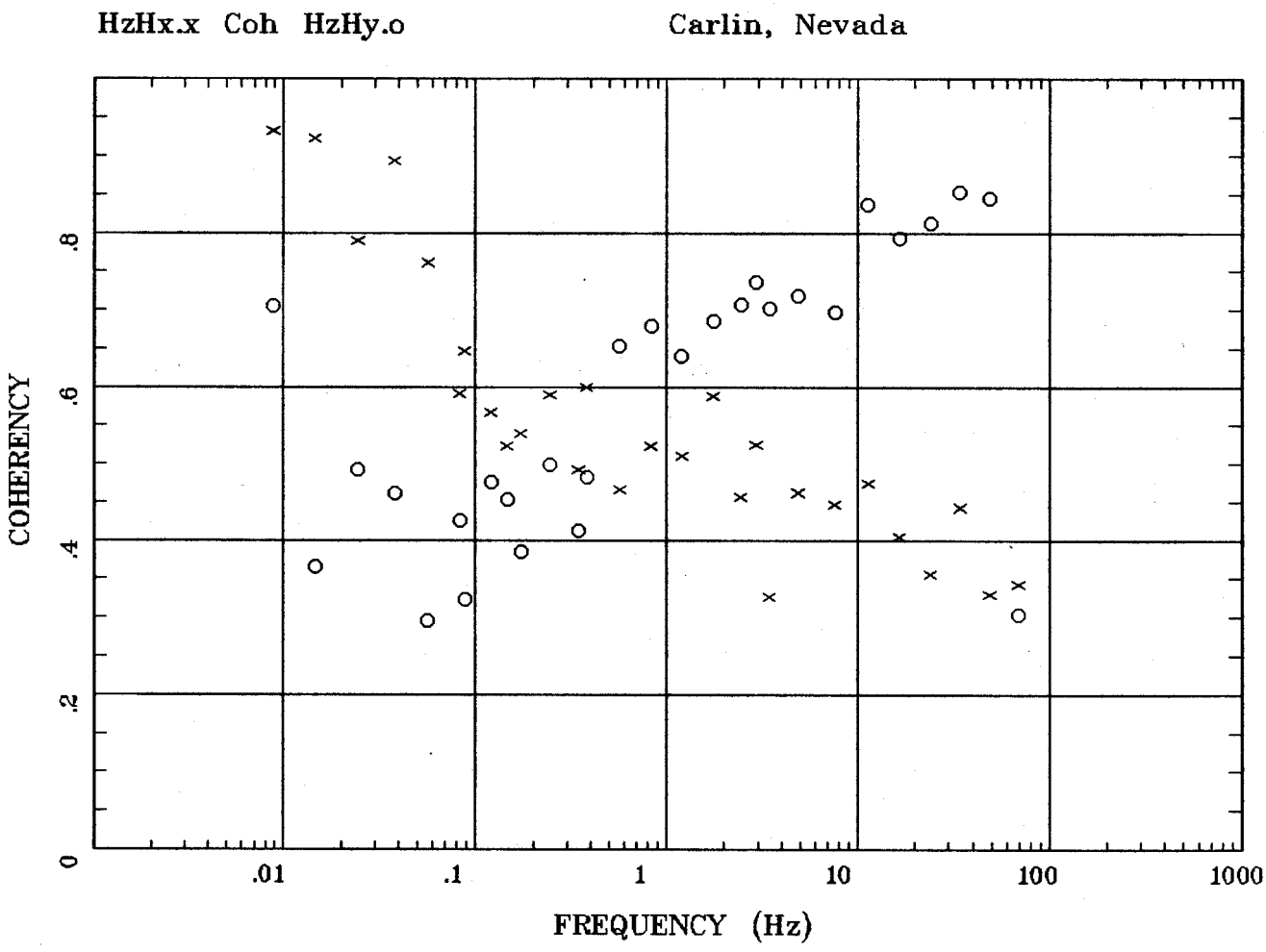
TIPPER STRIKE

Carlin, Nevada



Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

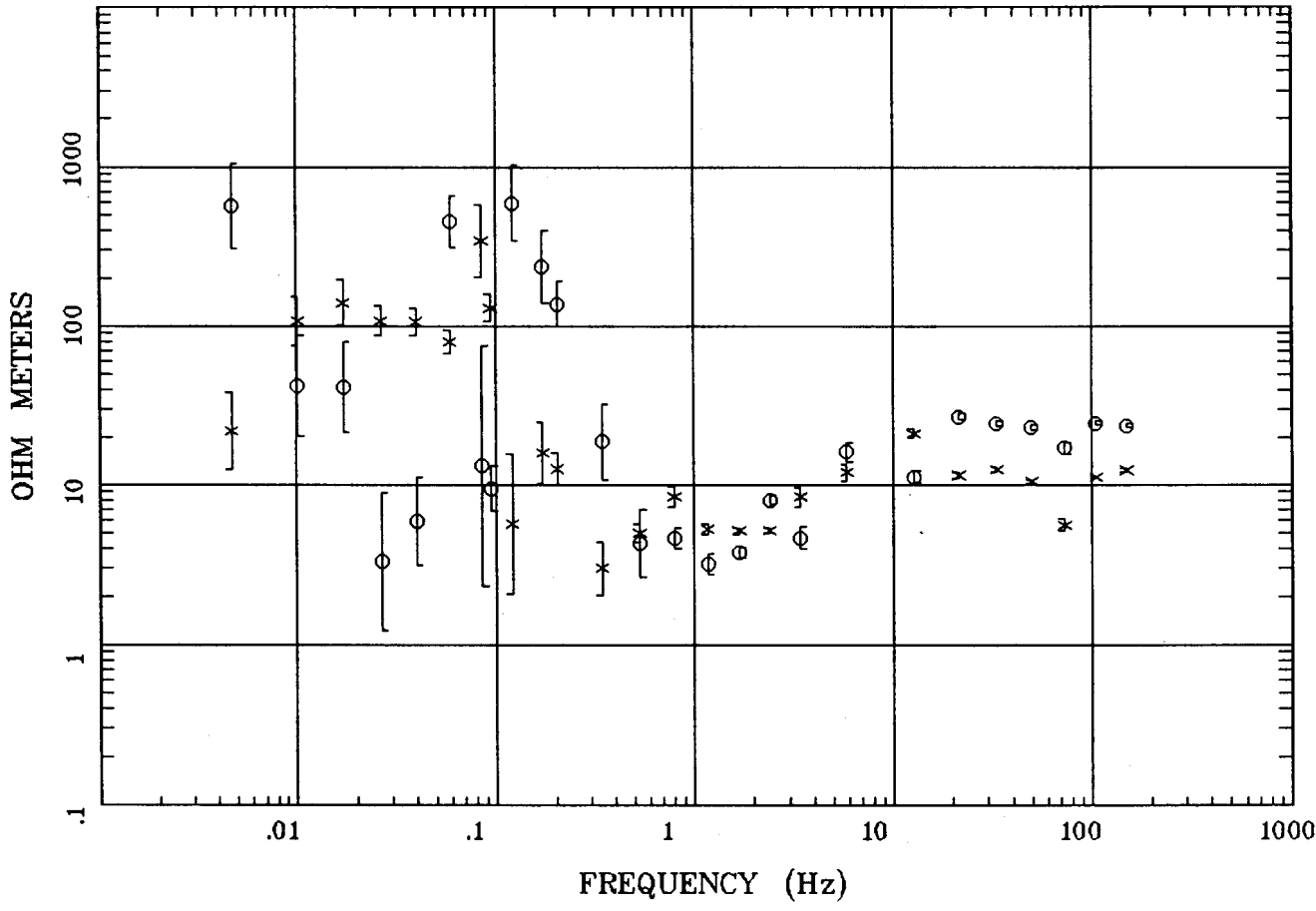


Client:
Remote: local
Acquired: 13:4 Jul 26, 1999
Survey Co:USGS

Rotation:
Filename: ct01.avg
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch8 Ch9
Plotted: 15:42 Jan 24, 2001
< EMI - ElectroMagnetic Instruments >

Station 24B

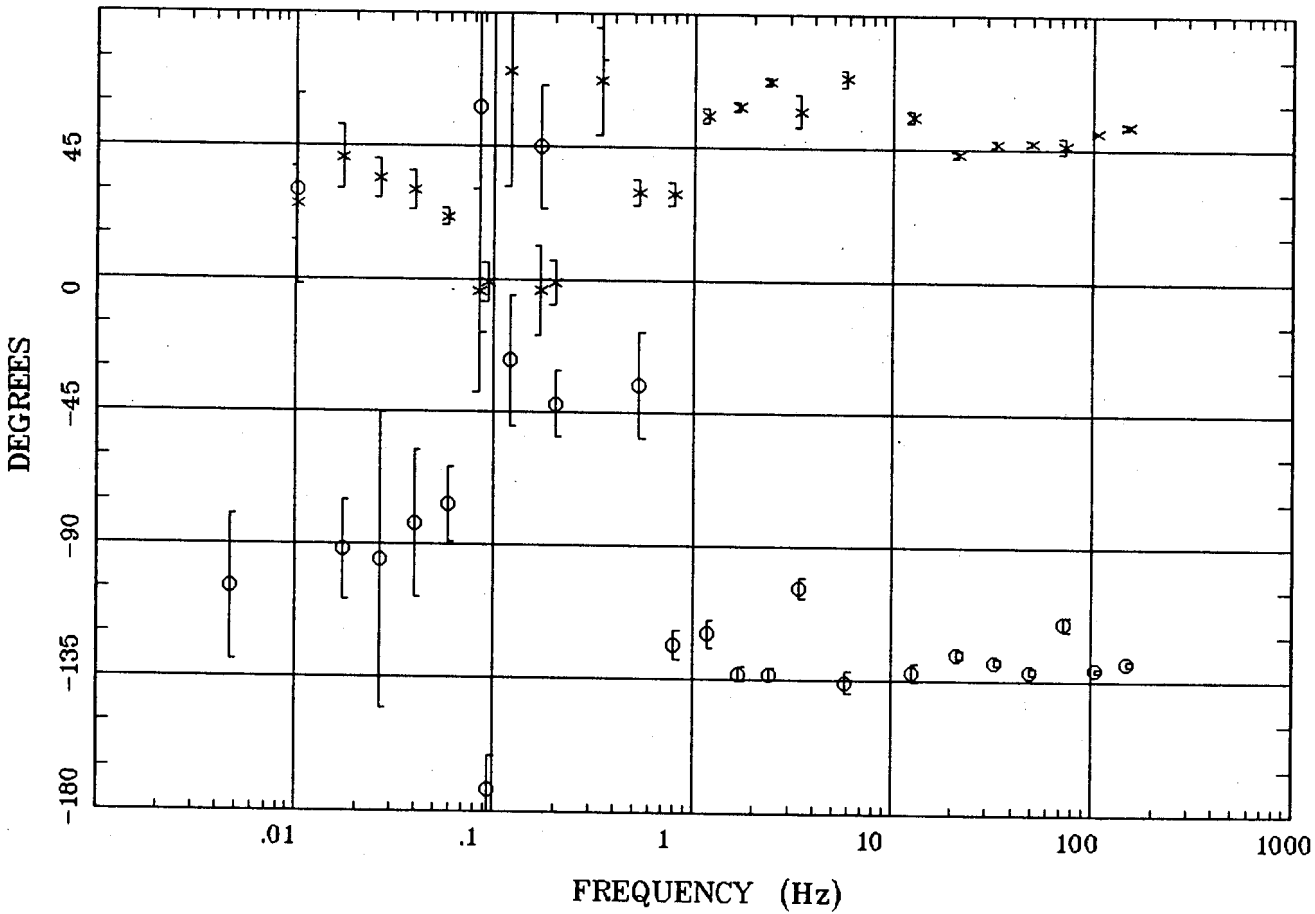
APPARENT RESISTIVITY



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT24C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:57 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

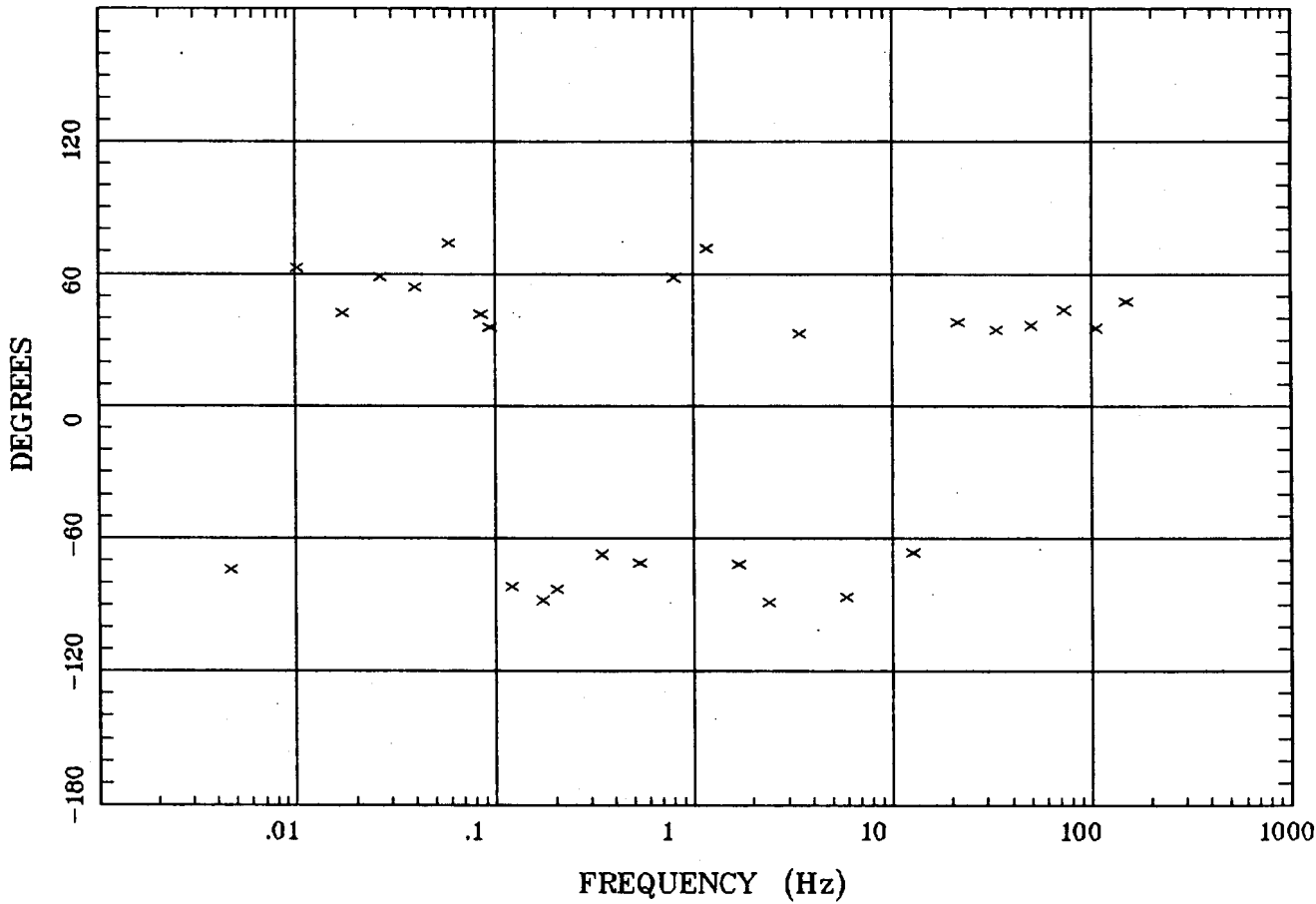
IMPEDANCE PHASE



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT24C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:57 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

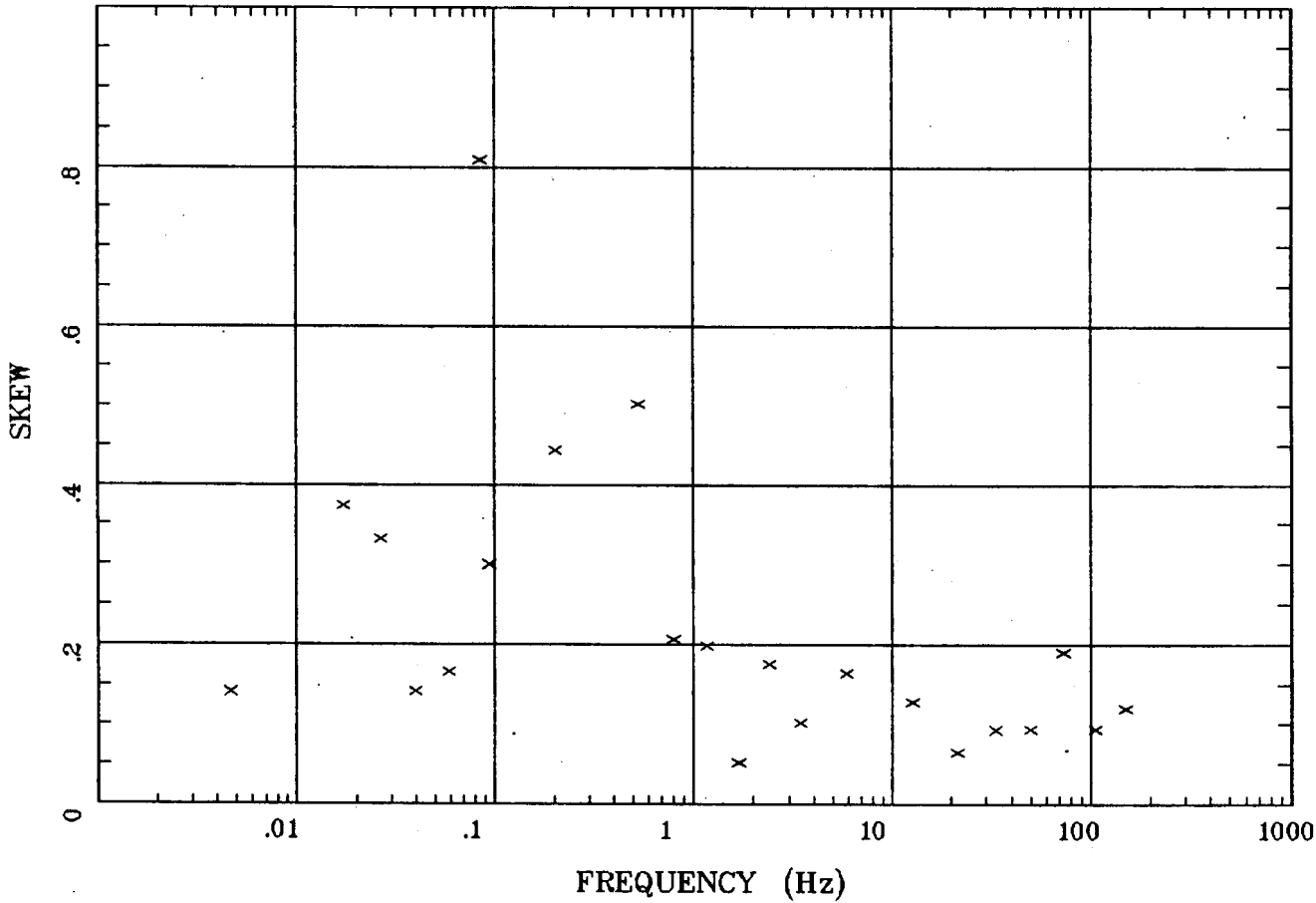
ROTATION ANGLE



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT24C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:57 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

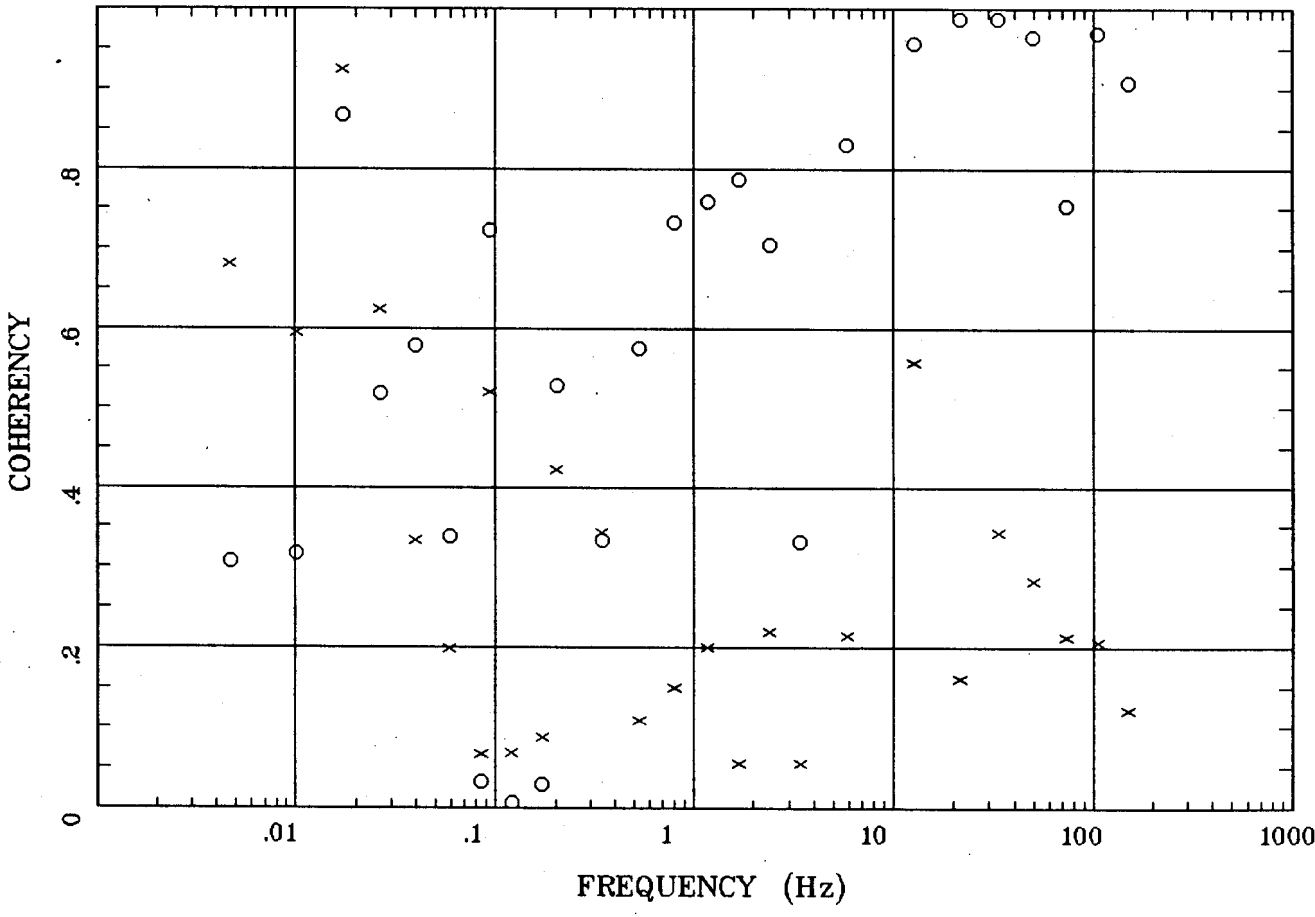
IMPEDANCE SKEW



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT24C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:57 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

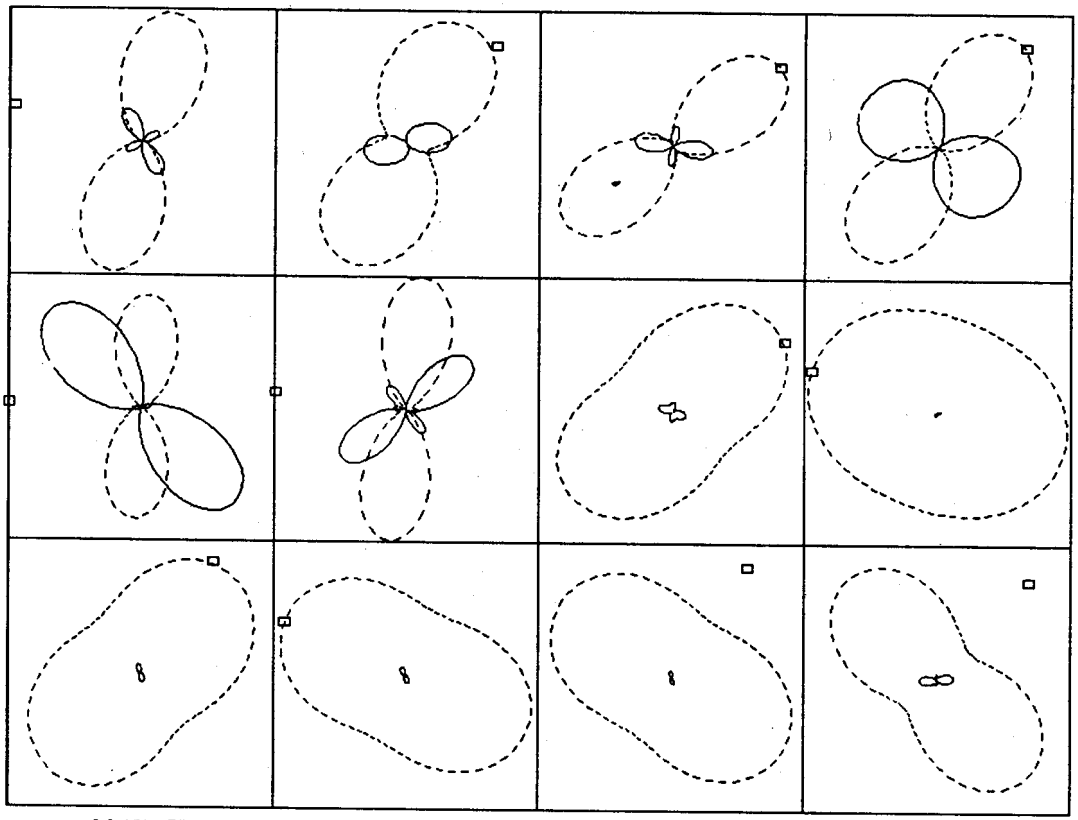
E MULT Coh.



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT24C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:57 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

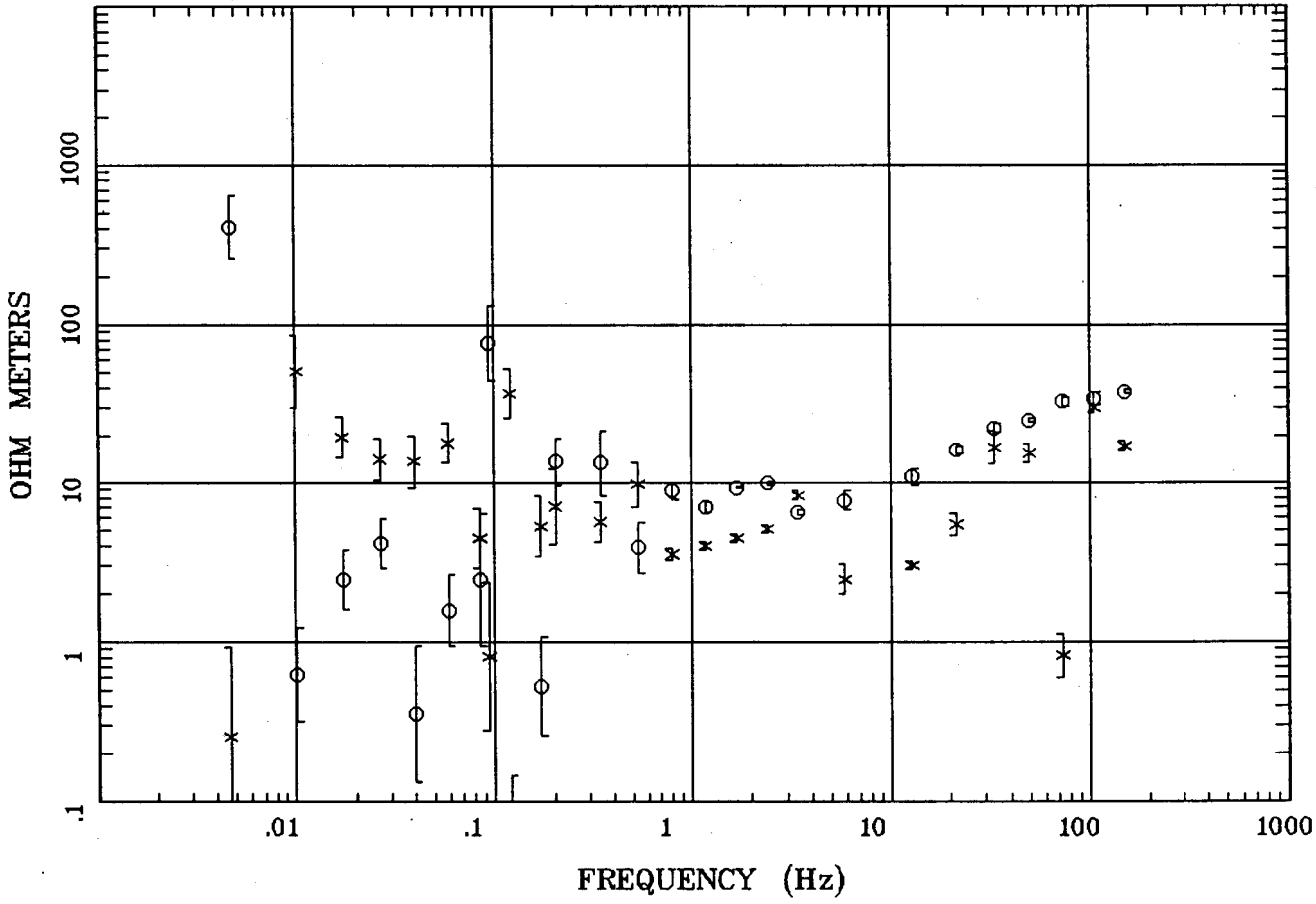


.0047 Hz	.0172 Hz	.0398 Hz	.0844 Hz
.171 Hz	.203 Hz	.797 Hz	1.688 Hz
3.422 Hz	12.695 Hz	33.203 Hz	73.242 Hz

Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT24C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:57 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

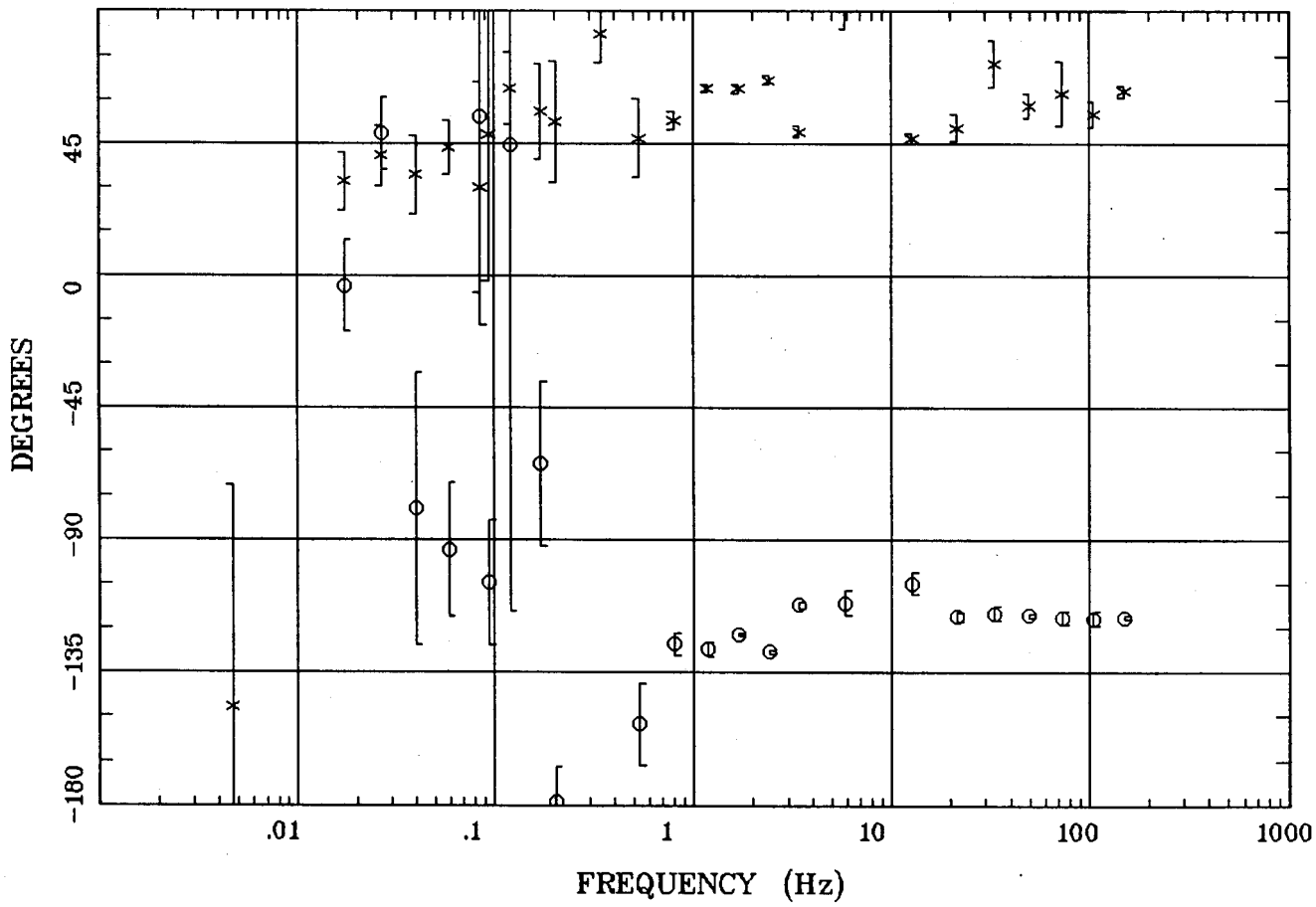
APPARENT RESISTIVITY



Client:
Remote:
Acquired: :
Survey Co:

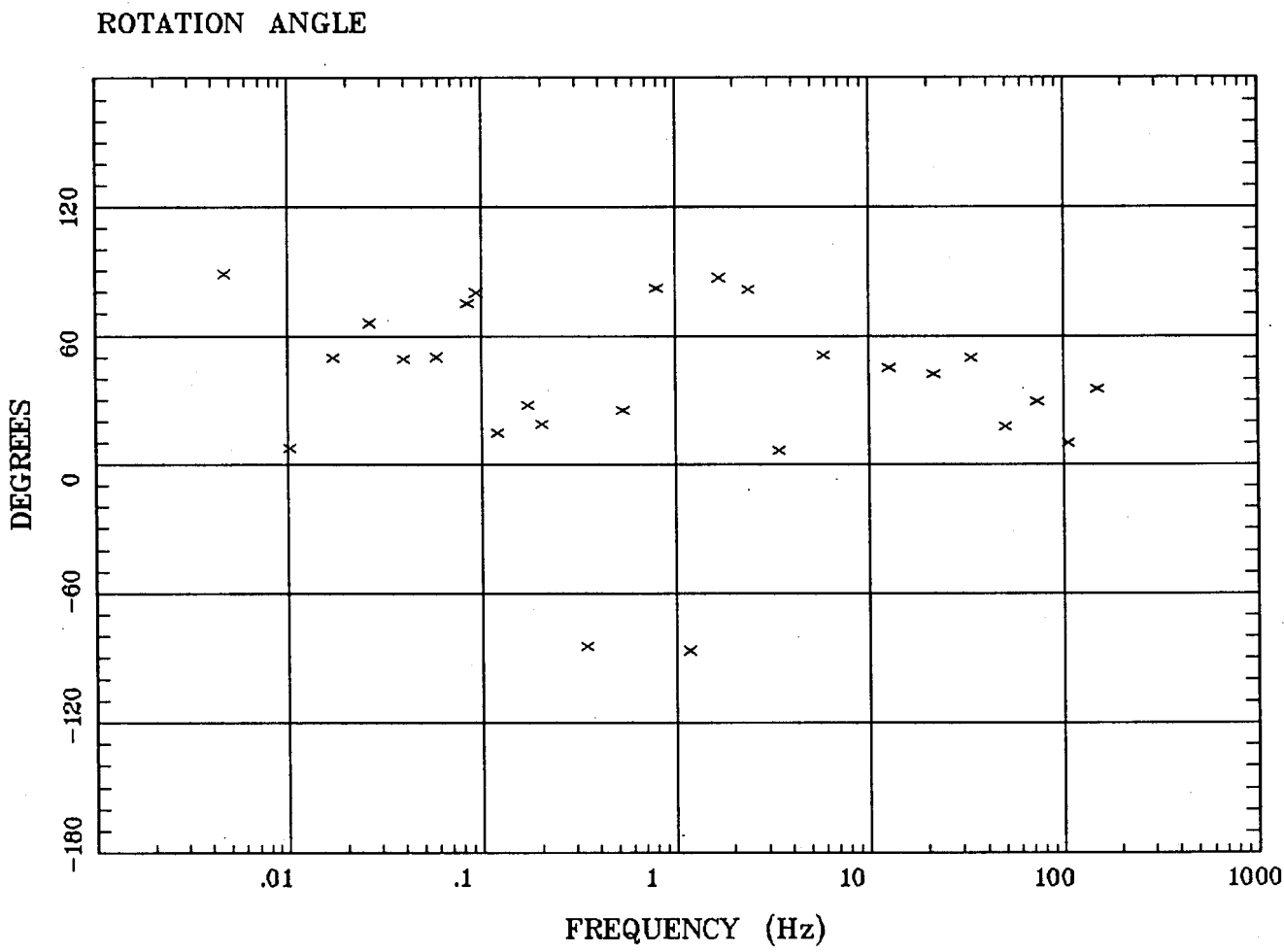
Rotation:
Filename: CT25D
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:58 Dec 11, 2000
< EMI – ElectroMagnetic Instruments >

IMPEDANCE PHASE



Client:
Remote:
Acquired: :
Survey Co:

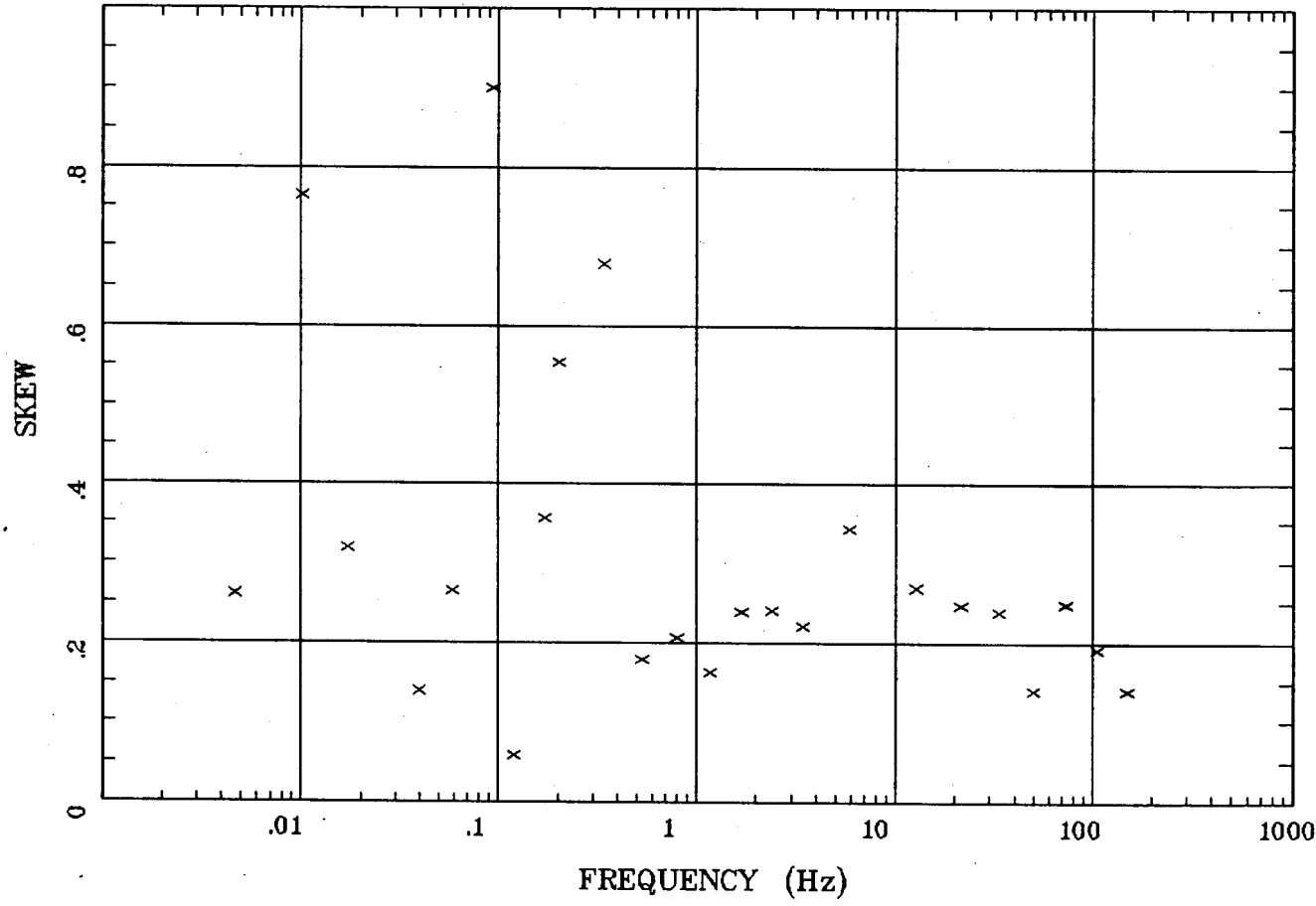
Rotation:
Filename: CT25D
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:58 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT25D
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:58 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

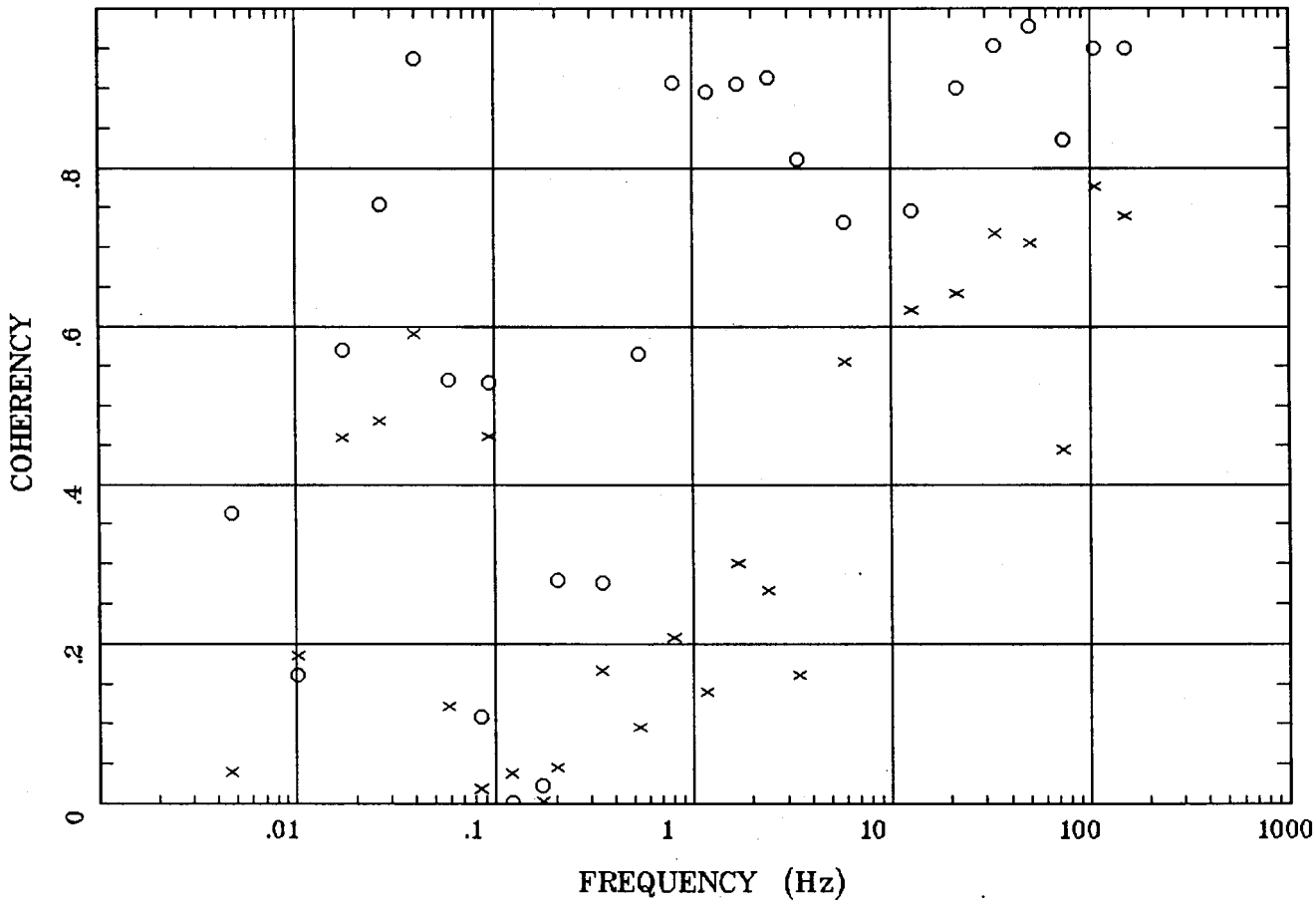
IMPEDANCE SKEW



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT25D
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:58 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

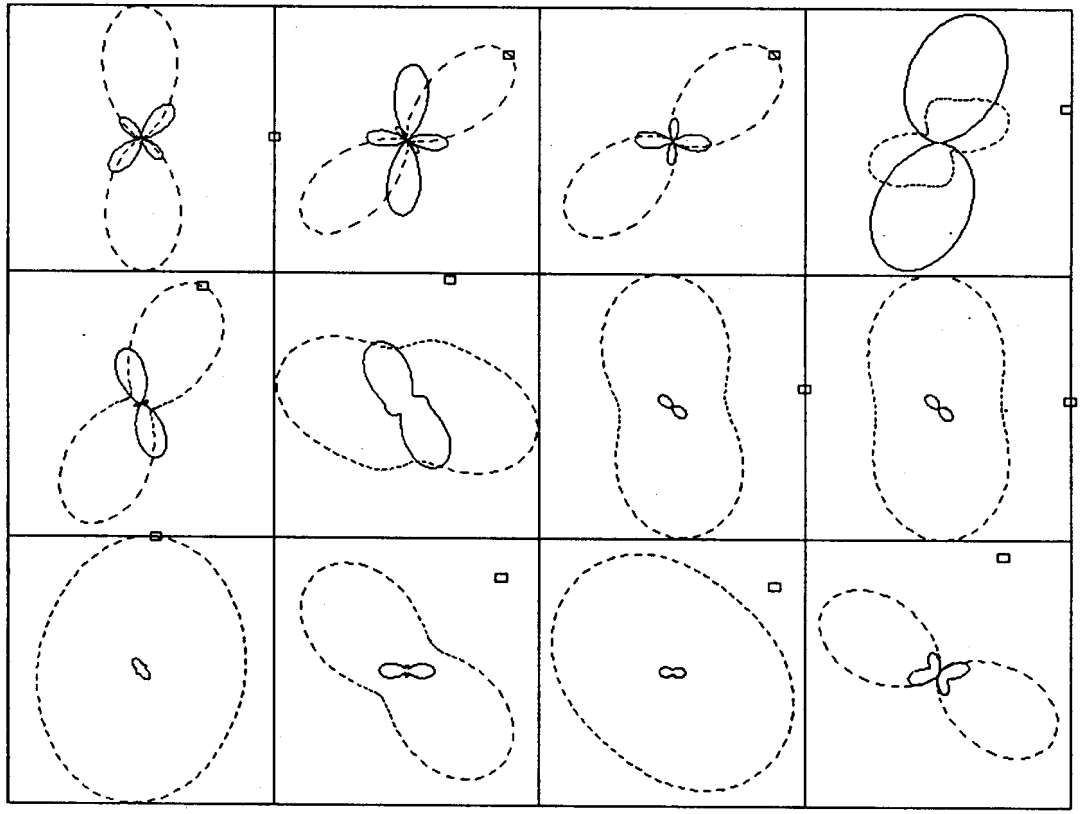
E MULT Coh.



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT25D
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:58 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS



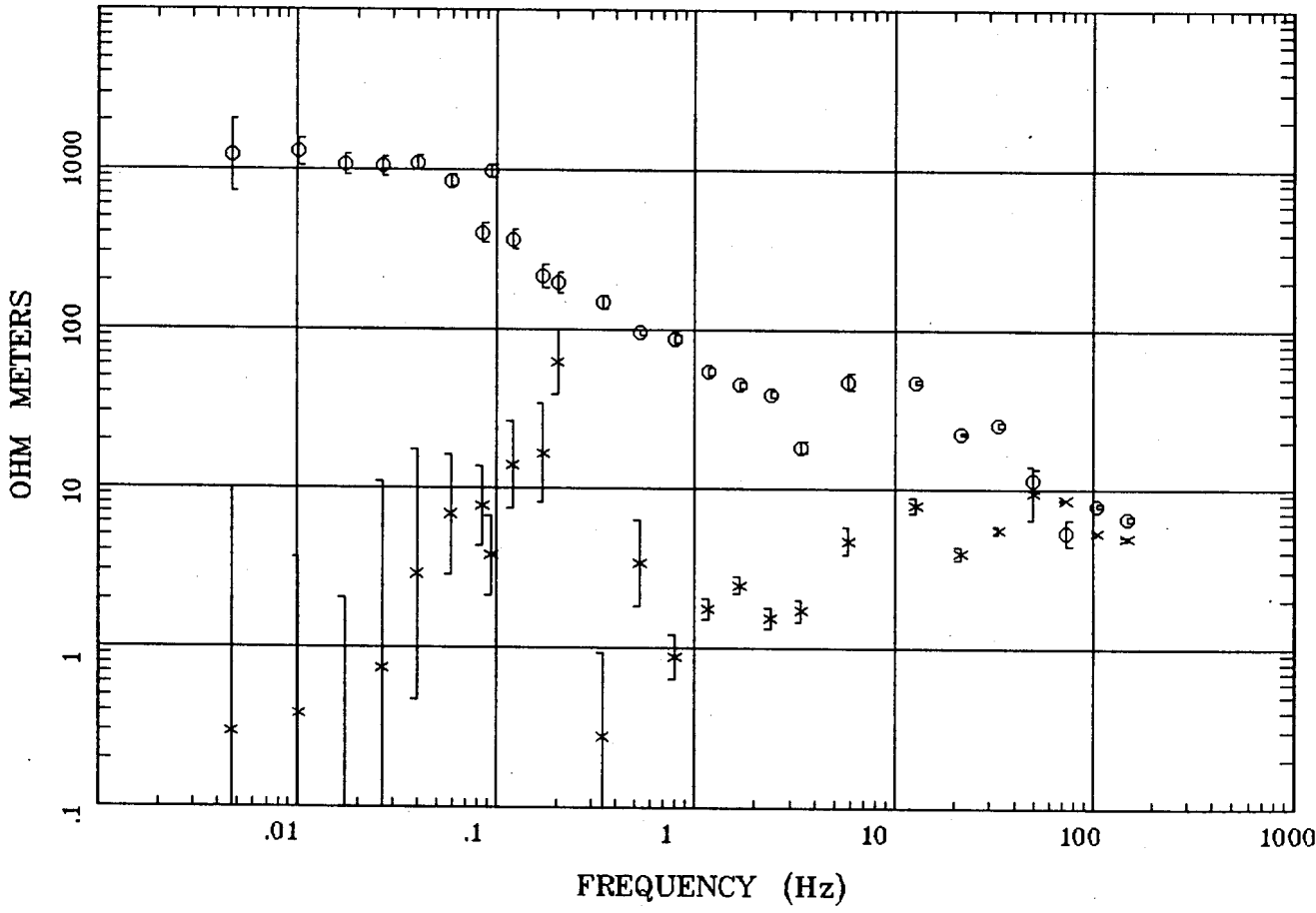
.0047 Hz	.0172 Hz	.0398 Hz	.0844 Hz
.171 Hz	.203 Hz	.797 Hz	1.686 Hz
3.422 Hz	12.695 Hz	33.203 Hz	73.242 Hz

Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT25D
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:58 Dec 11, 2000
< EMI – ElectroMagnetic Instruments >

APPARENT RESISTIVITY

Station 26B

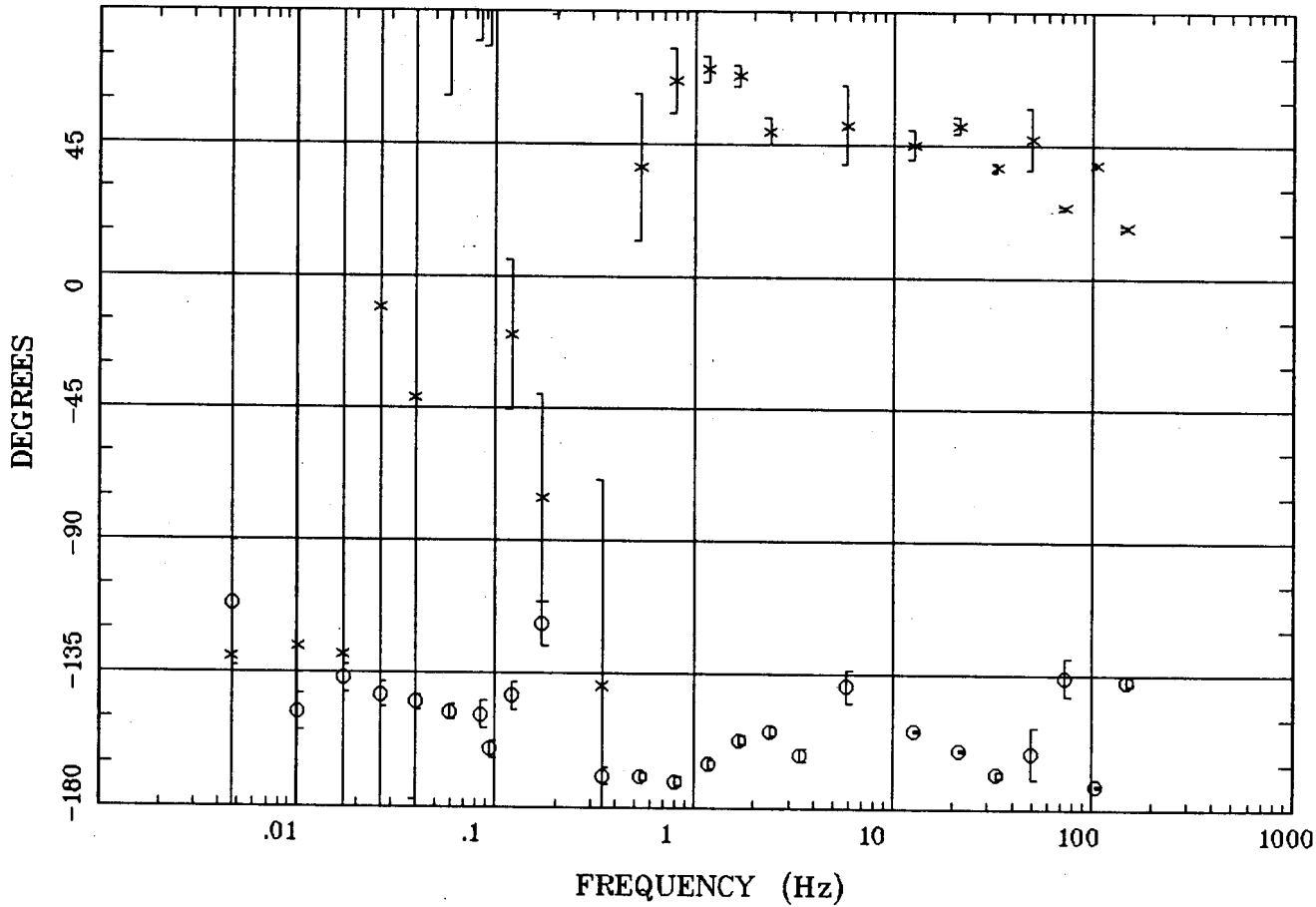


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT26C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:59 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE PHASE

Station 26B

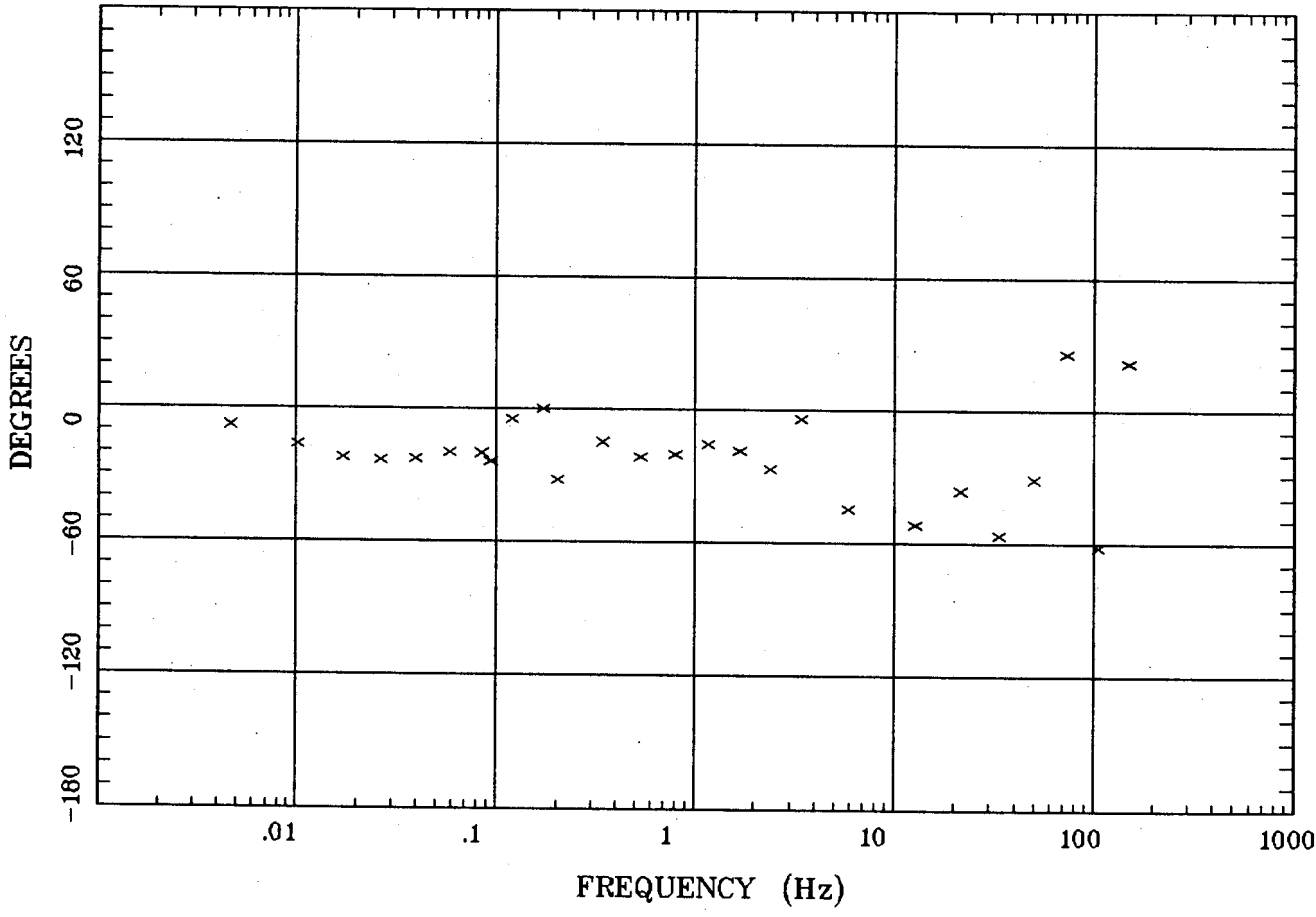


Client:
Remote:
Acquired: :
Survey Co:

Rotation:
Filename: CT26C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:59 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE

Station 26B

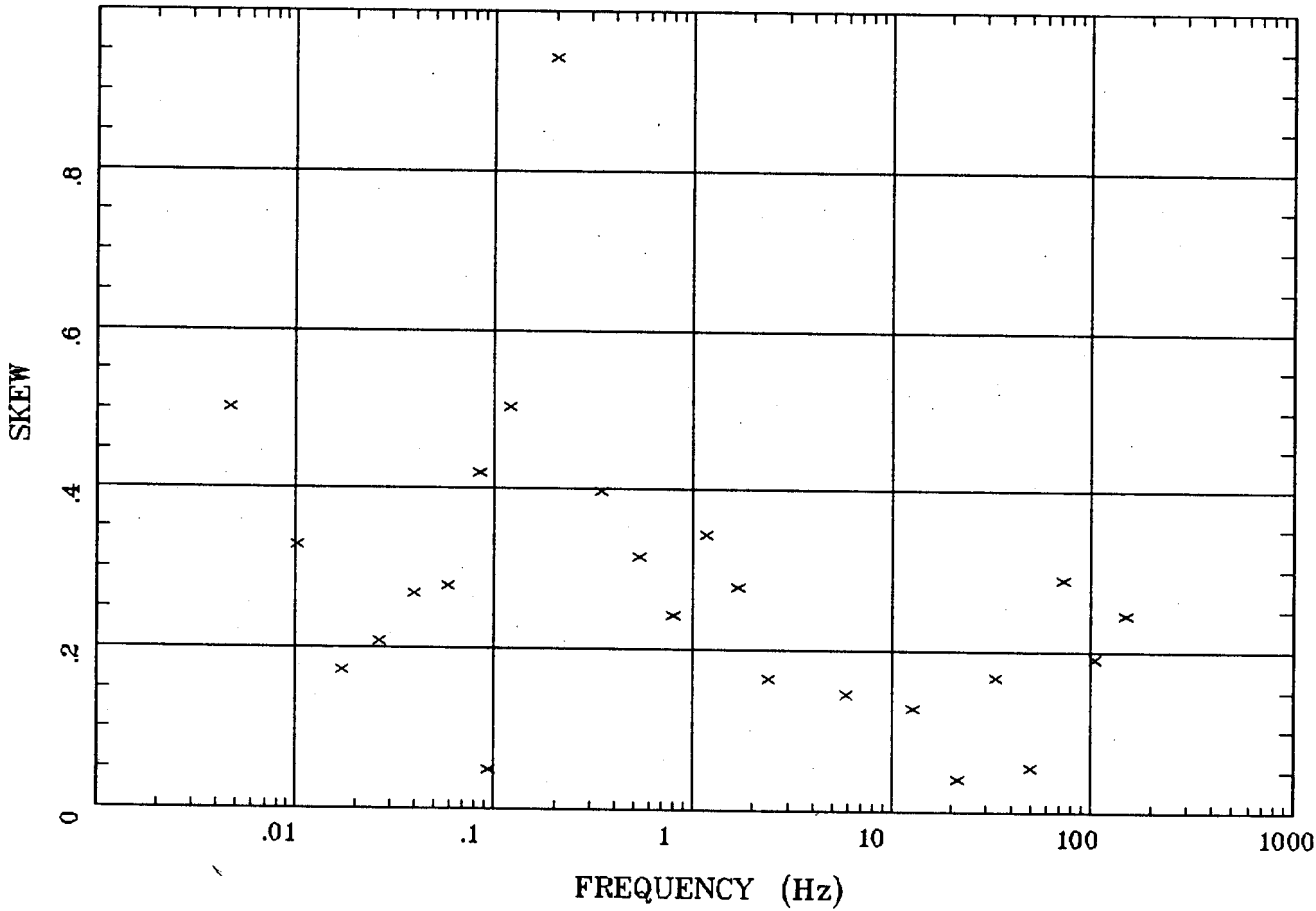


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT26C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:59 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

Station 26B

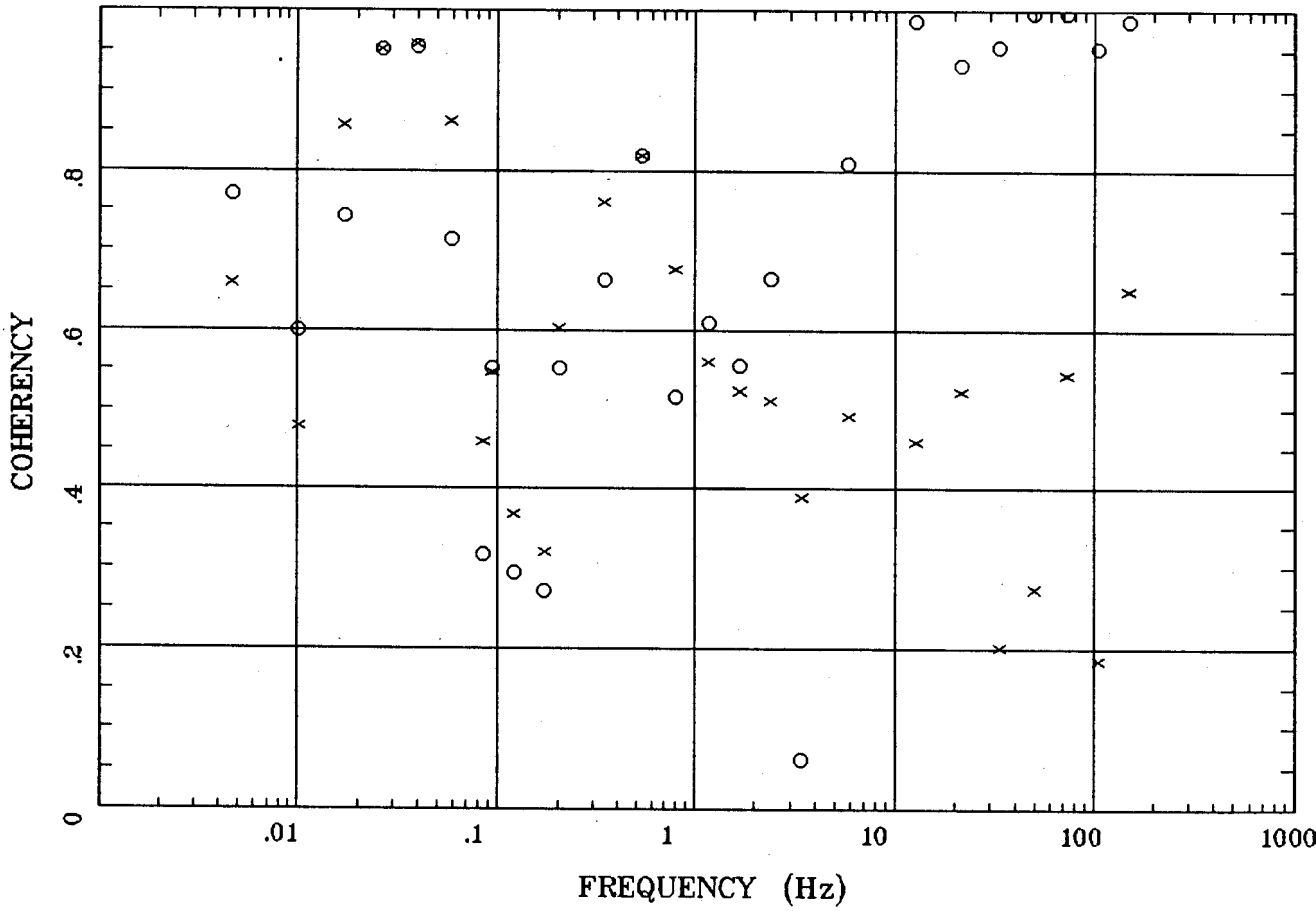


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT26C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:59 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

E MULT Coh.

Station 26B

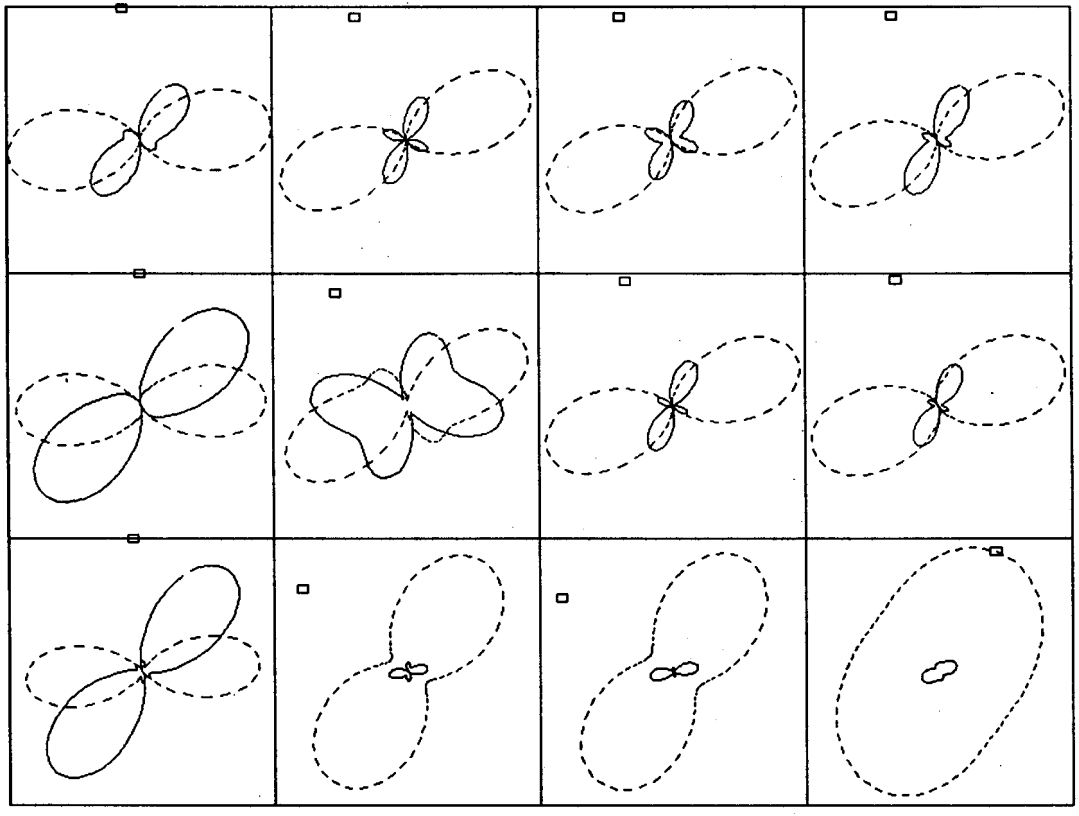


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT26C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:59 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Station 26B



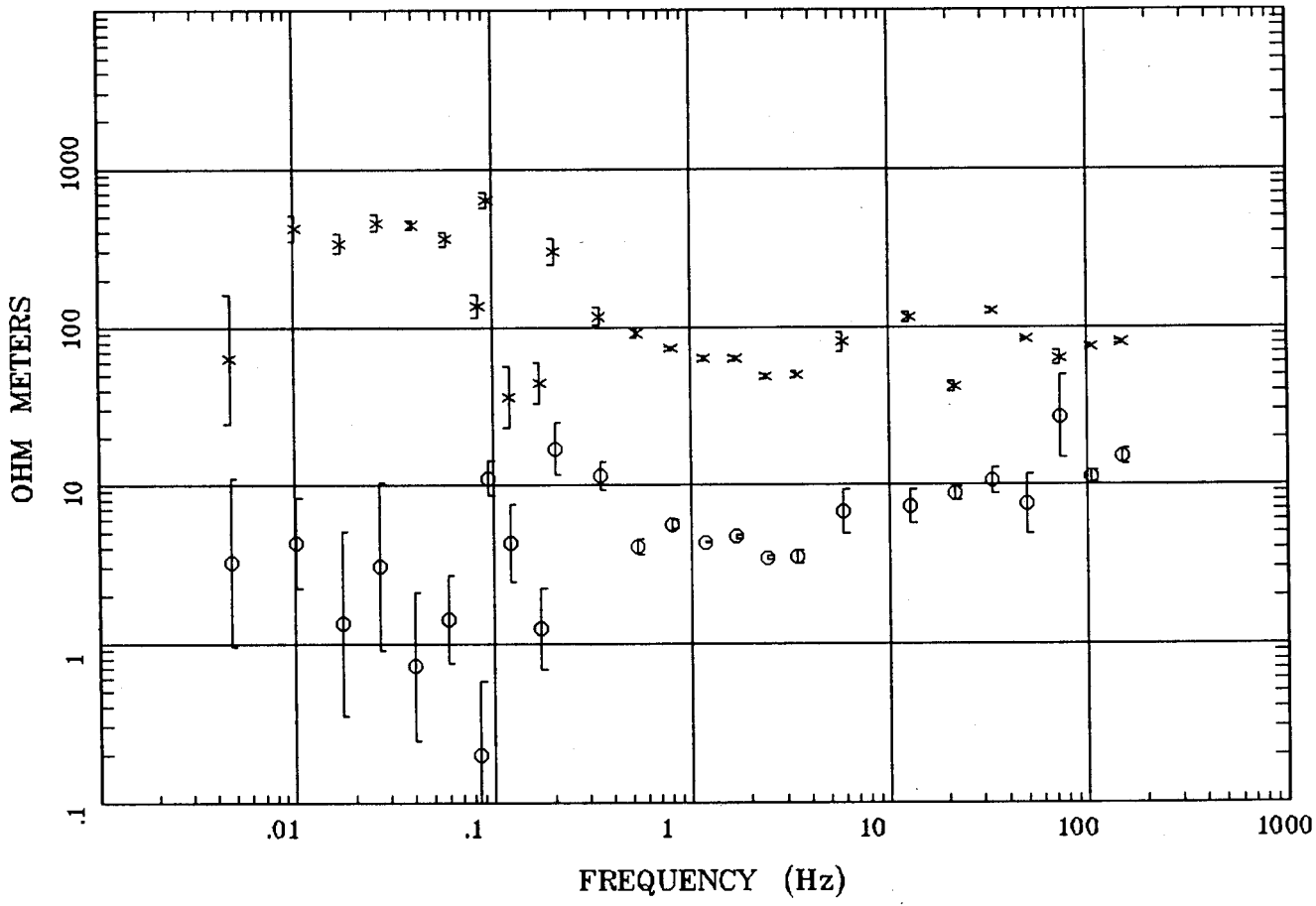
.0047 Hz	.0172 Hz	.0398 Hz	.0844 Hz
.171 Hz	.203 Hz	.797 Hz	1.688 Hz
3.422 Hz	12.695 Hz	33.203 Hz	73.242 Hz

Client:
Remote:
Acquired: :
Survey Co:

Rotation:
Filename: CT26C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 15:59 Dec 11, 2000
< EMI – ElectroMagnetic Instruments >

APPARENT RESISTIVITY

Station 27B

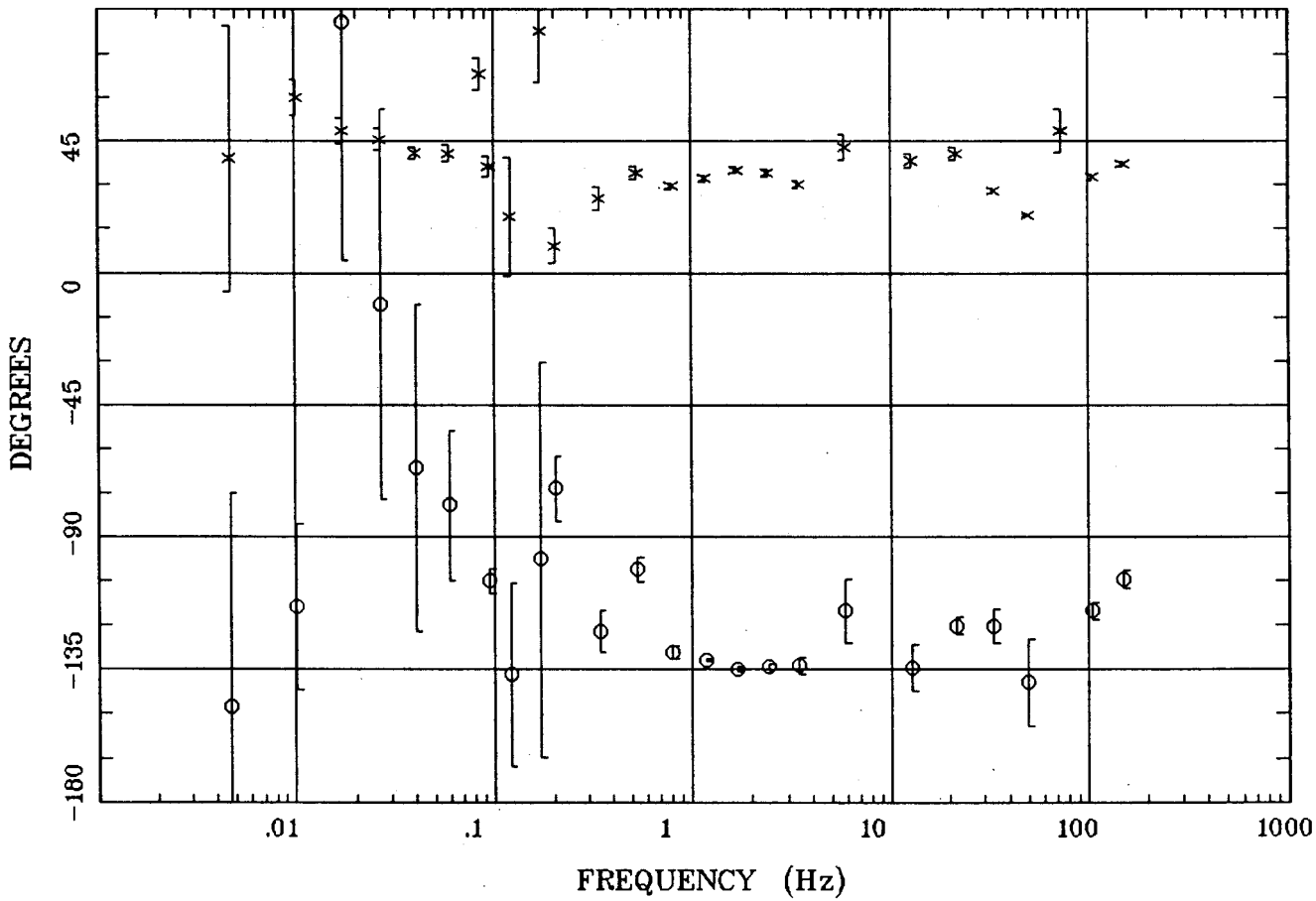


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT27A
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:00 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE PHASE

Station 27B

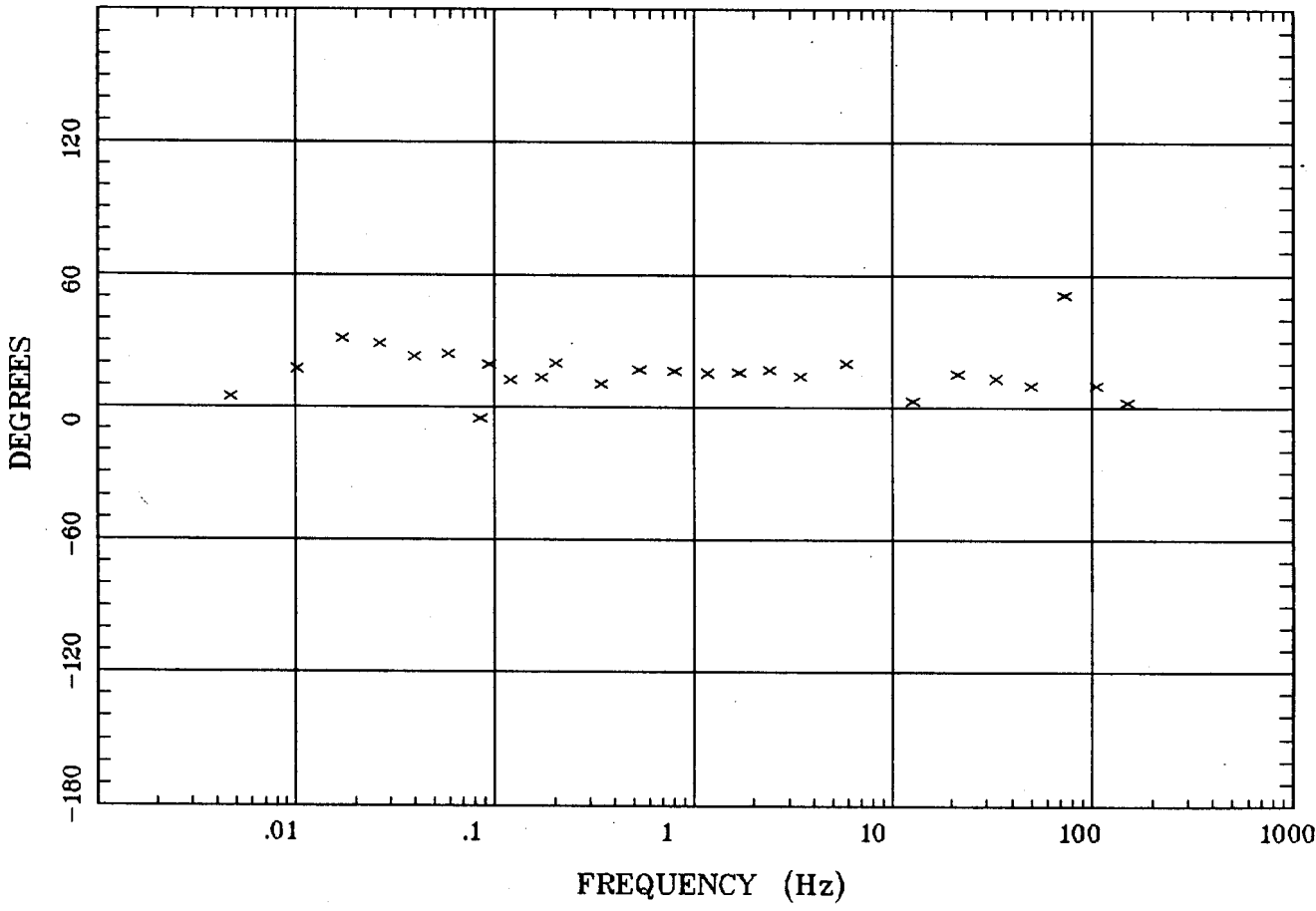


Client:
Remote:
Acquired: :
Survey Co:

Rotation:
Filename: CT27A
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:00 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE

Station 27B

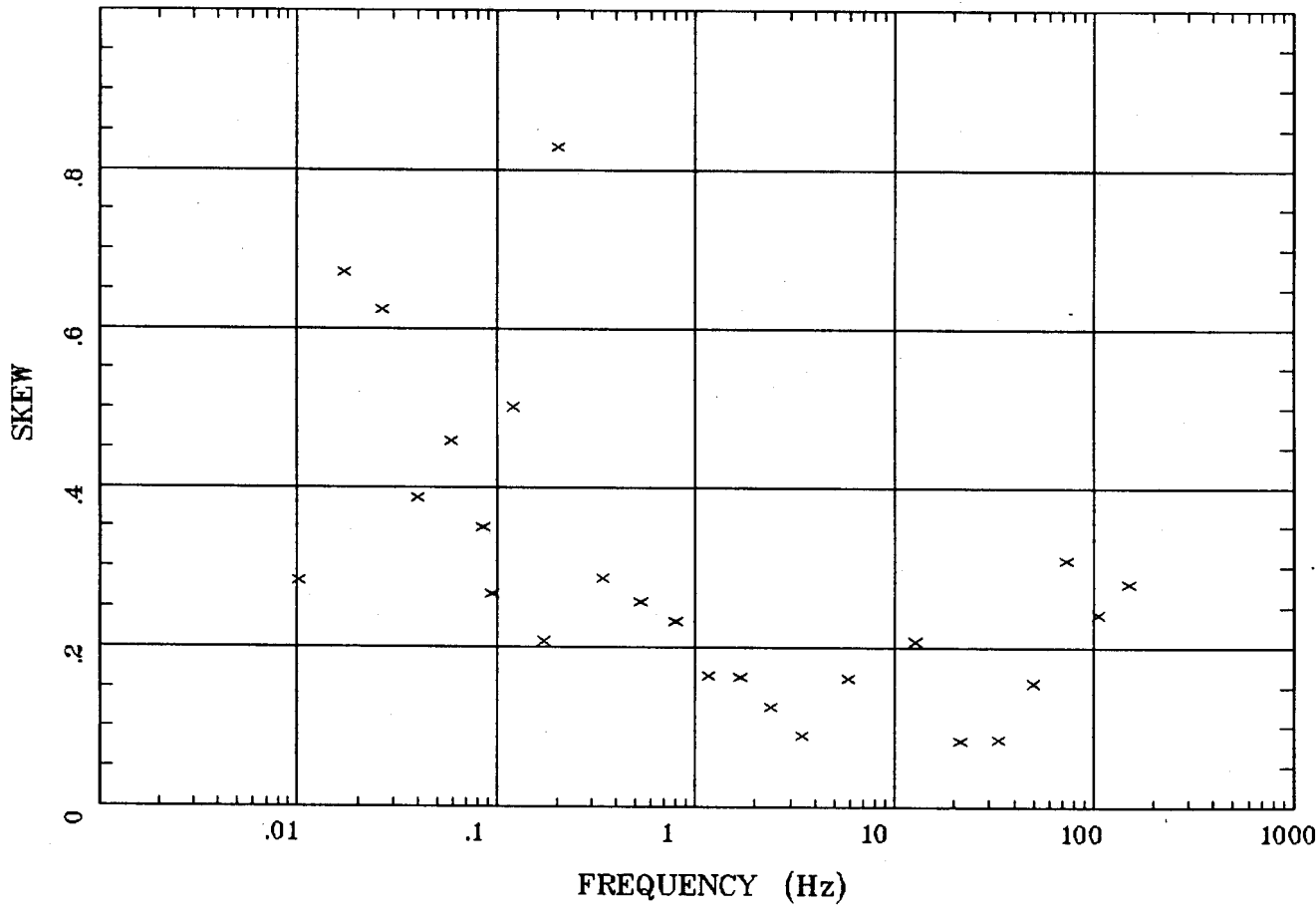


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT27A
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:00 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW

Station 27B

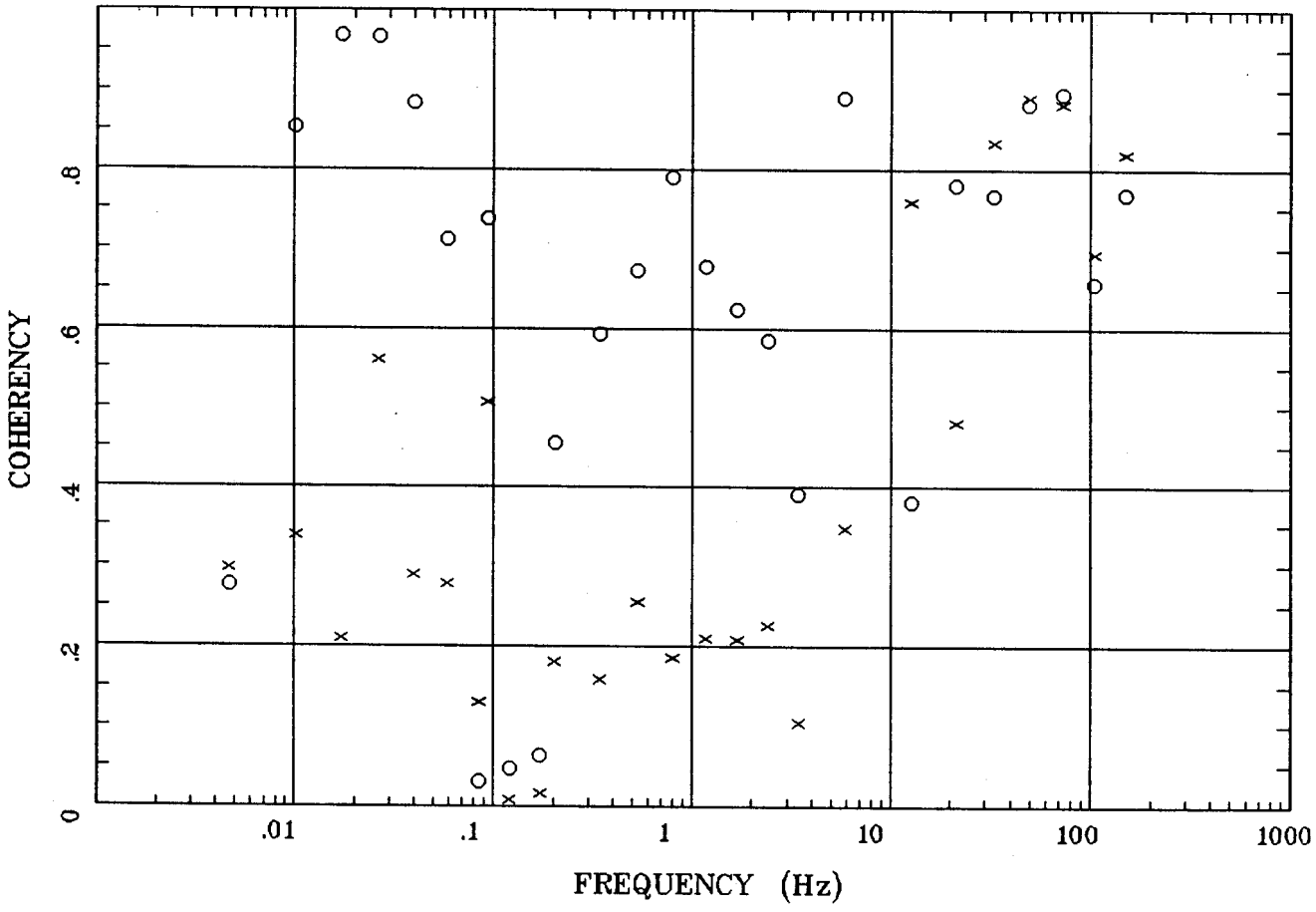


Client:
Remote:
Acquired: :
Survey Co:

Rotation:
Filename: CT27A
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:00 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

E MULT Coh.

Station 27B

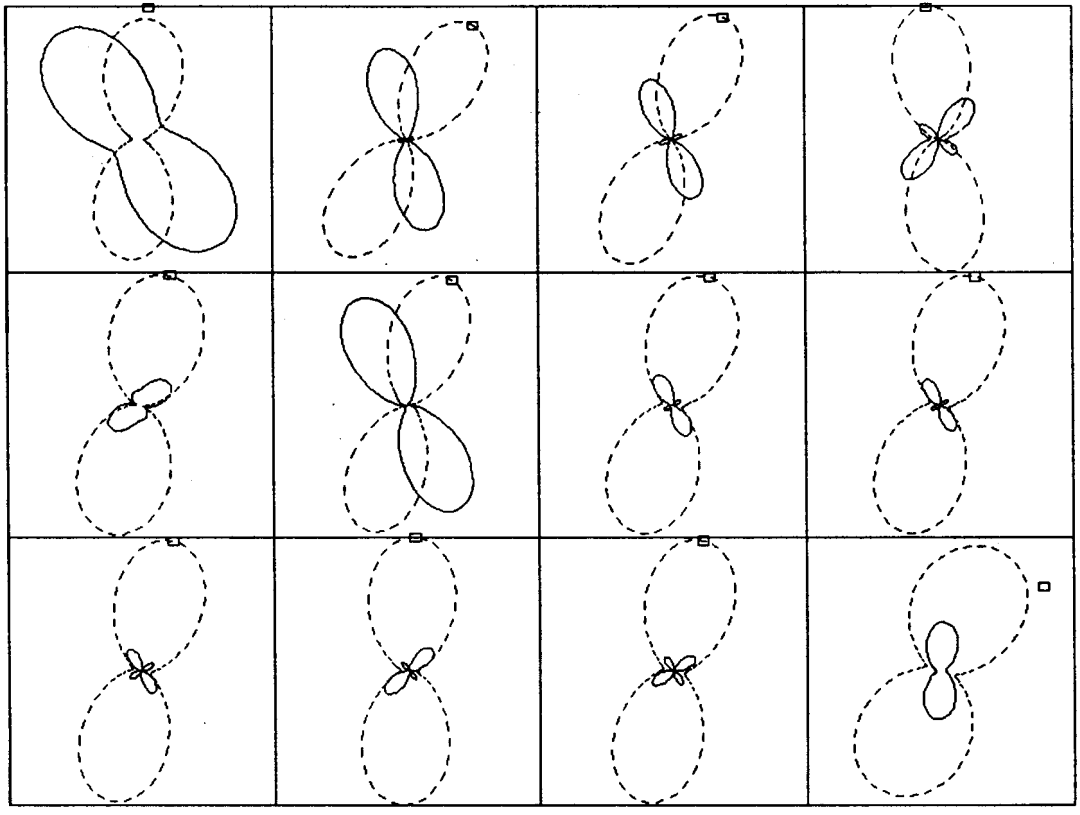


Client:
Remote:
Acquired: :
Survey Co:

Rotation:
Filename: CT27A
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:00 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

POLAR PLOTS

Station 27B



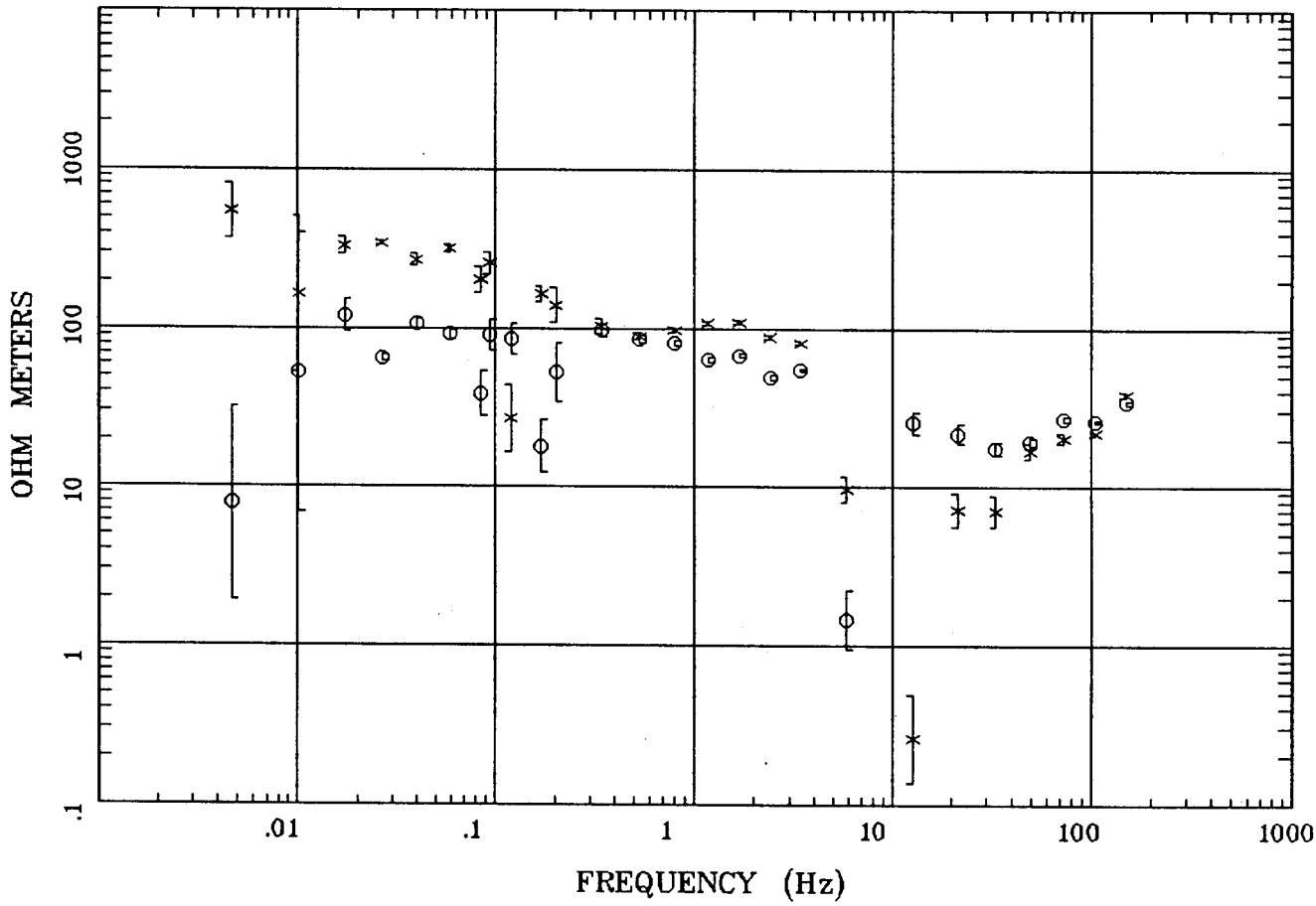
.0047 Hz	.0172 Hz	.0398 Hz	.0844 Hz
.171 Hz	.203 Hz	.797 Hz	1.688 Hz
3.422 Hz	12.695 Hz	33.203 Hz	73.242 Hz

Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT27A
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:00 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

Station 28B

APPARENT RESISTIVITY

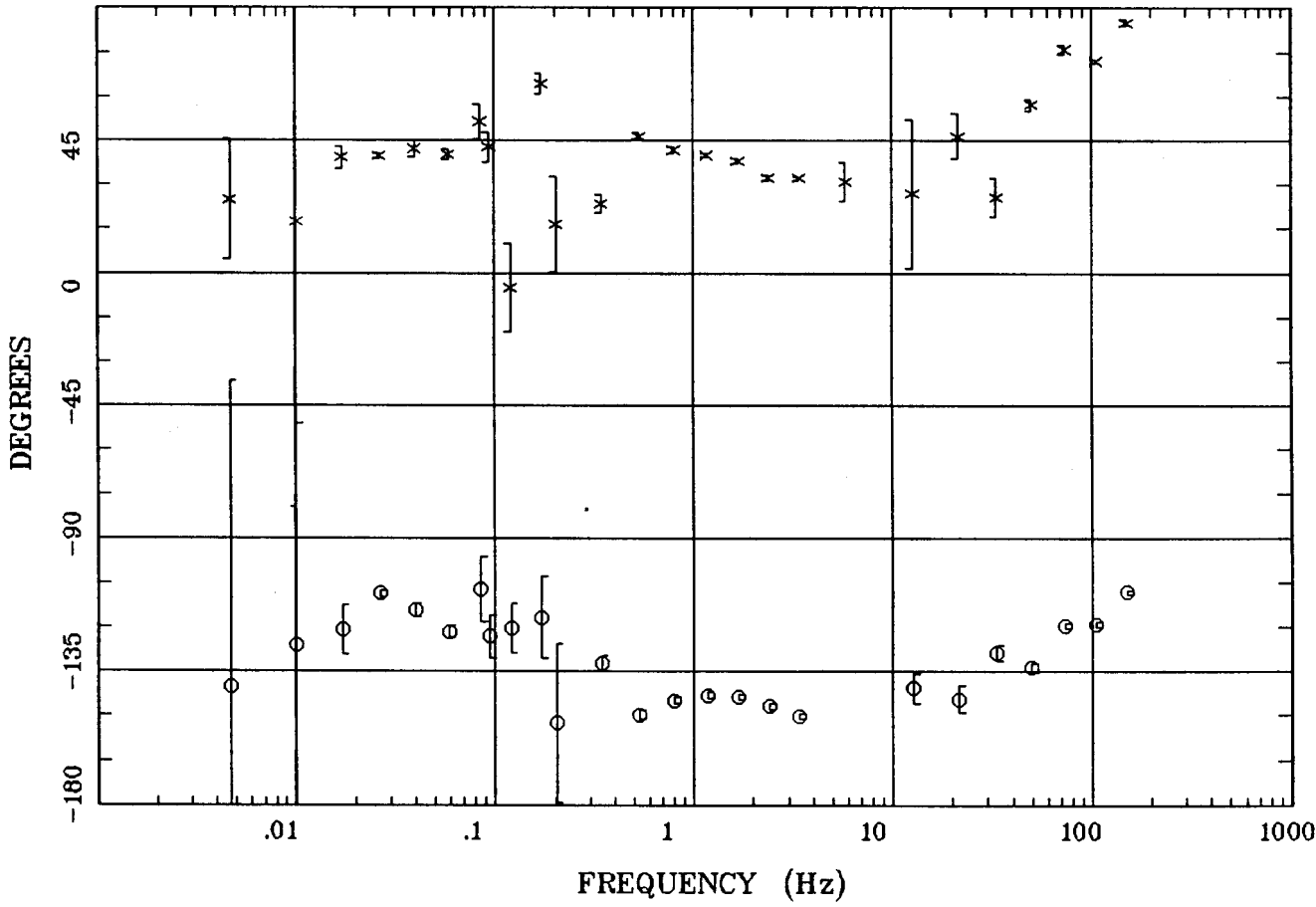


Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT28C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:02 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

200

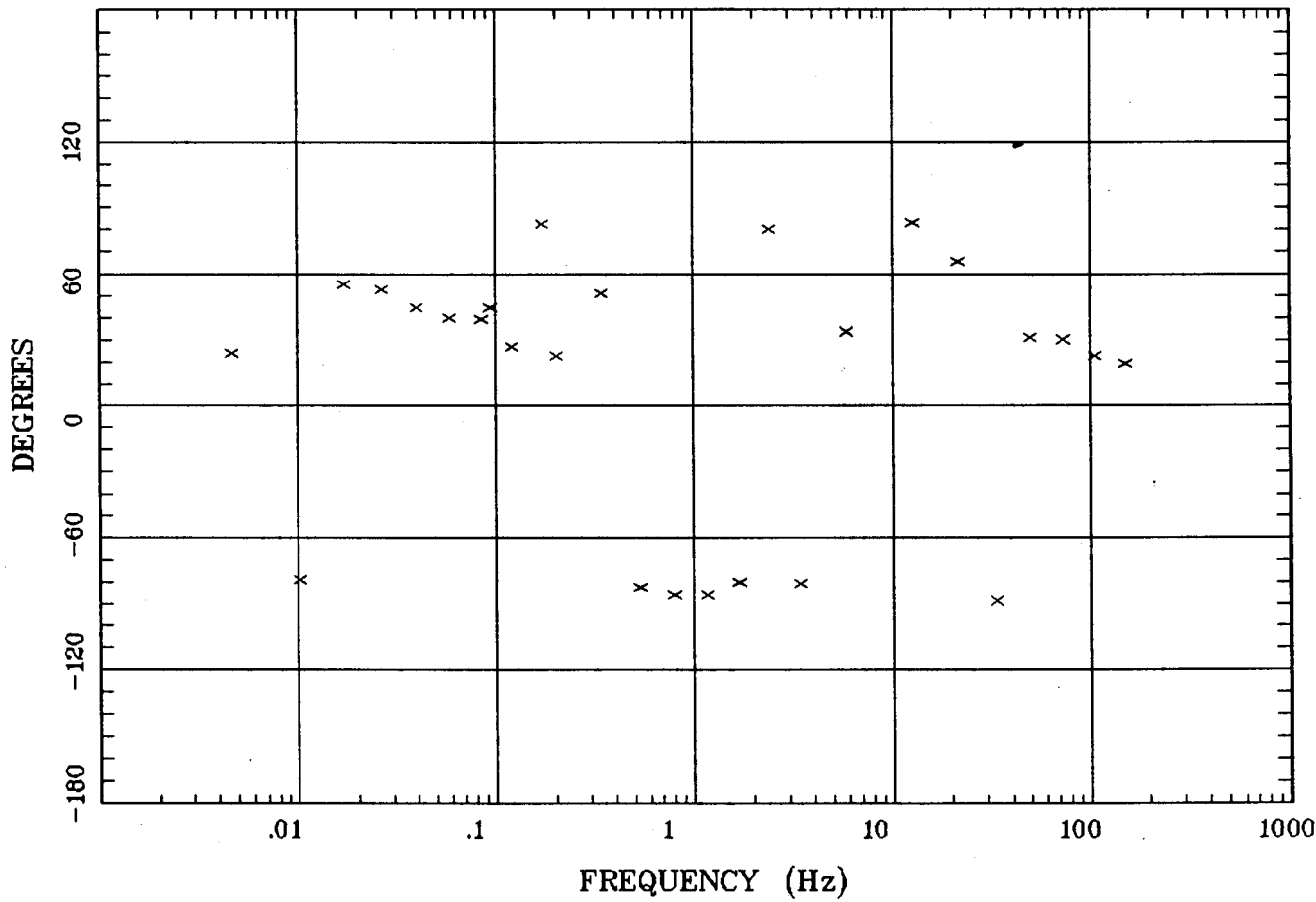
IMPEDANCE PHASE



Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT28C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:02 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

ROTATION ANGLE



Client:
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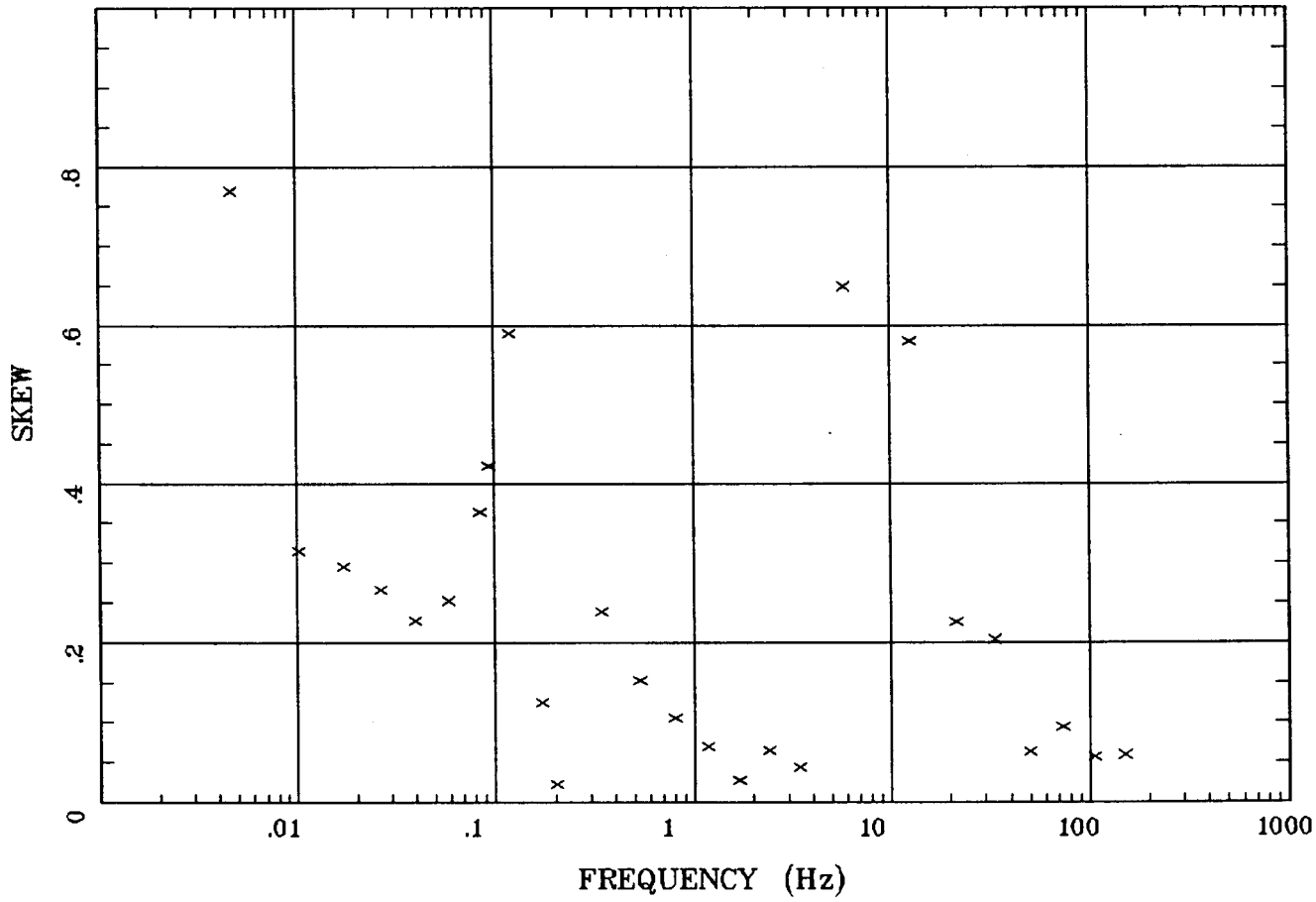
Survey Co:

Rotation:
Filename: CT28C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:02 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >

IMPEDANCE SKEW



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Rotation:
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Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:02 Dec 11, 2000
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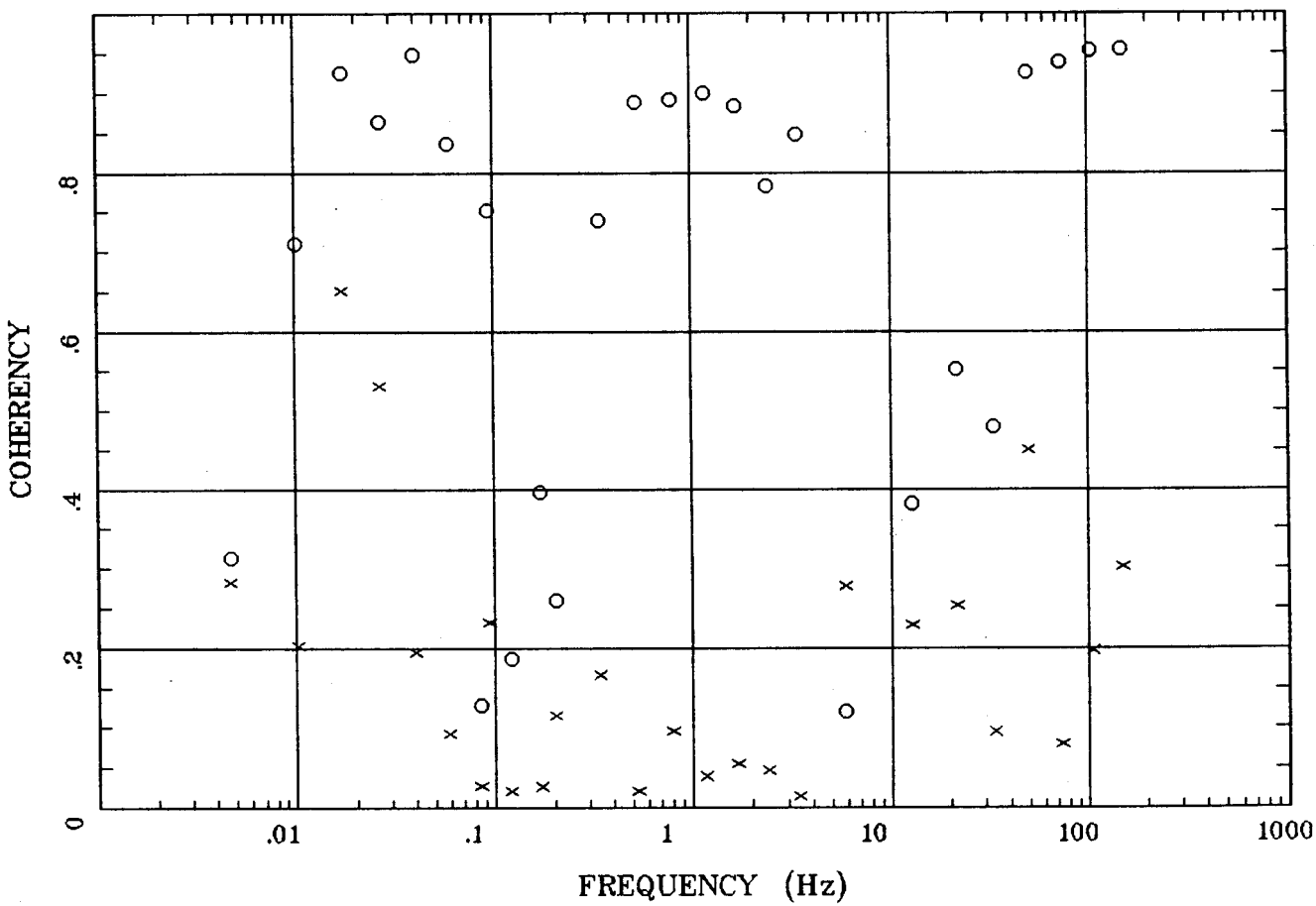
E MULT Coh.



Client:
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Rotation:
Filename: CT28C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:02 Dec 11, 2000
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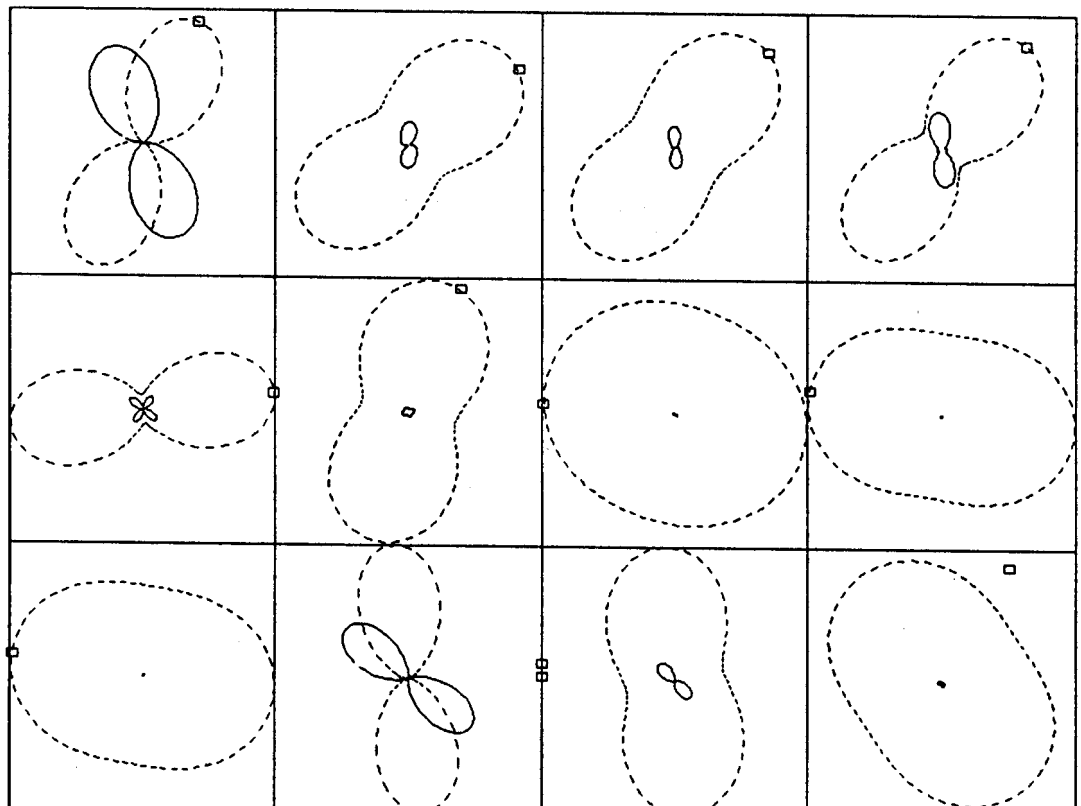
POLAR PLOTS



.0047 Hz	.0172 Hz	.0398 Hz	.0844 Hz
.171 Hz	.203 Hz	.797 Hz	1.688 Hz
3.422 Hz	12.695 Hz	33.203 Hz	73.242 Hz

Client:
Remote:
Acquired: : ,
Survey Co:

Rotation:
Filename: CT28C
Channels: Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7
Plotted: 16:02 Dec 11, 2000
< EMI - ElectroMagnetic Instruments >