

## V. GEOMAGNETIC SURVEY

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The total intensity of the geomagnetic field was measured using a Geometrics proton precession magnetometer. The sensor which is a lump of troidal coil was towed approximately 200 m behind the ship. Magnetic anomalies were calculated using the international geomagnetic reference field of the point, which is called the IGRF (1975) value.

The magnetic anomaly profiles are shown plotted on a chart in Fig. V-1. Profiles with distance and time are shown in IV. GRAVITY MEASUREMENTS where magnetic

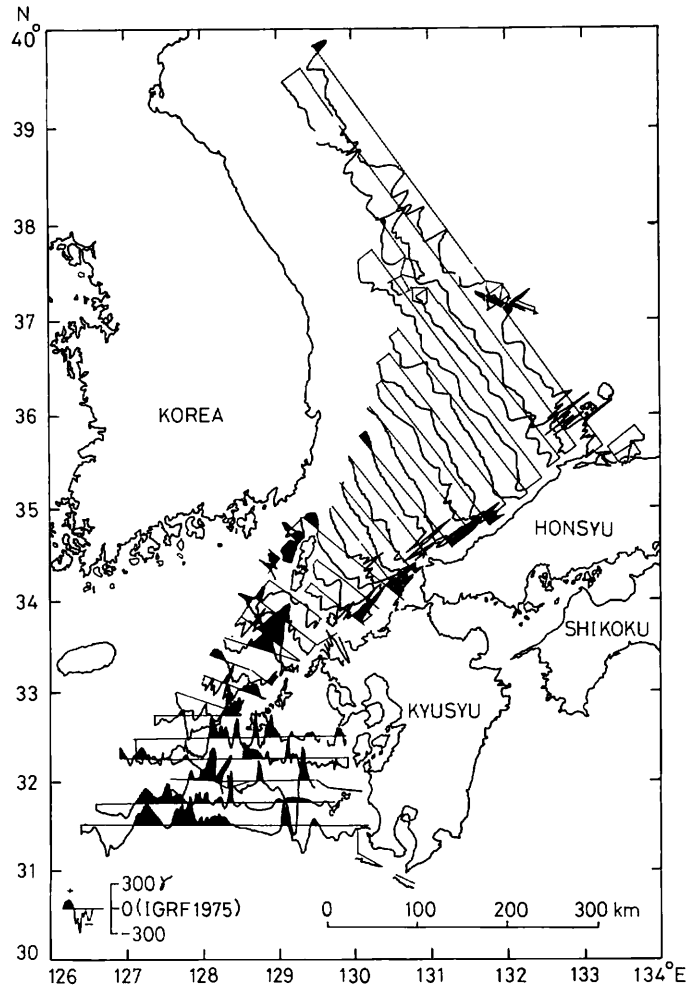


Fig. V-1 Profiles of magnetic anomalies plotted on the chart. Reference field is IGRF (1975).

anomalies are illustrated with other data such as free air gravity anomaly, bouguer gravity anomaly and depth.

In the western part of the East China Sea there is an anomaly with a long wavelength of approximately 50 km which may be caused by the deeper magnetic material. But around the Danjo Islands, an anomaly of short wavelength overlaps and this may be caused by the volcanism of the Danjo Islands. There are anomalies of longer wavelength in the Japan Sea which may show the local inconsistency of the IGRF values. Weak anomalies with a NE trend are observed in the Tsushima Basin. There is a belt of short range anomaly along the northwestern coast of Honshu and Kyushu, which may be caused by the Miocene volcanism, but the belt is interrupted west of the Shimane Peninsula, and it may be caused by the bend of the belt of volcanism and may correspond to the bend of the continental shelf. A long range anomaly between the Goto Islands and the Tsushima Islands, a positive anomaly in Tsushima Strait, and a short range anomaly zone in the continental shelf to the southeast of the Goto Islands are also observed. The anomaly between the Goto Islands and the Tsushima Islands and in the Tsushima Strait shows a long wavelength which is similar to that of the East China Sea where the magnetic material is suggested to be deep and more extensive.