

Deep-sea magnetic anomaly detected using deep-towed observation system with multiple sensors in the eastern margin of Japan Basin

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In 1996, we conducted a deep-sea magnetic survey by a deep-towed observation system with multiple sensors off the west coast of Hokkaido to investigate the detailed crustal magnetization. The main features are as follows: 1) an extremely large deep-sea magnetic anomaly (amplitude: 750 nT, wavelength: 7 km) was detected in the eastern margin of the Japan Basin, while there was no obvious anomaly on the sea surface; 2) deep-sea anomalies in the Ishikari Basin gradually increased by 110 nT and 260 nT toward ENE and NE, respectively. We compared the anomaly in the Japan Basin with a single channel seismic profile and calculated an initial model. These results suggested that the anomaly might be caused by fresh igneous rocks which were extruded or intruded around strong reflective zones.