

# 南極昭和基地周辺の地磁気異常観測

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## **Magnetic anomaly observations around Syowa Station, Antarctica**

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Magnetic anomaly data plays an important role in understanding crustal architecture and tectonics in the Antarctic region. Magnetic anomalies obtained in the East Antarctic are used for identification of the tectonic elements and geological structures. Geodynamics and tectonic evolution of the supercontinents such as Rodinia and Gondwana are deduced from those. On the other hand, offshore magnetic anomaly data around the East Antarctic provide informations on seafloor spreading history, and the breakup process and mechanism of supercontinent Gondwana are derived from those in consequence. However, magnetic anomaly observation in and around the East Antarctic are still sparse, and the detailed tectonic evolution and fragmentation process of the supercontinents remain unknown.

The area around Syowa Station, the Japanese Antarctic wintering Station in Lützow-Holm Bay, is considered to be a junction of Africa, India, Madagascar, and Antarctic continents from the reconstruction model of Gondwana. Therefore, this area is a key to investigate the formation and fragmentation of Gondwana. Magnetic anomaly observations have been carried out around Syowa Station by the shipborne, airborne and ground surveys to elucidate the tectonic evolution and breakup process of Gondwana. Those data made advances in understanding the tectonic evolution in this area. In particular, several characteristic features that may be related to the tectonic evolution of Gondwana were inferred primarily from magnetic anomalies by joint Japanese-German airborne geophysical surveys.

The present status of magnetic anomaly data around Syowa Station are presented, and the geological structures and the tectonic history in this region are discussed. Future perspective of magnetic anomaly observation around this region is also addressed.