

## 新しらせによる船上地球物理観測

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### **Marine geophysical observation on board new icebreaker Shirase**

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The Southern Indian Ocean is key area for understanding the fragmentation process of the Gondwana. Marine geophysical observations on board the ship provide fundamental information to elucidate the Gondwana breakup process and tectonic history of seafloor spreading in this region. However, tectonic history in the Southern Indian Ocean still remains less well-defined because of the sparse observations in this area.

New Icebreaker Shirase has started in service in 2009, from the 51st Japanese Antarctic Research Expedition (JARE51). She equips newly with the multi narrow beam echo sounder (Seabeam 3020 system) and 3.5 kHz sub-bottom profiler. Sea-surface gravimeter (the LaCoste and Romberg air-sea gravimeter) and shipboard three component magnetometer system (Tierra Tecnica) are also installed on the new ice breaker. Swath mapping, gravity and magnetic anomaly measurements were successfully conducted on her route during the JARE51 in the Southern Indian Ocean to understand the seafloor evolution originated in the Gondwana breakup. We will present the first results of marine geophysical observation on board new icebreaker Shirase during the JARE51, mainly focused on the active Southeast Indian Ridge area, and discuss about the quality of those data. We will also introduce future observation plan and the application of these data.