南インド洋エンダビー海盆の地磁気異常から推定される初期ゴンドワナ分裂過程

野木義史[1]、佐藤太一[2]、羽入朋子[3]
[1]*国立極地研究所*
[2]*産業技術総合研究所*
[3]*総合研究大学院大学*

Initial breakup process of Gondwana deduced from magnetic anomalies in the Enderby Basin, the Southern Indian Ocean

Yoshifumi Nogi[1], Taichi Sato[2] and Tomoko Hanyu[3]
[1]*National Institute of Polar Research*
[2]*National Institute of Advanced Industrial Science and Technology*
[3]*Graduate University for Advanced Studies*

Magnetic anomalies in the Southern Indian Ocean are key to reveal the seafloor spreading evolution during initial breakup of Gondwana. However, seafloor age estimated from magnetic anomalies still remain less well-defined because of the sparse observations in this area.

Vector magnetic anomaly data as well as total intensity magnetic anomaly data obtained by the R/V Hakuho-maru and the icebreaker Shirase in the Enderby Basin, Southern Indian Ocean, are used to estimate the seafloor spreading history during the initial breakup of Gondwana. Magnetic anomaly profiles, most likely indicating Mesozoic magnetic anomaly sequence, are observed almost parallel to the west of WNW-ESE trending lineaments just to the south of Conrad Rise inferred from satellite gravity anomalies. Most of the strikes of magnetic structures show NNE-SSW trends that are almost perpendicular to the WNW-ESE trending lineaments. Mesozoic sequence magnetic anomalies with mostly WNW-ESE strikes are also detected along the NNE-SSW trending lineaments between the south of the Conrad Rise and Gunnerus Ridge. Magnetic anomalies originated from Cretaceous normal polarity superchron are found in these profiles. However Mesozoic sequence magnetic anomalies are only observed in the west side of the WNW-ESE trending lineaments just to the south of Conrad Rise and not found to the east of Cretaceous normal superchron signals along the profiles. These results show that counter part of Mesozoic sequence magnetic anomalies in the south of Conrad Rise would be preserved in the East Enderby Basin, off East Antarctica. NNE-SSW trending magnetic structures, which are similar to those obtained just to the south of Conrad Rise, are found off East Antarctica in the East Enderby Basin. On the other hand, some of the strikes exhibit almost E-W orientations. These suggest complicated seafloor spreading evolution during initial breakup of Gondwana in the Enderby Basin, and we will discuss the initial breakup process of Gondwana in this area. deduced from magnetic anomalies.