

Problems related to the past motion of the Philippine Sea Plate

TAKAHASHI, Masaki^{1*}

¹Geological Survey of Japan, AIST

Plate motion through geological time is reconstructed based on the correlation of marine magnetic anomaly patterns and/or hot-spot track analysis. But the past motion of the Philippine Sea Plate cannot be clarified because the plate is surrounded by convergent plate boundary (trench) and it has no hot-spot track. Therefore the paleomagnetic approach is the only method to reconstruct the past location and motion of the plate. However this method contains unacceptable problems that the paleomagnetic declination does not indicate the total rotation of the plate around its Euler pole in most cases. The paleomagnetism has been thought as an effective tool to reconstruct the Philippine Sea Plate motion, but actually it is impossible to clarify the past motion of the plate by paleomagnetic method.

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