

## Paleomagnetic directions of early Miocene sediments in central Japan and tectonic implications

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We present new paleomagnetic data obtained from early Miocene (~18-17 Ma) sediments in three areas (Iwamura, Tengudana and Niinotoge) in central Japan. Oriented cores consisting mainly of mudstones and intercalated fine felsic tuffs were collected at more than 50 sites. Stepwise thermal demagnetization of both natural and isothermal remanent magnetizations suggests magnetite as a main magnetic carrier, with possible presence of greigite in rock samples from some sites. Site-mean directions of characteristic remanent magnetization components are all reverse polarity, suggesting deposition within the same reverse polarity chron, probably Chron C5Dr. Declinations of the site-mean directions are mostly southwesterly and deflected clockwise from the expected direction, indicating clockwise rotation after deposition. These declinations are similar to those from early Miocene and older rocks of the main part of the SW Japan arc, while they are significantly different from the undeflected paleomagnetic direction from Tomikusa, located 10-20 km northeast of Niinotoge. Thus, the Iwamura, Tengudana and Niinotoge areas are located on the main part of the SW Japan arc. It is suggested that the main part of the SW Japan arc has its eastern "rotational" boundary with a differentially rotated piece of crust between Niinotoge and Tomikusa.

Keywords: central Japan, early Miocene, paleomagnetism, rock magnetism, tectonic rotation