

# Kumano Acidic Rocks and Muro Pyroclastic Flow Deposit: paleomagnetic directions

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Samples for paleomagnetic and rock-magnetic measurements were collected from 30 sites of the northern part of the Middle Miocene (c.14 Ma) Kumano Acidic Rocks (KARs) in the southeastern Kii Peninsula. Directions of high-temperature or high-coercivity (high-T-C) magnetization components, as well as those of low-temperature or low-coercivity (low-T-C) ones, were determined by stepwise demagnetization at one site of granite porphyry and four sites of felsic welded tuff. Detailed rock-magnetic experiments indicate that the magnetization components reside primarily in low-Ti titanomagnetite of pseudo-single-domain state and that the sites from which we were not able to isolate any stable components from natural remanent magnetization contain pyrrhotite. The low-T-C components are probably a thermoviscous remanent magnetization acquired at the time of intrusion of granite which occurred after emplacement of granite porphyry. The high-T-C components of granite porphyry and welded tuff are considered as a primary thermoremanent magnetization and a remagnetization, respectively, both acquired during emplacement of granite porphyry around 14 Ma. Five site-means of the high-T-C components give a reversed-polarity mean direction having a clockwise-deflected declination (229.5 deg) and a steeply-inclined inclination (-66.6 deg). This mean direction closely resembles that of the southern part of the KARs, suggesting simultaneous emplacement of both the northern and the southern parts. Similarly, it is identical with the direction of a large-scale felsic pyroclastic flow deposit occurring in the northern Kii Peninsula (Muro Pyroclastic Flow Deposit), leading to a possibility that the northern part of the KARs is the source for the deposit and correlative pyroclastic units. The clockwise-deflected direction would have been acquired in an extraordinary geomagnetic field during a polarity transition or excursion.