

## Cenozoic remagnetization of the Paleozoic rocks in the Kitakami massif of Northeast Japan, and its tectonic implications

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Secondary remanent magnetization is identified in the Paleozoic igneous and sedimentary rocks of the Kitakami massif. Secondary nature is ascertained through negative fold test for Permo-Carboniferous sedimentary rocks. Northwesterly paleomagnetic declination with moderate inclination ( $D=321.2$  degrees,  $I=56.5$  degrees,  $a95=5.2$  degrees,  $N=18$ ) of this secondary remanent magnetization is almost parallel to primary magnetization reported from the Cenozoic welded tuffs of the Northeast Japan, indicating that the Paleozoic rocks were subjected to remagnetization at any period between 62 Ma and 16 Ma. The secondary magnetization of the serpentized ultramafic rocks is carried by magnetite, which grew in veins and mesh rims of serpentine, whereas carrier of magnetization in limestones is fine-grained pyrrhotite. Combining with the previously reported remagnetization of the Kitakami granitic rocks, it is suggested that rocks in the Kitakami massif were subjected to crystallization remanent magnetization (CRM) at low temperature condition. Since serpentization requires fluid migration, one of the most likely events is the eastward lateral migration of water into the Kitakami massif. We postulate a Cenozoic suturing of the Kitakami massif with the Asian continent as a plausible tectonic event for fluid migration.