Rock magnetic measurements of Miocene dikes at the western margin of the Shitara Igneous Complex, central Japan

*Kohei Yamamoto[1], Hiroyuki Hoshi[2]

1. Graduate School of Education, Aichi University of Education, 2. Aichi University of Education

We performed rock magnetic measurements for Miocene andesite dikes intruding granitic and metamorphic rocks of the Ryoke belt of the Mikawa district, Aichi Prefecture, in order to reveal the rock magnetic characteristics of the dikes. We collected andesite samples both from dark gray, apparently fresh rocks and gray to white, slightly to severely altered rocks. Thermomagnetic (magnetic susceptibility vs temperature) analysis and thermal demagnetization of composite isothermal remanent magnetization (IRM) yielded data showing that both titanomagnetite and pyrrhotite are contained in the majority of the samples. At one site, we found that pyrrhotite is the only magnetic mineral carrying the remanent magnetization. The pyrrhotite that we identified at almost all sampling sites is thought to have been precipitated as a secondary mineral by hydrothermal alteration, or formed as a primary mineral in a reductive condition during solidification of magmas in the host meta-sedimentary rock.

Keywords: Shitara Igneous Complex, dikes, paleomagnetism, rock magnetism, magnetic minerals

