



Frequency-dependent AMS of rocks as a tool for the investigation of the fabric of ultrafine magnetic particles

Frantisek Hrouda (1,2) and Josef Jezek (2)

(1) Agico Ltd, Magnetism, Brno, Czech Republic (fhrouda@agico.cz), (2) Faculty of Sciences, Charles University in Prague, Albertov 6, CZ-128 43 Praha 2, Czech Republic (josef.jezek@natur.cuni.cz)

In some geological processes, new very fine-grained magnetic minerals may originate. The variation in content of these minerals is routinely investigated by frequency-dependent magnetic susceptibility, which is traditionally interpreted in terms of presence of viscous superparamagnetic (SP) particles in addition to stable single domain (SSD) and multidomain (MD) magnetic particles. In addition, the fabric of these grains can be investigated through the frequency-dependent AMS. Through standard AMS measurement at different frequencies, one can evaluate the contribution of SP particles to the whole-rock AMS; appropriate methods were developed. Various rocks, soils and ceramics, showing frequency-dependent magnetic susceptibility, were investigated. Measurable changes of AMS with operating frequency were revealed and attempts are made of their fabric interpretation.