

## **THE MAGNETIC SIGNATURE OF BASAL PLANE ANISOTROPY IN HEMATITE**

KARL FABIAN, Peter Robinson, Suzanne A. McEnroe

NGU, Geological Survey of Norway, N-7491 Trondheim, Norway

The crystal symmetry of hematite in the basal plane predicts three easy magnetization axes for the antiferromagnetic spins. Spin canting then leads to three preferred magnetization axes perpendicular to these easy axes. We measured magnetic hysteresis loops and remanence curves on single hematite crystals as a function of rotation angle in order to verify this prediction and to better understand the interplay between spin canting, remanence and magnetic susceptibility. While our results qualitatively coincide nicely with theoretical predictions, a quantitative evaluation requires more complex modeling.

hysteresis, anisotropy, hematite

Karl Fabian, NGU, Leiv Eiriksons vei 39, N-7491 Trondheim, Norway,  
e-mail: karl.fabian@ngu.no