
Magneto-optical imaging (MOI) applied to rock magnetism

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Résumé

Magneto-optical imaging (MOI) technique measures the magnetic flux, using Faraday effect of a magneto-optically (MO) active film directly placed on the sample. The spatial resolution for the samples carrying SIRM reaches $< 10 \mu\text{m}$ due to the thin MO film ($5 \mu\text{m}$) and the small sample-to-film distance (100 nm). Moreover, this technique offers a direct comparison of magnetic and reflected light images, making it a very powerful tool to map and identify the carriers of magnetic remanence in rock samples. We present results of an integrated study of metallic grains in meteorites, combining MOI and other techniques (SEM, TEM, microprobe analyses, and DC demagnetization).

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