

Electron holography in the study of the leakage field of magnetic force microscope sensor tips

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Electron holography is applied to the investigation of the leakage magnetic field produced by sharp ferromagnetic probes employed for magnetic force microscopy. Using the double exposure technique, interference fringes were obtained which show a good qualitative agreement with calculations based on a macroscopic dipole model for the sensor tips. Magnetic flux measurements are possible through the evaluation of the phase difference in the simulated map of the dipole field.