

## **High-frequency MFM characterization of magnetic recording write poles**

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A high-frequency MFM (HF-MFM) is built up for the observation of the high-frequency stray fields of harddisk write heads. An amplitude-modulated current was applied to the head coil to detect the force gradient induced by the HF magnetic field. The achieved spatial resolution is comparable to that of standard MFM when using advanced MFM cantilevers fabricated by means of focused-ion beam milling. This treatment yields a high-aspect ratio. Dynamic HF magnetic fields emerging at the poles of the write heads were clearly imaged; especially along the P2 pole shape on the air-bearing surface. The frequency dependence of the head-field distributions are measured up to 1 GHz.

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