

HF-MFM imaging of fields from perpendicular write heads

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The high-frequency magnetic force microscopy (HF-MFM) technique has been employed for the measurement of stray fields emanating from traditional longitudinal write heads [1-2]. Here, we show that it is also possible to apply the HF-MFM technique to perpendicular write heads [3]. The situation is different in so far, that there is no magnetic flux between two poles. In contrast, there is only one pole and the flux closure is obtained in combination with the writing medium. An ac current of 50 mA with a carrier frequency ranging between 200 MHz and 2 GHz fed in into the write head causes an observable contrast in the HF-MFM image. Not only the write pole itself but also the magnetic shielding around the pole are strongly influenced by the HF-current.

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[3]Valcu B F, Allimi B, Dobnin A, Lynch R, Brockie R, abstract Intermag 2008