

ABSTRACT OF THE DISCLOSURE

A method for calibrating magnetic force microscopes (MFM) or scanning Hall probe microscopes (SHPM) is disclosed, wherein an instrument response function IRF is determined
5 for correcting arbitrary raw MFM- or SHPM-images S_i . According to invention a sample with an irregular magnetization pattern M over an extended area is provided, a raw MFM- or SHPM-image S is measured, an approximate sample magnetization pattern M_0 and therefrom an approximate magnetic
10 stray field distribution H_0 are determined and an instrument response function IRF is calculated using the raw MFM- or SHPM-image S and the approximate magnetic stray field distribution H_0 . Other solutions according to invention consist in that the instrument response function
15 IRF is calculated in Fourier space as $IRF(\underline{k}) = S(\underline{k}) / H_0(\underline{k})$ and/or that iterative calculations of instrument response functions IRF_j ($j=1..m$) are performed. Preferably a tip calibration function $q_{tip}(\underline{k})$, characterizing the magnetic stray field distribution of the tip of
20 a magnetic force microscope (MFM), is derived from the IRF by eliminating cantilever effects due to tilt and mechanical properties.

(Fig. 1)

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