

Abstract Submitted
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**Development of a New Generation of Piezoresistive Cantilevers
Designed for Torque Magnetometry** STEFAN KOHOUT, Physik-Institut, Universität Zürich, 8057 Zürich, Switzerland — Torque magnetometry is known to be a very sensitive technique to measure the magnetization of anisotropic magnetic materials. Applying the piezoresistive technology pushed forward by atomic force microscopy made extremely small and powerful torquemeters possible. However, commercially available cantilevers, which are optimized for force measurements, are not well suited for torque measurements. Cantilevers specially designed for torque magnetometry greatly improved the performance of such sensors and sensitivities of the order of 10^{-14} Nm are obtained in a dynamic operation mode [1]. Based on this work we present here a new generation of torque sensors with greatly improved performance [2]. Together with our recently improved software for the automatic control of our torque magnetometer this offers new possibilities of performing systematic studies of magnetic phenomena with high resolution. The power of this new device will be demonstrated by magnetization studies in cuprate superconductors. [1] M. Willemin et al., J. Appl. Phys. 83, 1163 (1998) [2] S. Kohout et al., in preparation

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