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Scanned Spin-Precession Microscopy: Progress towards cantilever based approach[1] VIDYA BHALLAMUDI, CHRISTOPHER WOLFE, The Ohio State University, Columbus, Ohio 43210, USA, VIVEK AMIN, Texas A&M University, College Station, Texas 77843, USA, HELENA REICHLOVA, Institute of Physics ASCR, v.v.i., Cukrovarnicka 10, 162 53 Prague 6, Czech Republic, ANDREW BERGER, DAVID STROUD, The Ohio State University, Columbus, Ohio 43210, USA, JAIRO SINOVA, Texas A&M University, College Station, Texas 77843, USA, P.CHRIS HAMMEL, The Ohio State University, Columbus, Ohio 43210, USA
— The principal spin microscopy tools for spintronic materials are primarily based on optical detection and are thereby limited to certain materials. There is a need for imaging tools that can address a wider range of materials. Towards this end we recently developed Scanned Spin-Precession Microscopy [1, 2], where we demonstrated the ability to extract local spin properties from a spatially-averaged signal. This is enabled by the modification of the precessional behavior of the spins in a small region by the strongly inhomogeous magnetic field from a micromagnetic probe. We will discuss this novel imaging tool and our recent efforts towards a cantilever-based approach for wider applicability, especially for electrical spin-based devices.

[1] V. P. Bhallamudi et.al., PRL 111, 117201 (2013).
[2] V. P. Bhallamudi et.al., JAP. 111, 013902 (2012)

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