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**Bias voltage dependence of the total magnetic field in CoFeB magnetic tunnel junctions**<sup>1</sup> M.D. RIEMER, NYU/IBM Research, J.Z. SUN, IBM Research, A.D. KENT, NYU — We report experimental thermal-noise spectrum-based ferromagnetic resonance (T-FMR) measurements on CoFeB magnetic tunnel junctions in magnetic fields perpendicular to the film plane. The junctions tested have lateral sizes of  $45 \times 80 \text{ nm}^2$ . In a simple model a dc junction bias voltage should affect both the slope and the intercept of the T-FMR frequency's dependence on applied magnetic field. The intercept would vary linearly with changes in bias voltage due to an electric field-induced change in uniaxial anisotropy [1]. The slope would have a quadratic dependence on changes in bias voltage based on the existence of a perpendicular spin-torque as discussed by Sankey *et al.* [2]. In this experiment we attempt to de-construct the contribution from these two mechanisms. This is done by a careful analysis of the magnetic field dependence of the T-FMR spectra [3].

[1] Suzuki et al, Appl. Phys. Lett. **96**, 022506 (2010).

[2] Sankey et al, Nature Physics **4**, 67 (2008).

[3] Mascaro et al, Intermag/MMM paper FB-11.

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Andrew Kent  
New York University

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