Abstract Submitted
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Specific Resistance and Scattering Asymmetry of Py/Pd, Fe/V, Fe/Nb, and Co/Pt Interfaces[1] AMIT SHARMA, TONY ROMERO, NIKOLETA THEODOROPOULOU, REZA LOLOEE, WILLIAM PRATT JR., JACK BASS, Physics Department, Michigan State University — The properties of interfaces between normal (N) and ferromagnetic (F) metals, described by specific resistance, AR* (A = area, R = resistance), and scattering asymmetry, γ, are of interest to optimize current-perpendicular-to-plane (CPP) magnetoresistance (MR) and current-induced magnetization-switching (CIMS) in nanopillars. Sputtered standard Py/Cu, Co/Cu, and Fe/Cr interfaces have $2AR^* \sim 1$ fΩm^2 and $\gamma \sim 0.7$. Recently, sputtered F/Al interfaces with F = Py, Co, Fe, and Co(91)Fe(9) were found to have very large $2AR^* \sim 9$ fΩm^2, but small $\gamma \leq 0.1$ [1]. In hopes of finding interfaces with both large 2AR* and larger γ than for F/Al, we have determined 2AR* and γ at 4.2K for sputtered Py/Pd, Fe/V, Fe/Nb, and Co/Pt pairs, where we've matched crystal structures of the F and N metals. We will present our data and our derived values of 2AR* and γ. [1] N. Theodoropoulou et al., J. Appl. Phys. **99**, 08G502 (2006); *ibid.*, IEEE Trans. on Magn. (Submitted).

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