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**Compositional dependence of interfacial spin-orbit phenomena in  $\text{Co}_x\text{Fe}_{1-x}/\text{Pt}$  bilayers** ERIC EDWARDS, JUSTIN SHAW, HANS NEMBACH, National Institute of Standards and Technology — We experimentally investigate the dependence of the interfacial Dzyaloshinskii–Moriya interaction (DMI) on the alloy composition in  $\text{Co}_x\text{Fe}_{1-x}/\text{Pt}$  bilayers. Following the methods in Ref. [1] we use Brillouin light scattering to determine the magnitude of the spin-wave dispersion shift induced by the antisymmetric exchange, allowing us to determine the strength of the DMI constant as a function of Co concentration  $x$ . Interestingly, the DMI constant varies significantly as a function of  $x$  and peaks at approximately  $x=0.5$ . These results are compared to measurements of the Heisenberg exchange obtained from fitting Bloch’s law to temperature dependent magnetometry data. [1] H. T. Nembach et al., Nature Physics 11, 825–829 (2015)

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