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Study of spin orbit torque switching in ferrimagnetic $\mathbf{Gd}_x(\mathbf{Fe}_{90}\mathbf{Co}_{10})_{100-x}$ alloy[1] NIKLAS ROSCHEWSKY, Department of Physics, University of California, Berkeley, TOMOYA MATSUMURA, TAKESHI KATO, Department of Electrical Engineering and Computer Science, Nagoya University Furo-cho, Chikusa-ku, SATOSHI IWATA, Advanced Measurement Technology Center, Nagoya University Furo-cho, Chikusa-ku, SURAJ CHEEMA, JAMES CLARKSON, Department of Materials Science and Engineering, University of California, Berkeley, SAYEEF SALAHUDDIN, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley — Magnetization switching in ferromagnetic metals (FM) with spin-orbit torques (SOT) is a well established technique. The SOT originates from spin accumulation at the interface of the FM generated by the spin Hall effect in an adjacent heavy metal. Here we report measurements of SOT in the alloy $Gd_x(Fe_{90}Co_{10})_{100-x}$, where the transition metal sub-lattice and the rare earth sub-lattice couple antiferromagnetically. By varying the composition x of the alloy we can tune the total magnetization. Anormalous Hall effect measurements are conducted to study the effect of SOT on the $Gd_x(Fe_{90}Co_{10})_{100-x}$ magnetization.

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