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**Spin-Orbit Torque Efficiency in Compensated Ferrimagnetic Cobalt-Terbium Alloys** JOSEPH FINLEY, LUQIAO LIU, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology — We report spin-orbit torque induced magnetization switching of ferrimagnetic  $\text{Co}_{1-x}\text{Tb}_x$  films with perpendicular magnetic anisotropy. Current induced switching is demonstrated in all studied film compositions, including those near the magnetization compensation point. A divergent behavior that scales with the inverse of magnetic moment is confirmed for the spin-orbit torque efficiency, which is consistent with angular momentum conservation. Moreover, we also quantified the Dzyaloshinskii-Moriya interaction energy in the Ta/ $\text{Co}_{1-x}\text{Tb}_x$  system and found that the energy density increases with Tb concentration. The large effective spin-orbit torque, the previously demonstrated fast dynamic, and the minimal net magnetization in these ferrimagnetic systems promise spintronic devices that are faster and with higher density than traditional ferromagnetic systems.

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