

Abstract Submitted
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Competition between orbital torques and spin polarization in controlling FMR linewidths SEZEN DEMIRTAS, Department of Physics, University of Texas at Dallas, ALI R. KOYMEN, Department of Physics, University of Texas at Arlington, MYRON B. SALAMON, Department of Physics, University of Texas at Dallas — We have investigated temperature dependent dynamic magnetic properties of rare earth (Gd, Tb, Sm)/Ag/transition metal (Fe, Co, Ni and Py) trilayers by ferromagnetic resonance technique. We found that Fe and Co among TM (transition metals) show narrower magnetic resonance linewidths in rare earth (RE)/Ag/TM/Ag thin film trilayers compared to the values for Ag/TM/Ag, while Ni and Py in the trilayer films show equal or larger linewidths. We attribute this behavior to the relative contributions of intraband and interband scattering to the Gilbert damping parameter. The Y/Ag/(Fe, Co) trilayers seems not to change the resonance linewidth from the bulk value, suggesting that the magnetic moments for the f-electrons play a significant role.

Sezen Demirtas
Department of Physics, University of Texas at Dallas

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