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Spin transfer torque in magnetic tunnel junctions with a perpendicularly magnetized polarizer TAKAHIRO MORIYAMA, THEODORE GUDMUNDSEN, LUQIAO LIU, R.A. BUHRMAN, D.C. RALPH, Cornell University — Spin-torque devices containing magnetic layers with perpendicular magnetic anisotropy are of interest for strategies to reduce the switching currents in memory applications. We report spin-torque-driven ferromagnetic resonance (ST-FMR) measurements of the bias-dependent torque in magnetic tunnel junctions containing $[Co/Ni]_x$ multilayers possessing perpendicular anisotropy, acting as the polarizer layer providing spin-polarized current. We observe unusual dependence of the bias-dependent torque as a function of the magnetic orientation of the $[Co/Ni]_x$ multilayer. We speculate that this sensitivity to the magnetic orientation may originate from changes in the occupation of spin-polarized states at the Co/Ni interfaces associated with the perpendicular magnetic anisotropy.

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