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Spin torque switching of magnetic tunnel junctions with perpendicularly magnetized Co/Ni and Co/Pd electrodes XIN JIANG, BRIAN HUGHES, STUART PARKIN, IBM ALMADEN RESEARCH CENTER, SAN JOSE, CA 95120, USA TEAM — Spin transfer torque switching of magnetic tunnel junctions with perpendicularly magnetized electrodes are promising for reducing switching current and improving thermal stability of magnetic random access memory devices. In this presentation, we report studies of current induced switching of magnetic tunnel junctions with barrier formed from MgO and electrodes formed from Co/Ni and Co/Pd multilayers. The switching current density and thermal stability of the device are measured using voltage pulses with different widths. We show that the large damping constant of the Co/Pd multilayer gives rise to high switching current density.

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