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Spintronics: exchange switching of ferromagnetic metallic junctions under low current density

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A review is given on the exchange switching of ferromagnetic metallic junctions under low threshold current. A dramatic (orders of magnitude) threshold current reduction is achieved under conditions which include the dominance of the current-driven nonequilibrium spin injection, the optimum relation between the spin resistances of the layers, and the application of an external magnetic field near the point of the reorientational phase transition.

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