CURRENT-INDUCED MAGNETIZATION SWITCHING FOR NEXT GENERATION INTEGRATED CIRCUITS

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Giant tunnel-magnetoresistance and current-induced magnetization switching in MgO-barrier magnetic tunnel junctions have opened a new possibility for next generation integrated circuits beyond magnetic random access memory. This talk covers giant tunnel-magnetoresistance over 500 % at room temperature, current-induced magnetization switching at intrinsic current density below 5×10^{6} A/cm^{2} with high thermal stability, and their use in CMOS integrated circuits.