

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Enhanced current-induced domain wall motion by tuning perpendicular magnetic anisotropy** SATORU EMORI, GEOFFREY BEACH, Department of Materials Science and Engineering, Massachusetts Institute of Technology — The effect of perpendicular magnetic anisotropy (PMA) on current-induced domain wall (DW) motion is investigated by micromagnetic simulations. The critical current density  $J_c$  to drive DWs into periodic transformation and continuous motion by adiabatic spin transfer torque decreases with increasing PMA. Also, with optimized PMA that almost exactly compensates the demagnetizing field, the adiabatic displacement of DWs driven by currents less than  $J_c$  is strongly enhanced. Since PMA can be controlled easily in multilayer films (e.g. Co/Pt), this technique of enhancing current-induced DW motion may be practical for device applications.

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Date submitted: 13 Dec 2010

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