

Abstract Submitted
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Modulation of spin torque from spin transport through two nearby domain walls ELIZABETH GOLOVATSKI, MICHAEL FLATTÉ, OSTC and Dept. of Physics and Astronomy, University of Iowa — The motion of domain walls due to the spin torque generated by coherent carrier transport [1] is of considerable interest for the development of spintronic devices [2]. We model two π Néel walls [3] separated by a variable distance, and calculate transport characteristics and spin torque through the system [4]. We find that for large separations, the domain walls show the resonant transmission behavior of a spin-dependent double barrier; for small separations, the transmission spectrum resembles that of a 2π wall. We also find that the spin torque across the system initially increases as the separation between the walls increases from zero, then decreases slightly before reaching a saturation value that is larger than both the spin torque of a 2π wall and that of two individual π walls. This work is supported by an ARO MURI.

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