

Abstract Submitted
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First principles calculation of the spin transfer torques KE XIA, YUAN XU, SHUAI WANG, Institute of Physics, Beijing — A first principles method was developed to calculate the spin transfer torques in the noncollinear magnetized system. We found that the behavior of spin torques in a spin valve depends on the materials (Co, Ni and Ni₈₀Fe₂₀ were taken into account). The formulism is also applied to the anti-ferromagnetic domain wall. It is found that the spin torques could be exerted over a long range in the anti-ferromagnetic materials and move the domain wall away, which can be detected by measuring the resistance of an antiferromagnetic point contact.

Ke Xia
Institute of Physics, Beijing

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