

Abstract Submitted
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**Spin-motive Force Induced by Domain Wall Dynamics in the
Antiferromagnetic Spin Valve**¹

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— In spite of no net magnetization in antiferromagnetic (AF) textures, the local magnetic properties (Neel magnetization) can be manipulated in a similar fashion to ferromagnetic (F) ones [1,2]. It is expected that, even in AF metals, spin transfer torques (STTs) lead to the domain wall (DW) motion and that the DW motion induces spin-motive force (SMF). In order to study the Neel magnetization dynamics and the resultant SMF, we treat the nano-structured F1/AF/F2 junction. The F1 and F2 leads behave as a spin current injector and a detector, respectively. Each F lead is fixed in the different magnetization direction. Torsions (DW in AF) are introduced reflecting the fixed magnetization of two F leads. We simulated the STT-induced Neel magnetization dynamics with the injecting current from F1 to F2 and evaluate induced SMF. Based on the adiabatic electron dynamics in the AF texture [2], Langevin simulations are performed at finite temperature.

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