

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Contribution of electron-magnon scattering to spin-dependent Seebeck effect in a ferromagnet¹ ASHWIN A. TULAPURKAR, Indian Institute of Technology, Mumbai, India, YOSHISHIGE SUZUKI, Osaka Univ., OSAKA UNIVERSITY TEAM — Pure spin-current can be generated from a ferromagnet by applying a temperature gradient across it. This spin current can then be used in various devices such as MRAM where it can be used for magnetization switching. The spin-dependent Seebeck coefficients are responsible for the production of spin-current from a ferromagnet in this case. We solve the Boltzmann's transport equations for conduction electrons in a ferromagnet, considering electron-magnon scattering. Such scattering gives rise to spin dependent Seebeck coefficients. We then estimate the temperature gradient required for switching a nano-magnet by using spin-transfer torque.

¹Grant-in-Aid for Scientific Research in Priority Area from MEXT

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Date submitted: 28 Jan 2010

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