

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**A Focker-Planck description of the spin Seebeck effect**

GUILLERMO REYES, JUAN ADRIAN REYES, Universidad Nacional de Mexico, Instituto de Fisica — Thermally driven spin-wave spin current in a ferromagnetic material FM and the resulting electric signal in a metal probe placed on the FM are theoretically investigated by considering a thermally fluctuating spin at the interface of a FM-metal junction. We develop an analytical formulation to establish a Focker Plank equation for the probability distribution as a function of magnetization components of the material, for calculating the spin Seebeck signal detected by the metal probe, which converts spin current to charge current by the inverse spin Hall effect. The spin current is induced in the metal probe via an exchange interaction when the metal senses the temperature gradient.

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None

Date submitted: 15 Oct 2015

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