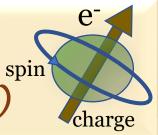


W2S Seminar

(Webinar series on Spintronics)





GdFeCo: giant self-production of spin current and self-torques

Speaker:

Prof. Carlos Rojas-Sánchez Institut Jean Lamour, Université de Lorraine and CNRS, France Date and time: 10.02.2022 at 8.00 pm IST i.e. 3.30 pm CET

Abstract

We studied ferrimagnetic GdFeCo alloys in which the 5d band of Gd induces large spin-orbit couplings. Thus, it can efficiently generate spin currents of different symmetries, spin anomalous Hall effect SAHE-like, and spin Hall effect SHE-like. The later, SHE-like, could produce what we have coined "self-torque".

We demonstrate the giant spin current emission (SAHE+SHE) by GdFeCo. Overall efficiency is 25 times more important in GdFeCo/Cu/NiFe than in Pt/Cu/NiFe. Moreover, we also quantify large self-torque in GdFeCo/Cu/Pt trilayer.

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