CENTRE D'INVESTIGACIÓ
EN NANOCIÈNCIA
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CAMPUS UAB. BELLATERRA. BARCELONA

SEMINAR

MANIPULATION OF MAGNETIZATION BY ELECTRICAL CURRENTS AND VOLTAGE

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Tuning magnetic properties of ferromagnetic materials by electrical means becomes an emerging issue for nanoscale device application. The mechanism of the electrical control is due to quantum mechanical exchange and spin-orbit coupling. By taking into account both intrinsic and externally tunable spin-orbit interactions at interfaces, we show that 1) the spin-polarized electric current can generate a sufficiently large spin-orbit field to switch the magnetization vector, and 2) the electric potential applied to the ferromagnetic interface can change the magnetic perpendicular anisotropy. We will discuss the material dependence of these effects.

REMEMBER

SHUFENG ZHANG
SPECIFIC SEMINAR: Manipulation of Magnetization by Electrical Currents and Voltage.
DATE: July 16, 2010.
TIME: 12:00 pm.
PLACE: IFAE.

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