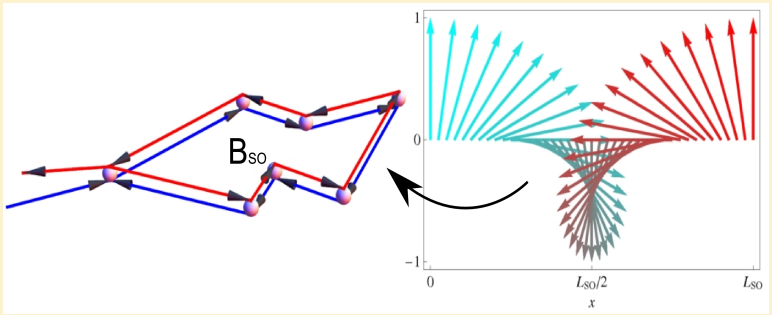
talk nano !



Thu, Feb. 4th, 2016

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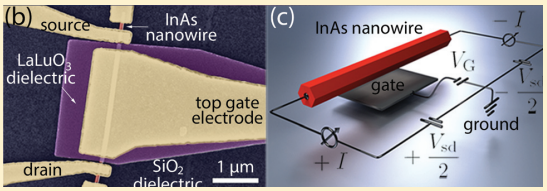

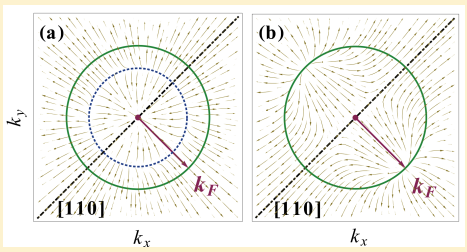

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Spin Orbit Coupling in Disordered Semiconductor Nanostructures: How to Minimize the Spin Relaxation

In the field of spintronics one goal is to manipulate a carrier (electron/hole) spin in a semiconductor nanostructure using, e.g., an external field, strain, choice of (crystal/wire) geometry or dimensionality. Such a spintronic device relies on coherent spin precession of the carriers which can be manipulated via the spin-orbit-coupling. However, at the same time the latter generates spin relaxation due to impurities in the device.

This talk offers a brief overview over how spin relaxation is extracted from measurements, how it depends on the wire dimensionality, shape as well as crystal structure. Ways are shown which the theory reveals to minimise this spin relaxation.

fascinating nanoscience
lectures, talks, discussions
all semester 5+ students welcome
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