

Spin Mechanics 4



Contribution ID: 95

Type: **Invited Talk**

Spintronics

Wednesday, 22 February 2017 08:00 (1h 6m)

The performance of modern electronic devices hinges on the transport, storage, amplification and/or detection of electronic charge. In close analogy, one can also envisage transporting, storing, sensing or amplifying spin angular momentum, taking advantage of spin-polarized charge currents or even pure spin currents. In general terms, the field of spintronics addresses the physics and the properties of structures featuring spin-based functionality.

The tutorial shall give an introduction to spintronics and spin transport from an experimentalist's perspective. I will discuss basic concepts behind charge and spin current transport, and address the interconversion between charge and spin currents based on spin Hall physics. The main focus of the tutorial will then be on spintronic devices and spin current transport-related phenomena.

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