

Seminar on Condensed Matter Theory

Group of Theoretical Physics at the Department of Condensed Matter Physics of Charles University has a pleasure to invite you to attend the seminar

on 8 December 2022 at 13:00

at Faculty of Mathematics and Physics of Charles University, Ke Karlovu 5, 121 16 Praha 2

Seminar room F052



Ing. Richard Korytár, Ph.D.

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Production of angular momentum in helical molecular wires under electric current

Various spin-selective phenomena have been recently reported for helical molecular wires. The explanation of these phenomena is still lacking [1]. I will present a theoretical analysis of spin currents in non-magnetic molecular junctions. First, constraints based on time-reversal invariance will be summarized. Second, I will present results based on Landauer formalism and simple model Hamiltonians [2]. Possible experimental detection setups will be discussed. If time permits, I will discuss the production of mechanical angular momentum in molecular rotors based on either local momentum transfer or spin-orbit coupling [3].

[1] F. Evers et al., *Adv. Mater.* 2022, 34, 210662

[2] J. van Ruitenbeek, R. Korytár, F. Evers, in preparation

[3] R. Korytár, F. Evers, in preparation

