



Donnerstag, 04.12.2025, 15:30 Uhr

Ort: Reichenhainer Str. 90;
Zentrales Hörsaal- und Seminargebäude, Raum C10.013

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What is CISS? - it is illegal!

One of the most mysterious but very real effects in condensed matter physics and chemistry is that of Chirality Induced Spin Selectivity (CISS). It is related to electronic properties of chiral molecules. I will go through a number of CISS experiments: Electron and spin transport through chiral molecules with and without magnetized leads. Also, electron transport with chiral molecules attached to the side of a wire exhibit consequences that are related to the presence of the molecules, and can sometimes even tell the difference between left handed and right handed molecules. This is seen in normal, magnetized or even superconducting wires.

Finally, there is a coupling between molecules and a magnetized surface that depends on the orientation of the magnetization relative to the chirality of the molecules. Most of these real effects are in fact breaking with fundamental properties of the physical laws, namely that of time reversal invariance. At least when standard text book theory is applied.



Alle Zuhörer sind ab 15:15 Uhr zum Kaffee vor dem Hörsaal eingeladen.