

Ultrafast Spin currents

Offer: 18 months post-doc position starting March of 2025.

Project description:

This **ANR funded** project will focus on the experimental generation and characterization of spin current at the subpicosecond timescale. The project will be a continuation of our recent work published in Nature Materials, which can be seen by [clicking here](#).

The major objectives of our project are:

- Improve our understanding of femtosecond light pulses to ultrashort polarized and unpolarized current pulse conversion by characterizing spin current pulses emitted by different magnetic materials (thickness, saturation magnetization, Curie temperature etc.) in response to various laser pulses excitations (fluence, duration, photon energy and polarization) and by comparing the measured and calculated results.
- Unravel the mechanisms regulating the propagation of the spin-polarized electron pulse through the non-magnetic spacer and their transmission/reflection at the interfaces between this spacer and the surrounding magnetic layers.
- Improve our understanding of the interaction between ultrashort spin current pulses and magnetizations

The postdoc will be in charge of sample characterization (VSM, MOKE) and performing ultrafast pump-probe experiments and THz emission.

We are looking for an excellent candidate with experience in any/many of the following themes: spintronics, spin-orbitronics, ultrafast optics/magnetism, THz spintronics...

Application: Send a letter of motivation, a full CV and contact information for 1 or 2 professional references to the contact email.

Contact : [Gregory Malinowski](#)