



Post-doctoral position in spintronics on magnetic skyrmions at Spintec



Spintec invites application for a postdoctoral fellowship in spintronics on magnetic skyrmions. Magnetic skyrmions are nm scale topological spin texture that hold great promise for storing and manipulating the information at the nanoscale. Spintec recently demonstrated magnetic skyrmions at room temperature in ultrathin nanostructures [1] as well as their manipulation using electric field [2,3] and light [4] which is a first step toward the practical realization of skyrmion logic and memory devices. The aim of the post-doc will be to study the manipulation of skyrmions by current and electric field in specifically designed materials in view of memory and logic applications. The post-doc tasks will include the sample preparation (material characterization, nanofabrication), the magnetic microscopy experiments and the modelling using analytical model and micromagnetic simulations. The position is for 18 months and possibly longer depending on the project outcomes and funding.

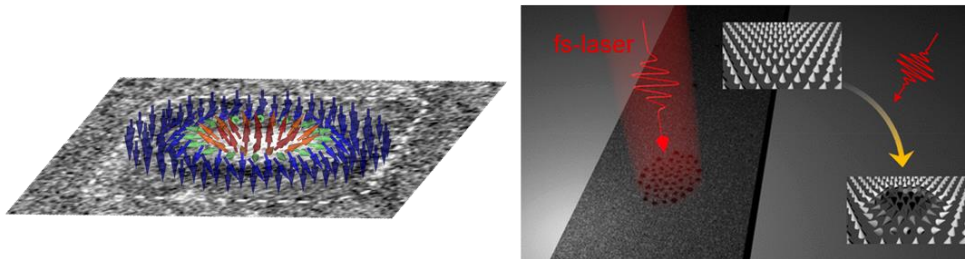


Fig.1 Left X-ray microscopy image of a magnetic skyrmion and its schematic representation [1]. Right: Illustration of the creation of a skyrmion lattice in ultrathin films using fs laser pulse excitation [4].

This position is part of a larger project with the aim of pushing forward fundamental knowledge on magnetic skyrmions in view of technological applications for memory and logics. Applicants should hold a phd in solid state physics or related discipline. An expertise in nanomagnetism or spintronics as well as nanofabrication would be a strong asset.

Applicants should send a CV and a letter of motivation to Olivier Boule, olivier.boule@cea.fr. Spintec is located in Grenoble, France.

- [1] O. Boule et al., Nat. Nanotechnology **11**, 449 (2016).
- [2] T. Srivastava et al., Nano Lett. (2018).
- [3] M. Schott et al., Nano Lett. **17**, 3006 (2017).
- [4] S.-G. Je et al., Nano Lett. (2018).

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