



## Post doc: Magnetic microscopy with magnetoresistive sensors



### Description of the offer:

Postdoc position in spintronics and magnetic sensing at the Service de Physique de l'Etat Condensé (SPEC), CEA Saclay, Gif-sur-Yvette, France.

**Starting date:** January 2021.

**Duration:** 18/24 months

**Research area:** scanning probe microscopy, spintronics/nanomagnetism.

The overall strategy of the LNO at SPEC is in-depth understanding of magnetism in condensed matter with a good balance between state-of-the-art research, development of new instruments, and applications. This equilibrium is possible in this field where applications and research are very close. The LNO has specific skills, tools and expertise on the characterization and the development of magnetoresistive sensors with very high sensitivity and for various applications as magnetophysiology, MRI (Magnetic Resonance Imaging), nanometrology, NDT (Non Destructive Testing), automotive...

The postdoc will work in the frame of the ANR (Agence Nationale pour la Recherche) JCJC project CARAMEL. The aim of the project is to develop a novel characterization tool of the magnetic properties of the material surface with an expected submicron resolution by combining very sensitive magnetoresistive (MR) sensors and atomic force microscopy. This microscope could have possible applications and impact in various domains from fundamental to industrial. New perspectives for material characterization and analysis will be opened, for example in situ following, non-destructive testing and nanometrology.

The postdoc will work on the development of the microscope and the addition of two functionalities: magnetic nanometrology and magnetic susceptibility imaging. He/she will show the proof of concept on calibration samples. The postdoc will also participate to the development of GMR and TMR sensors adapted to the application.

### Requirements

A successful applicant is expected to have a **PhD degree in Physics (Condensed Matter)**. He/she must have a solid theoretical and experimental background in nanomagnetism/ scanning probe microscopy, skills such as magnetotransport characterization, device testing and electronics being particularly relevant.

### Contact and Application

The application should include a statement of research interest, CV, a copy of the PhD thesis, or equivalent, published articles and other relevant materials, if available. Also, letter(s) of recommendation can be included.

For further information about the position please contact:

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