

Post-doc position

High field neutron diffraction studies of quantum spin systems

About the lab:

The **Laboratoire National des Champs Magnétiques Intenses** is a large-scale facility enabling researchers to perform experiments in the highest possible magnetic fields. Continuous fields up to 36 T are available at the Grenoble site (LNCMI-G) and pulsed fields up to 90 T at the Toulouse site (LNCMI-T). One of the distinctive features of the LNCMI-Toulouse is the long duration of the magnetic field pulse.

Over the last ten years, the collaborative work between the LNCMI-Toulouse and synchrotron and neutron facilities in Grenoble (ESRF, ILL) has resulted in the development of mobile pulsed field installations (4 magnets and cryostats, 2 generators) for synchrotron X-ray and neutron scattering measurements in fields up to 40 T [1-4]. The different techniques have now reached a certain maturity and can be applied to address open questions in many systems, such as magnetization plateaus and field-induced magnetic ordering in low dimensional quantum spin systems, but also competition between spin and charge order in high T_c superconductors, or metamagnetic transitions in heavy fermions.

Post-doc position

The **Conductors and Quantum Magnets Group** is currently looking for highly motivated candidates for a post-doctoral position on **experimental studies of strongly correlated electron systems and low-dimensional quantum magnets using high field neutron diffraction and bulk methods (magnetization, magnetoresistivity, etcí)**.

The position is for a period of 1 year, starting in March 2016 (or April), with a possible extension. Salary will follow CNRS scale.

Requirements

The applicant should hold a PhD in Condensed Matter Physics and must have experience with the physics of strongly correlated systems and magnetism. Some experience in low-temperature measurements and/or neutron scattering is beneficial but not prerequisite. A strong taste for experimental work and some proficiency in computer-based data analysis (e.g. Matlab or equivalent) are essential.

Further info and how to apply:

Contact: Fabienne Duc : fabienne.duc@lncmi.cnrs.fr

Application should contain a CV, all certificates, transcripts, and the names and contact details of two referees.

[1] Frings *et al.*, *Rev. Sci. Instrum.* **77**, 063903 (2006).

[2] Detlefs *et al.*, *Phys. Rev. Lett.* **100**, 056405 (2008).

[3] Billette *et al.*, *Rev. Sci. Instrum.* **83**, 043904 (2012).

[4] Duc *et al.*, *Rev. Sci. Instrum.* **85**, 053905 (2014).