

Postdoc position at the LNCMI-Toulouse

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. This has been a key ingredient in the successful observation of quantum oscillations in high T_c superconductors, in both electrical and magnetic measurements, with very high sensitivity and resolution [1,2]. A spectrometer for measuring the ultrasound velocity and attenuation in pulsed and static magnetic fields has been developed and is now available. It has allowed to establish the phase diagram of underdoped $\text{YBa}_2\text{Cu}_3\text{O}_y$ showing the competition between charge order and superconductivity at low temperature [3].

We are looking for highly motivated and independent scientist with a PhD in experimental physics. Specific experience in condensed matter science, low-temperature techniques, and measurements in magnetic fields is welcome. Good communication skills in english, both written and oral are a requirement.

The successful candidate will be in charge of performing high field ultrasound measurements in the phase diagram of several high temperature superconductors both in steady and pulsed magnetic fields. Moreover, he will provide technical and scientific support for users of the pulsed field facility (local contact for 25 % of the time).

The position will start January 1st, 2016 and for one year with a possible extension. The salary will be according to the CNRS scales.

Person to contact:

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http://www.toulouse.lncmi.cnrs.fr/spip.php?page=rubrique&id_rubrique=68&lang=en

[1] N. Doiron-Leyraud *et al.*, *Nature* **447**, 565–568 (2007).

[2] S. Sebastian and C. Proust, *Annu. Rev. Condens. Matter Phys.* **6**, 411–30 (2015)

[3] D. LeBoeuf *et al.*, *Nature. Phys* **9**, 79–83 (2013).