



Postdoctoral position at Laboratoire Léon Brillouin, LLB-Orphée:
Inelastic and polarized Neutron Scattering

Under general supervision, the Postdoctoral position will focus research on neutron scattering investigations of high temperature cuprates superconductors. Polarized neutron diffraction has established a novel magnetic state in their most mysterious electronic state, the so-called “pseudo-gap phase” which is consistent with a spontaneous circulating loop current state, which can be described by anapoles (or polar toroidal dipoles). We aim to study that phase in light of this approach and determine the competition and hierarchy with the many electronic properties of high-Tc cuprates: nematicity, charge density waves, stripes and superconductivity.

The candidate must have a background in neutron scattering or in experimental studies of strongly correlated electron systems, preferably both. He/she will be in charge to conduct the experiments at LLB, as well as on other neutron centers: ILL-Grenoble, FRMII-Munich or SNS (Oak-Ridge, USA in collaboration with the Pr Greven's group). He/she would potentially become a user of the next generation neutron source (ESS). The postdoc will be involved in testing of the upgraded polarized neutron zero-field chamber (μ PAD) on the spectrometer 4F1.

The Postdoctoral fellowship is a grant of the *NirvAna* project of the ANR OH-RISQUE program.

Applications should be sent to philippe.bourges@cea.fr and consist of:

A brief research statement (up to 500 words);

A complete CV, including the list of publications;

The names of three referees, from whom recommendation letters can be asked.

Fellowship duration: two years (starting from 10/2015)

Selected candidates will be invited for a videoconference interview.

Dr. Philippe Bourges and Dr Yvan Sidis

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