PhD Position in Theoretical Condensed Matter Physics: Altermagnetism and Structural Phase Transitions

Institution: Institut Néel (CNRS)
Location: Grenoble, France
Starting Date: October 2025 (or later)
Duration: 3 years

The **condensed matter theory group** at **Institut Néel** (CNRS, Grenoble) invites applications for a **three-year PhD position in condensed matter physics** starting from **October 2025** or by agreement.

The project will investigate the emergence of **altermagnetism**, a recently identified class of **collinear antiferromagnets** featuring a **time-reversal symmetry-broken ground state** with **zero net magnetization**. The objective is to understand the interplay between magnetic and structural degrees of freedom gives that give rise to this novel phase, and to explore how the properties can be controlled via structural phase transitions or external fields**.**

The successful candidate will develop and apply a range of **theoretical and computational methods** based on **first-principles electronic structure methods**, aiming to **identify and characterize** promising material candidates. This will include calculations of the atomic and electronic structure as well as electronic transport properties. Theoretical investigations are expected to proceed in collaboration with experimental partners in France and internationally.

Candidate Profile:
Applicants should hold, or be about to complete, a **Master's degree in Physics**, **Materials Science**, or a closely related discipline. A strong foundation in condensed matter physics and computational modeling is expected. Experience with **ab initio methods** and **magnetism** are highly desirable.

Application Documents:

- **Motivation letter** describing your interest in the project and relevant experience
- **Curriculum vitae**
- **Contact information for two referees** willing to provide recommendation letters

For additional information and informal inquiries please contact.

Quintin N. Meier
Email: quintin.meier@neel.cnrs.fr

Applications should be submitted through the online form:

https://emploi.cnrs.fr/Offres/Doctorant/UPR2940-ELOBER-132/Default.aspx

Work Environment:
The position is hosted at **Institut Néel**, a leading CNRS research center in Grenoble focused on fundamental condensed matter physics. This position is funded by **PEPR-SPIN (**https://www.pepr-spin.fr**)**, a French national research program for the advancement of spintronics