



**Post-doctoral position in condensed-matter physics at Sorbonne Université (Paris, France): polymorphism in dense liquids.**

The Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie (IMPMC) at Sorbonne Université (Paris, France) seeks applications for a postdoctoral position starting on October, 1st 2023 focused on the experimental study of liquid polymorphism and liquid-liquid transitions in elemental and molecular systems under high pressure and temperature. The position is for 24 months.

Please contact Dr. Frédéric Datchi ([frederic.datchi@sorbonne-universite.fr](mailto:frederic.datchi@sorbonne-universite.fr)) for inquiries about the job and applications. Application material should be deposited at: <https://emploi.cnrs.fr/Offres/CDD/UMR7590-FREDAT-003/Default.aspx>

- **Missions:**

In the framework of the ANR project LILI (liquid-liquid transition, polymorphism and second critical point in dense liquids), the recruited person will carry out experimental studies on the liquid phase of elemental and molecular systems, with the aim of better understanding the origin and characteristics of liquid-liquid transitions. The research work will involve experiments under high static pressure and high temperature, using as diagnostics optical spectroscopies (Raman, Brillouin) and synchrotron-based techniques (x-ray diffraction, absorption, imaging). Experiments under high pressure and temperature will be carried out in the diamond anvil cell (DAC) or in the Paris-Edinburg press (PEP).

- **Activities :**

- Prepare and perform experiments under high pressure and temperature in the laboratory and on synchrotron sources. Propose technical solutions to any difficulties encountered.
- Analyze and interpret data.
- Write experimental reports and scientific papers on the results obtained.
- Participate in meetings concerning the project.
- Communicate the results via seminars or conferences.

- **Skills :**

- The candidate should have a PhD in physics, materials science or a related field.
- The candidate should be creative, have good analytical skills and be highly motivated by experimental work.
- A working knowledge of high static pressure experiments in DAC or PEP will be appreciated but not necessary.
- Knowledge of optical spectroscopies and x-ray diffraction, and associated analytical methods will be an asset. Experience with synchrotron facilities will also be appreciated.
- Good ability to work both independently and in a collaborative working environment.
- Good writing and communication skills are expected. Written and spoken English at B2 level at least is required. Knowledge of French is not required.

- **Work context :**

The IMPMC laboratory (<http://impmc.sorbonne-universite.fr/fr/index.html>) is a multidisciplinary research institute with about 200 staff working on ambitious research projects in condensed matter physics, Earth and Universe Science and biology. The candidate will work in the PHYSIX team (11 permanent and 11 PhD students/post-doc staff members at present) whose emphasis is on experimental and theoretical research on materials under extreme conditions of pressure and temperature. The ANR project serving as a framework for this recruitment is carried out in collaboration with the European synchrotron ESRF (Grenoble, France) and the CEA (Paris region), with whom the candidate will interact during the contract.

- **Constraints and risks :**

The candidate will use high pressure presses, laser and X-ray sources. The working environment will respect all safety regulations. Specific dedicated training will be provided if required.