

Job Offer: PostDoc @ CEA-LETI Grenoble

In Situ Multi-Modal Structural Characterization Set-Up Development – Application to Microelectronics Materials

Context

Join the nano-characterization platform at CEA/Leti in Grenoble, a cutting-edge environment equipped with a vast range of advanced characterization tools. We are currently upgrading a diffraction system by adding a second high-energy micro-source and a hybrid pixel 2D detector. In this context, we seek a motivated Ph.D. graduate to contribute to the development of this innovative infrastructure, which is essential for our microelectronics materials research.

Mission

You will participate in instrumental developments to integrate this new detector into the existing system, utilizing the tools provided by the manufacturers. This will be followed by an upgrade to the control system, replacing Spec[®] with BLISS[®], an open-source Python environment developed and deployed by the European Synchrotron Radiation Facility (ESRF) in Grenoble. Your main responsibilities will include:

- **Technical Integration:** Implementing the new detector by leveraging existing hardware and software interfaces.
- **Software Update:** Migrating control systems from Spec[®] to BLISS[®], enabling access to advanced algorithms and APIs for controlling multiple systems and data processing.
- **In-Situ Experiment Development:** Using these new tools to conduct original experiments tailored to the needs of CEA-Leti technologists.

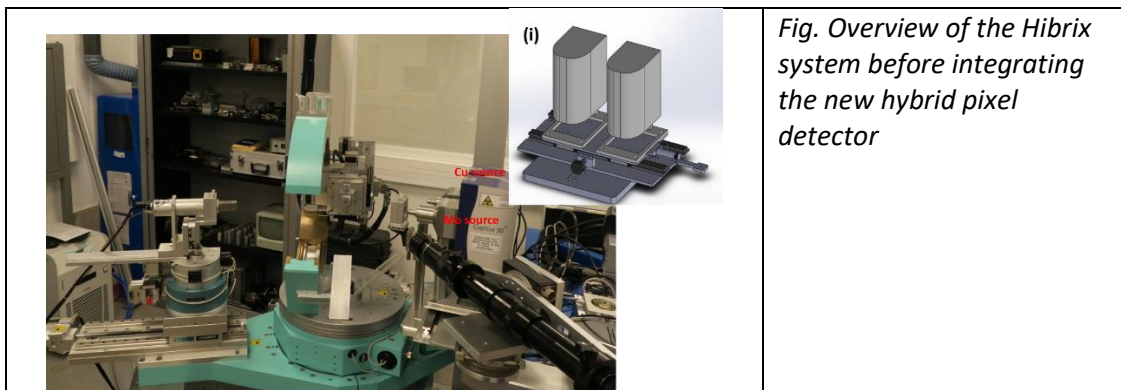


Fig. Overview of the Hibrix system before integrating the new hybrid pixel detector

This system will supplement measurements performed on synchrotron beamlines, especially for pre-studies, extended studies, or sensitive samples. You will also contribute to developing a research program focused on materials such as advanced halide perovskites for detection and photovoltaics or Ferroelectrics for optimizing transducers and memory devices.

Desired Profile

We are looking for a candidate with Ph.D. degree in materials science, physics, nanotechnology, or related fields. Strong expertise in scientific instrumentation and Python programming skills is highly desirable, ideally with experience in open-source platforms or control systems.

Position Details: Contract: 18 months; Start Date: Early 2025

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