

Physics Of Electron Emitting Materials - POEEMS

Physique de sources d'électrons à émission de champ

Description

We have an immediate opening for a postdoctoral researcher in the greater Paris area, France (location CEA Saclay 25 km SW of Paris downtown). The postdoc will join a research effort of the Commissariat à l'Energie Atomique (CEA) aiming at the study of electron emitting materials.

The goal of the proposed research is to investigate, analyse and understand the physics and performances of field emission materials under extreme high electric field (DC & AC field regimes). The physics of such extreme electron emitters will be investigated under real operating conditions via the use of an adapted surface technique, namely the *photoemission electron microscopy* (PEEM) / *low energy electron microscopy* (LEEM). PEEM working principle allows the electrons emitted by a sample to be spatially imaged at the mesoscopic level. PEEM microscopy is a multidimensional surface technique. The proposed research work will be carried out at multiple scales: spatial (nm), spectral (meV) and temporal (fs) scales. PEEM exploits *ultra-short pulsed lasers* (USPL) as dynamic field excitation sources.

Profile of applicant

Applicants must have earned a doctoral degree in physics or chemical physics **within the past two years**, with a proven capacity for world-class research in nano-optics, high field physics, laser optics or related fields. Experience in electron microscopies (SEM, PEEM, LEEM) and ultra-short pulsed lasers is preferred, but not required.

Duration

The appointment is for two year (24 months) and may be extendable for one additional year based on available funding. Position is available immediately. Net monthly salary including state health benefits is around 2200 €.

Research labs involved

Commissariat à l'Energie Atomique et aux Energies Renouvelables (CEA IRAMIS SPEC) *Service de Physique de l'Etat Condensé* Univ. Paris Saclay, CEA, CNRS, SPEC F-91191 Gif sur Yvette France
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Contact

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