



An 18 months postdoctoral position is available in the framework of project funded by the Aix-Marseille University Foundation A*MIDEX (<http://amidex.univ-amu.fr/en/amidex-supports-4-research-projects-in-the-field-of-fusion>). The successful candidate will participate in the development of computational activities about the interaction of the hydrogen isotopes with tungsten.

Tungsten is one of the main plasma-facing components in the International Thermonuclear Experimental Reactor ITER, and the behavior of implanted hydrogen isotopes in tungsten is nowadays not fully understood. Hence, predictive tools are needed to achieve a better understanding of the hydrogen migration and trapping in tungsten. These tools, based on multi-scales approaches ranging from DFT, MD, (O)KMC to MRE, need to be validated against data from dedicated experimental measurements. Among them, Temperature Programmed Desorption (TPD a.k.a. TDS) are results of choice and will be provided by the PIIM laboratory.

The appointed candidate must hold a PhD in chemistry or physics and will participate to the H/W interaction modeling activities by DFT and OKMC, led respectively by the PIIM laboratory (Aix-Marseille University - CNRS) and the UMET laboratory (Lille 1 University – CNRS). In-depth knowledge in DFT and/or (O)KMC and/or modeling of surface and material science (specifically TPD) will be an advantage. Frequent scientific exchange between the project partners is required therefore fluency in English is mandatory. Travel expenses needed for the theoretical collaboration will be provided.

Application is to be sent to both Dr. Yves FERRO (yves.ferro@univ-amu.fr) and Prof. Charlotte BECQUART (charlotte.becquart@univ-lille1.fr) with indication of possible starting date (preferably before December 2015) and contact information of two recommending scientists.