2-year post doctoral position

Funded by Agence Nationale de la Recherche (ANR) n° 2011-BS04-028-01 GAMES

Available immediately

Nucleation, fragmentation and melting of water clusters

Cluster Group, LCAR (Université de Toulouse/CNRS, France)

LCAR web site: http://www.lcar.ups-tlse.fr/?lang=en

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We are seeking a postdoc in experimental cluster physics on a fully financed project. The net salary is ~2200€/month. There is no condition on nationality.

The research will be done in the Cluster Group of the Collisions, Clusters and Reactivity Laboratory in Toulouse. The Cluster Group is currently studying nucleation and fragmentation processes in clusters at a molecular level. Our setup also allows the thermodynamics of mass selected clusters to be investigated.

The project GAMES aims at investigating nucleation, fragmentation and thermodynamic properties of water clusters. Our original experimental setup developed in Toulouse [1] enabled us to measure the attachment cross sections of single atoms or molecules onto mass selected clusters [2] and collision-induced fragmentation cross sections [3]. The setup is also able to provide caloric curves of mass selected clusters, giving melting temperatures and latent heats [4]. Our investigations now focus on water clusters. Protonated water clusters already unveil unexpected attachment features [5]. Charge effects and the influence of impurities on nucleation, fragmentation and thermodynamic properties of water clusters will be further investigated.

The work will be mostly experimental. The candidate will also be involved in data processing and analysis. The Project GAMES involves a partnership with a theoretical group the applicant may have the opportunity to interact with. The applicant should ideally have experience in molecular beams, cluster physics and mass spectrometry.

The position is available immediately.


