

2D materials van der Waals heterostructures : electronic structure and interlayer interaction

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The isolation of graphene in 2004 from graphite was a defining moment for the ‘birth’ of a field: two-dimensional (2D) materials [1]. In recent years, there has been a rapidly increasing number of papers focusing on non-graphene layered material, including transition metal dichalcogenides (TMDs) [2]–[4], because of the new properties and applications that emerge upon 2D confinements. In particular the combination of 2D blocks into vertical heterostructure has recently been identified as a promising route to enhance or enrich the functionalities of these material. However, the performances of all these possible 2D heterostructure devices is governed by the band alignment and the interlayer interaction between these different materials. In this talk, I will show that high resolution photoemission spectroscopy (HR-XPS) and angle resolved photoemission spectroscopy (ARPES) are the most powerful techniques to uncover the electronic structure and the interlayer interaction in 2D vdW heterostructure. In particular, I will present an exhaustive study of MoS₂/graphene vertical heterostructure [2]–[4].



Ce séminaire sera suivi d'une pause café

Formalités d'entrée : accès libre dans l'amphi du pavillon d'Accueil.

Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès)

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