2D van der Waals heterostructures: Insights on their electronic structure, and their potential role in sodum-ion battery and water splitting

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In this talk, I will provide insights on the following interesting aspects of 2D van der Waals heterostructures: (1) the electronic structure of graphene-boron nitride under different van der Waals corrections[1]; (2) the effect of stacking on the binding and diffusion properties of sodium ions at the van der Waals interface of NbSe2-NbSe2 homostructure[2]; and (3) how changing the orientation of one monolayer relative to another could potentially affect the water splitting ability of ZnO-GaN 2D heterostructure.

References

1. John Radly M Sevilla and Darwin B Putungan 2021 *Mater. Res. Express* **8** 085601
2. Putungan, et al, *Phys. Chem. Chem. Phys.*, 2021,**23**, 19811-19818