



Contribution ID: 60

Type: Oral Presentation

Quantum materials in 2D flatland

Wednesday 9 July 2025 10:50 (40 minutes)

Two dimensional (2D) materials have gained a very dominating position in the world of quantum materials due to their high potential for advanced applications in flexible electronics, optoelectronics, energy storage, catalysis, spintronics etc. An enormous playground exists in developing 2D van der Waals heterostructure by combining a variety of 2D materials for realising extraordinary properties. In this talk, I will present some interesting properties of 2D materials regarding their peculiar electronic and magnetic properties revealed by sophisticated quantum mechanical simulations. Effects of doping and defects will be presented. Proximity induced modifications of electronic and magnetic properties of 2D heterostructure will be demonstrated too.

Apply for student award at which level:

None

Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

Primary author: SANYAL, Biplab (Uppsala University, Sweden)**Presenter:** SANYAL, Biplab (Uppsala University, Sweden)**Session Classification:** Physics of Condensed Matter and Materials**Track Classification:** Track A - Physics of Condensed Matter and Materials