Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Internal Seminar

Understand the spin related phenomena in materials for data storage applications: Ab initio study

Sandhya Chintalapati

National University of Singapore, Singapore

Spintronics is one of the major and essential research areas that we need to look into for several applications such as information processing, data storage and quantum computing etc. Spintronics relies on electron spin instead of electron charge to carry information and shows an alternative to the conventional electronics. The magnetism in semiconductors grabs the researchers' attention to integrate the conventional electronics with Spintronics. The influence of surface effects on the magnetism of semiconductors will be briefly explained using first principles calculations. The role of strain and vacancies on the electronic and magnetic properties of layered system will be demonstrated by considering phosphorene as a prototype material. Furthermore, the Spin Hall Effect along with some preliminary results will be presented in the talk in the view of Spin transport.

Tuesday, Feb 19th 2019

4:00 PM (Tea/Coffee at 3:30 PM)

Seminar Hall, TIFR-H