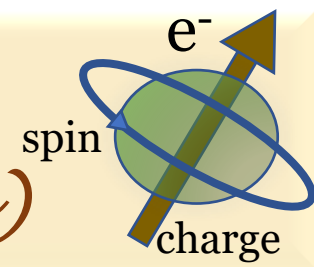




W2S Seminar

(Webinar series on Spintronics)



Orbital Hall Effect in 2D transition-metal dichalcogenides: Basic Concepts and Current Research

Speaker:

Prof. Sashi Satpathy

Department of Physics

University of Missouri-Columbia, USA

Date and time:

17.06.2021 at

8.00 pm IST

i.e. 4.30 pm CET

Abstract

Generation and detection of the orbital current, instead of the spin current, to carry information is an emerging area of research. The orbital Hall effect (OHE) is the phenomenon of transverse flow of orbital angular momentum in response to an applied electric field, analogous to the spin angular momentum current in the spin Hall effect (SHE). The Hall conductivity can be expressed in terms of the Berry curvature and computed using density functional theory or simple model Hamiltonians. I will illustrate these effects for the 2D dichalcogenides such as MoS₂, an important class of materials of current interest, which have been recently proposed as potential materials for observing the OHE. Apart from fundamental science, OHE could have potential applications in "orbitronics," which involves the flow of information using orbital degrees of freedom.

To attend the lecture please visit
Zoom link: <https://zoom.us/j/96185293352>

Contact: Dr. Subhankar Bedanta (Convenor W2S)
Email: w2s-spintronics@niser.ac.in

For more information on W2S seminars please visit : <https://www.niser.ac.in/w2s-seminar/>