W2S Seminar
(Webinar series on Spintronics)

Spin transport at Oxide heterointerfaces

Speaker:
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Date and time:
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Via
Zoom

Abstract

Breaking of inversion symmetry at perovskite surfaces and its stabilization at heterointerfaces lead to emergent functionalities that are not present in bulk. When combined with spin-orbit interactions this enables new mechanisms to control spin states and new device applications ranging from electric field control of electronic devices, voltage control of magnetic state as well new spin textures. After a brief introduction to the key phenomena in spintronics and the state-of-the-art, I will discuss new material platforms researched for Beyond Moore, based on oxide semiconducting heterointerfaces with 3d transition metals, complex oxides and 2d materials. The talk will illustrate how interfaces of such simple spintronic devices enable the tuning of electronic and spin transport parameters by coupling the intrinsic electric fields with Rashba spin orbit fields. The ability to create, and control new phenomena in such devices is important for fundamental research that drives new technologies and upcoming computing architectures.

If interested to attend then please visit https://www.niser.ac.in/w2s-seminar/index.php