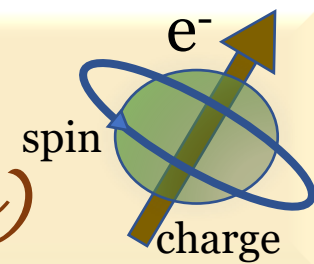




W2S Seminar

(Webinar series on Spintronics)



Voltage controlled Néel vector rotation in zero magnetic field

Speaker:

Prof. Christian Binek

Department of Physics & Astronomy and the
Nebraska Center for Materials and Nanoscience
University of Nebraska-Lincoln, NE, USA

Date and time:

22.04.2021 at

10.00 am

Via

Zoom

Abstract

Voltage-controlled switching of remnant magnetic states paves the way towards ultra-low power and non-volatile spintronics. In this presentation, I report on a decade-long journey which took us from isothermal electric switching of exchange bias with the help of simultaneously applied electric and magnetic fields to pure voltage-controlled antiferromagnetic spintronics in zero magnetic field and at CMOS compatible temperatures. Non-volatile Néel vector reorientation in the absence of an applied magnetic field is demonstrated at CMOS compatible temperatures in prototype device structures which are based on thin films of the boron (B) doped magnetoelectric and antiferromagnetic insulator Cr_2O_3 . Estimated switching speeds of 100 ps make B: Cr_2O_3 a promising multifunctional single-phase material for energy efficient nonvolatile CMOS compatible memory applications.

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