Department of Materials Science and Engineering

Iby and Aladar Fleischman Faculty of Engineering Tel Aviv University

הפקולטה להנדסה ע"ש איבי ואלדר פליישמן אוניברסיטת תל אביב

המחלקה למדע והנדסה של חומרים

You are cordially invited to attend this seminar to be held on

Sunday, November 12th, 15:00
Room 207, Engineering Class (Kitot) Building

Domain walls as nanoscale functional elements

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Abstract

Topological structures in functional materials, such as domain walls and skyrmions, see increased attention due to properties that can be completely different from that of the parent bulk material [1] and provide interesting prospects for memory applications [2]. I will discuss recent results on multiferroic phase boundaries and domain walls in BiFeO3 [3] using SPM, TEM and theory, and discuss future prospects [4].

[1] J. Seidel (ed.), Topological structures in ferroic materials: domain walls, skyrmions and vortices, ISBN: 978-3-319-25299-5, Springer, Berlin (2016)
[2] P. Sharma, et al., Science Advances 3, e1700512 (2017)
[3] Y. Heo et al., ACS Nano 11, 2805 (2017)
[4] J. Seidel, Nature Nanotechnology 10, 190 (2015)

Jan Seidel is an Associate Professor at the School of Materials Science and Engineering at UNSW Sydney. He received his doctorate in physics from TU Dresden in 2005 followed by a Feodor Lynen Fellowship (Alexander von Humboldt Foundation) at the University of California, Berkeley and at Lawrence Berkeley National Laboratory. He has held an Endeavour Fellowship by the Australian government and visiting Fellowships at the University of Oxford. His main interests are in materials physics of complex oxide materials and advanced scanning probe microscopy, especially for the study of fundamental electronic, optical and magnetic properties of interfaces and topological structures.