

## Maurizio De Santis

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**Tuesday, 31<sup>th</sup> October 2023, 16:00 s.t.**

TU Wien, Institut für Angewandte Physik, E134  
1040 Wien, Wiedner Hauptstraße 8-10  
Yellow Tower „B“, 5<sup>th</sup> floor, SEM.R. DB gelb 05 B



**The seminar will be also held as a zoom meeting**

<https://tuwien.zoom.us/j/69594421567?pwd=a2htSnNENUUpMUFV4OEhXckxrM1Azdz09>

Meeting ID: 695 9442 1567

Password: JvidHG9B

### **Structure of epitaxial thin oxide films investigated *in situ* by x-ray diffraction using synchrotron radiation**

Combining Grazing Incidence X-Ray Diffraction (GIXRD) and X-Ray Reflectivity (XRR) allows to solve the structure of crystal surfaces and epitaxial ultrathin films, and to investigate thin films growth. After a general introduction to the technique, I will show some studies of oxide films. The first example concerns the growth mode and the structure of an ultrathin MgO film on Ag(001). MgO ultrathin films are employed as decoupling layers between metallic substrates and electronic states of molecules or atoms deposited on top. In the following I will discuss the growth of CuO and TiO<sub>2</sub>-anatase films on SrTiO<sub>3</sub>(001), both obtained through a post-deposition annealing in oxygen. These films are investigated for their multiferroic and catalytic properties, respectively. The measurements I will show were performed on the French BM32 beamline at the European Synchrotron Radiation Facility (ESRF).

All interested colleagues are welcome to this seminar lecture  
(45 min. presentation followed by discussion).

Friedrich Aumayr  
(LVA-Leiter)

Michael Schmid  
(Seminar Chair)