CNR NANO
ISTITUTO NANOSCIENZE CONSIGLIO NAZIONALE DELLE RICERCHE

Seminar Series

November 6, 2012 – 4.00 pm

CNR NANO S3, Modena

Ulrike Diebold

Inst. of Applied Physics, Vienna University of Technology, Vienna, Austria

"Surface (Defect) Structure and Chemistry of Metal Oxides"

We are using STM measurements in combination with surface spectroscopies as well as DFT calculations (in collaboration with theorists) to determine the surface geometric and defect structure of various metal oxides, including TiO_2 anatase and rutile, Fe_3O_4 magnetite, In_2O_3, $SrTiO_3$, ZrO_2, and $Sr_3Ru_2O_7$. In the talk we will give an overview of recent results, including the interplay between bulk and surface O vacancies in anatase, and the effect of charge- and orbital ordering in strongly correlated electron systems. Particular emphasis will be on exemplifying how these phenomena influence adsorption processes of metal nanoclusters and simple molecules.

The seminar will be transmitted by videoconference to all NANO Centers.

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