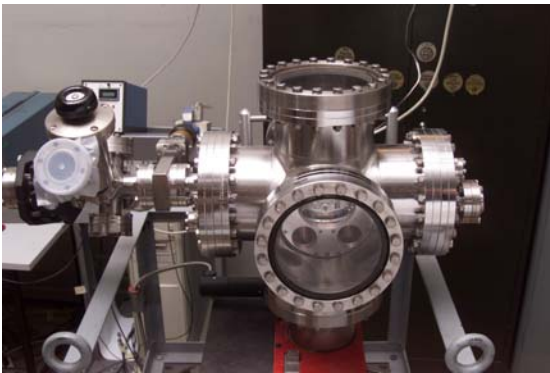


Vorlesungsankündigung / Lecture announcement WS 2003/04

"Experimental techniques of Surface Science – and how a theorist understands them..."

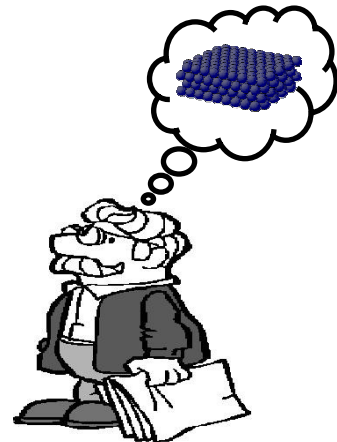
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Processes at the surfaces of solids form the basis for a wealth of technological applications e.g. in microelectronics and catalysis. Fundamental requirement for an understanding and controlled development in corresponding research is to obtain atomically-resolved information about the structure (both geometric and electronic) of surfaces. For this, a whole zoo of experimental techniques has in the meanwhile been developed. The lecture

will introduce the concepts of such techniques, covering the most relevant representatives of diffraction, scanning, microscopy and spectroscopy based methods (like LEED, STM, or XPS). Rather than concentrating on the experiments and their technical realization, the focus will be more on the physical concepts, on what is measured, what can and what cannot be addressed with which technique (with which error) and most importantly on how one can theoretically analyze the data in order to retrieve the aspired atomic-scale information. Illustrating the use and value of the various techniques with examples from current research, the lecture will also provide an introduction to topical questions and interests in modern surface science.



Requirements: Quantum mechanics, basic knowledge of Solid State Physics
Location: FU Berlin, Arnimallee 14, SR E1 (1.1.26)
Time: Fr 13.00-15.00.

**Lecture course within the
Int. Max Planck Research School "Complex Surfaces in Materials Science"**