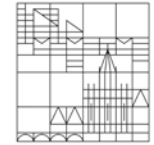


SFB 767

Colloquium

Universität
Konstanz



Thu 07.06.18
Coffee and tea 15:15
Talk 15:30
P 603



PD Dr. Regina Hoffmann-Vogel

Universität Konstanz

High-resolution Kelvin-Probe Force Microscopy

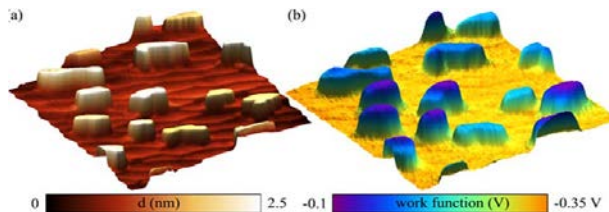


Fig.1 (a) FM-SFM and (b) simultaneously obtained Kelvin images of Pb islands on Si(111). Images size $1 \times 1 \mu\text{m}^2$.

In Kelvin-Probe Force Microscopy, the work function difference between the tip and the sample of a scanning force microscope (SFM) is determined locally. The first example given in this talk is the quantum size effect of Pb islands grown on Si(111). The measurements show an even-odd oscillatory dependence of the local work-function difference on the island's height [Fig. 1]. The second example are molecular layers, where the work function measurement yields information about step edges and other line defects as well as the orientation of the molecular layers. The third example are vicinal Si surfaces where we obtained atomic resolution. The distribution of surface dipoles is governed by the Smoluchowski effect.

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