

## STRUCTURAL PROPERTIES OF COBALT ULTRATHIN FILMS ON A RECONSTRUCTED Pt(001)-HEX SURFACE

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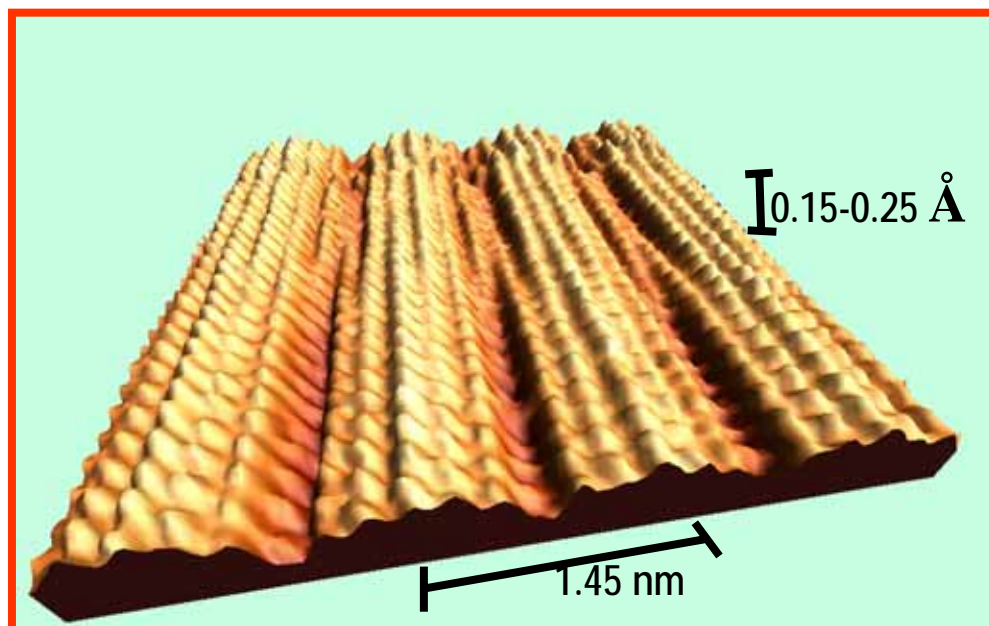
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The structural properties of Co ultrathin films on a reconstructed Pt(001)-hex single crystal surface (fig.1) have been studied in-situ by Surface X-Ray Diffraction (SXRD) and Scanning Tunneling Microscopy (STM). In previous work[1] a slightly distorted bcc Co phase pseudomorphic with the Pt(001)-1x1 surface was reported, unlike the case of Co films on top of Pt(111) where the growth is relaxed[2]. The present study shows that the misfit stresses of the pseudomorphic distorted bcc Co phase relaxes (fig.2) towards what has been interpreted as a periodic shared structure. These structural features seem identical to those found for ultrathin films of Ni on Pt(001)-hex[3], Cu on Au(001) [4] and Cu on Ag(001) [5].

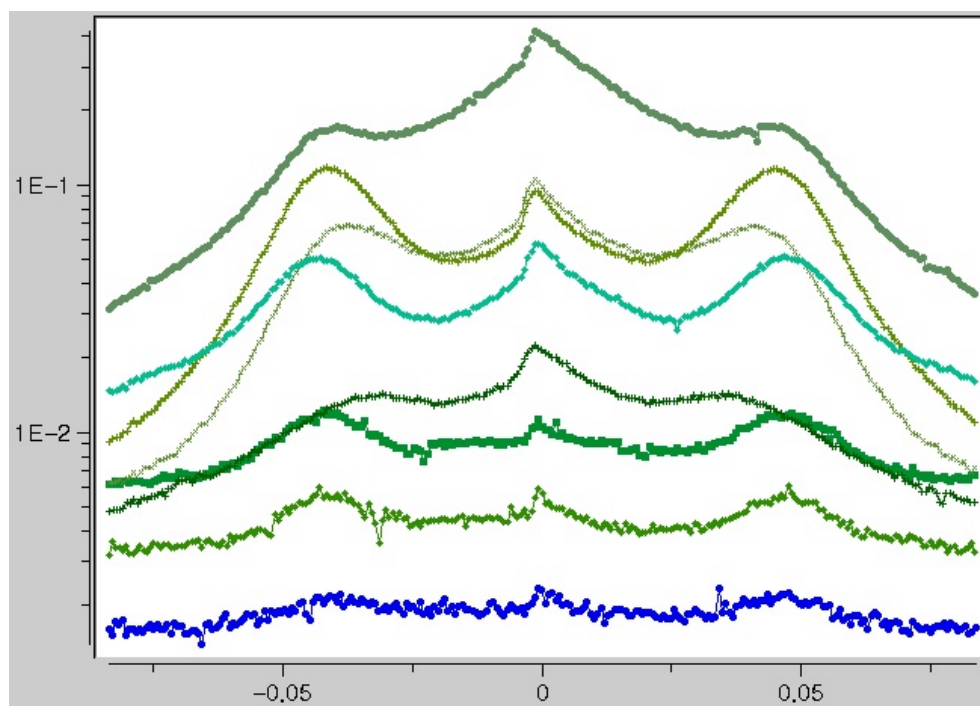
### References:

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Figures:



**Fig.1** STM atomically resolved image of the Pt(001) *hex* surface reconstruction.



**Fig.2** SXR D scans revealing the existence of a periodical arrangement on the surface plane related to the satellite peaks. In the scans, the in-plane Miller index  $H$  (abscises axis) is sweep around  $(H,K,L)=(0, 0.96, L)$ , with values of  $L$  ranging from 0.4 to 1.5 reciprocal lattice units for the different curves from the bottom to the top.