

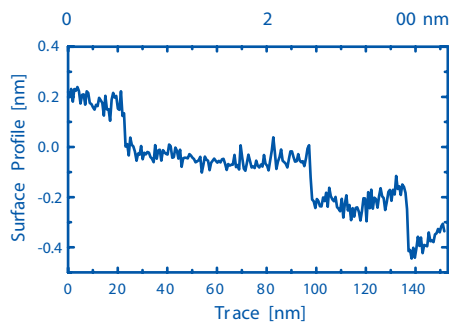


Au(111)/Mica Thin Film



PHASIS Au(111) thin films are epitaxially grown using RF magnetron sputtering on freshly cleaved high quality Mica substrates. The films present an extremely high degree of structural quality including surfaces with well defined terraces well adapted to local probe studies. These films can be advantageously used for SPM calibration purposes.

Each substrate is individually packaged in pure nitrogen.



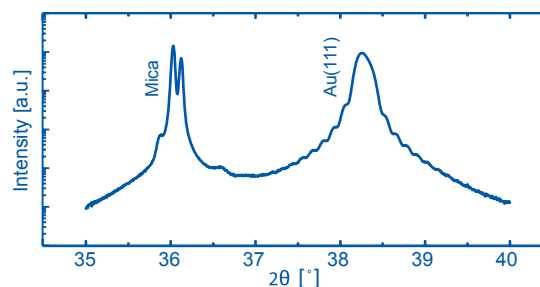
Typical STM image of the gold surface. Terraces with single or multiple unit cell steps high are clearly visible over nm length scales.

Specifications

Mica Muscovite Composition	$\text{KAl}_2(\text{AlSi}_3\text{O}_{10})(\text{F}, \text{OH})_2$
Typical Au Thickness	150 nm
Au Cell	fcc, (111) growth on mica
$c_{\text{Au111}}/a_{\text{Au111}}$ parameters	2.36Å, 2.88Å

Substrate & Dimensions

Substrate	high grade cleaved mica sheets
Gold covering dimensions	10x10 mm or 20x20 mm



A θ -2 θ X-ray analysis (using Cu K α radiation, $\lambda = 1.5406$ Å) performed on a typical 70nm thick gold sample showing pure (111) growth with a c-axis lattice parameter of 2.36 Å. The size effect observed on the (111) reflection indicates the high degree of crystallinity of the sample and allows an accurate measurement of the thickness.