Structural investigation of antimony sub-monolayers on Ag(110)

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Abstract

In the here presented research we report on the synthesis and structural investigation of sub-monolayers antimony on Ag(110). Since the structural configuration of 2D-materials has major influence on the electronic properties of the material, we focus on the analysis of the Sb/Ag interface.
After several cleaning cycles in UHV, antimony is evaporated by a Kudsen cell to deposit different layer thicknesses on the Ag(110) surface. Subsequently the sample is heated and investigated. Low-energy electron diffraction (LEED) and photoelectron spectroscopy (XPS) are used for the structural and chemical investigation of the Sb phases on Ag(110). Our results indicate a strong correlation between the layer thickness and the structural and chemical configuration of the Sb phases, similar to our already published results of germanium on Ag(110) (1).

References:
(1) Kesper, L., Schmitz, M., Westphal, C. et al. Revealing the nano-structures of low-dimensional germanium on Ag(110) using XPS and XPD. Appl.Nanosci. 12, 2151-2160 (2022).

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