

Study of local structure of binary surface with usage of ultra-thin film of cerium deposited on a Pd (111) single-crystal surface is presented. X-ray photoelectron spectroscopy and diffraction (XPS, XPD), angle resolved UV photoemission spectroscopy (ARUPS) and low energy electron diffraction (LEED) was used for our investigations. LEED and X-ray excited photoemission intensities results represent a surface-geometrical structure. As well, mapping of ultra-violet photoelectron intensities as a function of emission angles is used for a band mapping and an electronic structure determination.