



Electron emission under X-rays

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The secondary process from solid state surface is very important for diagnostic and for a theoretical model testing. True-secondary electron emission under X-rays by means of diffraction photoelectron spectrometer was studied. The experimental method consist of the measurment the energetic electron spectrum selected from the energetic group of electrons and then simultaneous measuring of yield angle dependence for certain groups of electrons and X- ray reflection in the conditions of diffraction. Random errors connected with the statistic account of X-ray photons and stimulated electrons which give the basic information about the crystal structure were optimized.

The curves of the diffraction (111) reflection and the curves of electron output, energetic electron spectrum were measured in the two-crystal scheme combination (1,-1) with asymmetric reflection (111) from the silicon crystal - monochromator.

The X- ray photoelectrons yield and stimulated TSE different energies are measured. The samples were the Si perfect solid-state crystals, the oxide Si films with 180 nm of the thickness and also the Si crystals after an implantation by boron ions with different energies and radiation dose. The observed results confirm the supposed model of the TSEE.