BRÎNZARi, V., CHO, B.K., KOROTCENKOV, Gh. Carbon 1s photoemission line analysis of C-based adsorbate on (111)In2O3 surface: The influence of reducing and oxidizing conditions. In : Applied Surface Science. 2016, nr. 390, pp. 897-902. ISSN 169-4332

Synchrotron radiation photoemission study of C 1s line of (111) In2O3 surface was carried out under HV (high vacuum) doses of oxygen, carbon monoxide and water. Gas interaction with the surface was activated by heating of In2O3 monocrystalline film at temperatures of 160 or 250 °C. The study of complex structure of C 1 s line and evolution of its fine components allowed to establish their nature and to propose possible surface adsorbed species and reactions, including a direct chemisorption and dissociation of CO molecules. Reduction or oxidation of the surface determines whether the first (chemisorption) or the second (dissociation) process takes place. The latter is responsible for additional formation of ionosorbed oxygen. Both processes have not been previously reported for In2O3 and for conductive metal oxides.