ABSTRACT

Report on the pre-diploma practice: 34 p., 13 fig., 1table, 15 references.

Research objects – nanoscale system Ag/V та V/Ag, prepared by electron beam deposition.

Aim of the work – investigation of structure and phase transformations in nanoscale films Ag/V та V/Ag.

Research methods – electron beam deposition, transmission electron microscopy, electronography, X-ray phase analysis.

Vanadium oxides are perspective materials in the electronics. Vanadium pentoxide is widely used as cathode material in lithium batteries. An adding of Ag can extremely increase electrical properties of material.

Phase transformations that occur during annealing of nanoscale films Ag/V and V/Ag were investigated. The formation of negligible quantity of vanadium oxide at initial state was detected. After the heating to 680 K it increases. The triple oxide β-$AgVO_3$ was formed after annealing at 900 K.

NANOSCALE FILM SYSTEMS, PHASE TRANSFORMATION, Ag/V, V/Ag, ELECTRON MICROSCOPY, X-RAY PHASE ANALYSIS, ELECTRONOGRAPHY