

Abstract

Diploma work: 96 pages, 23 drawings, 5 tables, 82 literary sources.

Work purpose: to study the phase composition, structure and mechanical stresses in the films nanoscale CoSbx (30 nm) ($3,0 < x < 3,5$) on substrates SiO₂ (100 nm) / Si (001) after deposition and after annealing in vacuum.

Research methods: heat treatment, X-ray phase analysis, resistometry, scanning electron microscopy.

Research subject: CoSb_{3,0} (30 nm) and CoSb_{3,5}(30 nm) nanoscale films after deposition and heat treatment in vacuum.

Object of study: the processes of formation of structure, phase composition and mechanical stresses in CoSb_{3,0} (30 nm) and CoSb_{3,5}(30 nm) nanoscale films.

Practical value: The results are more practical importance for the development of new materials, looking as good thermoelectric converters. Estimated value of the coefficient of economic efficiency research work showed the feasibility for the implementation of this work.

NANOSCALE FILM COMPOSITIONS CoSb; THERMOELECTRICITY;
DIMENSIONLESS COEFFICIENT OF THERMOELECTRICAL EFFICIENCY