

ABSTRACT

Research work: 86 pages, 26 figures, 10 tables, 50 literature.

Aim: to study the structure and phase formation features in as prepared double layer thin-film samples with Al/V composition before and after vacuum annealing.

Research methods: transmission electron microscopy (TEM – 125K), high energy electron diffraction (HEED – 100), 4 – probes resistance measurements.

Research subject: double layer films Al/V condensed into NaCl and piezoceramic substrates.

Scientific novelty: identified the phase transformations in thinfilm system Al/V during annealing in vacuum for 15 minutes at 500 °C that accompanied by the formation of intermetallics Al_3V , Al_8V_5 , Al_3V .

Practical use: the results of this study can be used in the development of new electronic devices based on the using of Al/V contact systems.

ALUMINUM, VANADIUM, THIN FILM, Al/V, PHASE TRANSFORMATIONS, STRUCTURE, PHASE COMPOSITION, THERMAL EVAPORATION, ANNEALING, ELECTRON MICROSCOPY, HIGH ENERGY ELECTRON DIFFRACTION, RESISTOMETRY.