

SEQUENCE OF PHASE TRANSFORMATIONS OF THIN-FILM STRUCTURES IN A SYSTEM ZIRCONIUM - TITANIUM - LEAD - OXYGEN

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The experimental researches on definition of intercoupling between conditions of synthesizing, heat treatment and phase structure of films obtained by a method of a magnetron sputtering on laminas of single-crystal silicon are conducted.

The relations are investigated temperature and time function of formation oxide layers on a surface of single-crystal silicon, and also the analysis of a phase structure of the obtained patterns is conducted. Formation of a film of a zirconate titanate of lead during an annealing of a thin film structure Si/Zr,Ti/Pb, in which one film of solid solution Zr-Ti received from the compound target, takes place at temperature 873 K.

By method X-ray diffraction of the analysis was established, that alongside with oxides of metals in films the solid solution of a zirconate titanate of lead Pb ($Zr_{0,47}Ti_{0,53}$) O_3 will be derivated.

Is rotined, that a structure, pattern of thin oxide layers of investigated objects depend on conditions of synthesizing, annealing and concentration of components.