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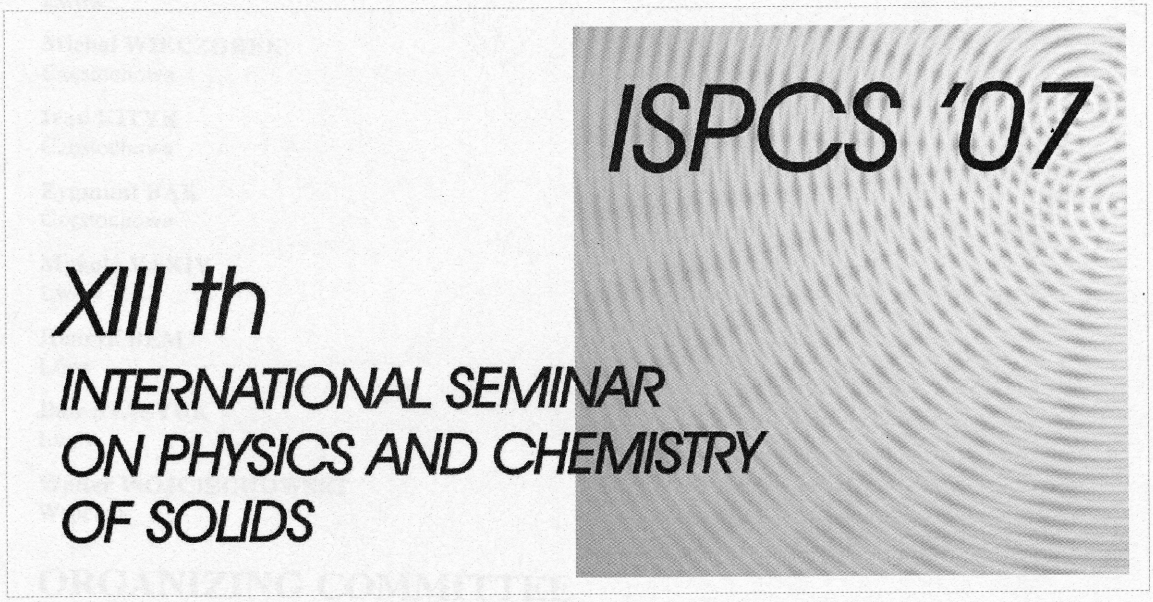

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INFLUENCE OF THICKNESS AND CONDITIONS OF PRECIPITATION ON ELECTROPHYSICAL PROPERTIES OF INTERMETALLIC COMPOUNDS FILMS

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Influence of thickness and conditions of precipitation on electrophysical properties was explored on films of Gd-Fe binary compounds. These films obtained of a thermal vacuum evaporation of a polycrystal charge of the respective composition. Thickness of films determined the optical interferometer (100-200 nanometers). The temperature of substrates carriers changed in limits 300-500 K. As a result of the carried out examinations it set, that value of an electrical conduction, a temperature coefficient of resistance and a thermoelectromotive force is influenced with many factors. Among them thickness of films, a procedure of deriving and temperature of a substrate. Temperature annealing of films after deriving, and also their time stand-up under equal requirements during 1-3 years do not give in essential changes of electrophysical properties. This fact specifies that character of phenomena of scattering in explored films remains invariable. In our case the electrical conductivity of amorphous films was determined by three views of a dispersion of carriers of current: electron-phonon a dispersion, influence of size effects (thickness of a film becomes one order with a free length of electrons) and a dispersion of carriers on borders of grains. (in particular that fact which at different mode of deposition were gained amorphous, amorphous-crystalline or polycrystalline films).