**THE EFFECT OF RELAXATION IN THERMOPHYSICAL PROPERTIES OF METALS AND ALLOYS**

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As is known, defects of a crystal lattice of metals and alloys in the form of thermal vacancies in the temperature range of (0.6-1) *T*m (zone of prefusion) contribute in thermophysical properties: a specific heat, enthalpy, thermal expansion, electroresistance, temperature factor of electroresistance, thermal diffusivity, positron annihilation, noise of an electric current, etc. The contribution of vacancies in thermophysical properties of metals and concentration of vacancies with growth of temperature are increased exponentially. At temperature of fusion the contribution of vacancies in a specific heat of tungsten reaches 40 %. However, relaxation times of formation of vacancies and their dependence on various factors are studied insufficiently. Various methods of research of temperature dependence of times of a relaxation of formation of vacancies, beginning from a known method of annealing superfluous vacancies after their quenching at high temperatures and up to original methods in which are used dependence of parameters of positron annihilations and noise of an electric current from concentration of vacancies are adduced and analyzed. On the basis of available experimental data temperature dependence of times of a relaxation for some metals and times of a relaxation by temperature of fusion of metals is estimated. The experimental data of an influence of speed of volumetric heating of the titanium in the prefusion zone on the contribution of vacancies in specific heat, when time of fast heating is congruous with time of relaxations of vacancies are resulted.

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