

Problems of nanomaterial sciences and some ways of their solution

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Abstract

The classification of nano-structured materials has been proposed, some types of "size-quality" relations, as well as the conditions under which the appearance of nano-effect (NE) is possible at the point of equilibrium and far from it have been considered. The question of origin and role of clusters at the NE appearance has been raised. The experimentally-observed examples and their influence on the organization of arbitrarily proceeding phase transformation in conditions of NE realization have been shown.