

When considering phase transitions between aggregate states of matter, a phenomenological consideration is usually used. It is based on the application of the order parameter. For transitions from liquids to gases such a consideration is permissible. But when considering crystal-liquid transitions, one cannot ignore the quantum nature of interatomic interactions. These interactions are determined by electronic subsystem. Consistent (in the quantum sense) accountancy for this subsystem makes it possible to clarify not only the physical nature of the crystal-liquid or liquid-gas transition, but also to clarify the physical nature of the order parameter and its temperature dependence.