Description of isomorphous transformations in materials with various kinds of molecular disorder.

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Streszczenie

The Landau-type expansion of the free energy density function up to the eighth order with respect to the order parameter is used to describe the specific heat in structural transformations, where the symmetry does not change. This model implies three generic scenarios of phase transitions: (i) single discontinuous; (ii) one discontinuous (isomorphous) and one continuous (symmetry breaking transition); (iii) two continuous (the first transformation-like anomaly with no symmetry change, the second – symmetry breaking transition), depending on the value of the only negative coefficient of the sixth order. The specific heat data in MAPCB, 2,2-DM-1-B, 3,3-DM-2-B and 3TCB are analysed within proposed theory.

Słowa kluczowe

isomorphous transformation, specific heat, effective exponent, first-order phase transition, second-order phase transition

Adres publiczny

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