

THE MECHANISM OF MELTING OF LAMELLAR CRYSTALS WITH BRANCHED CHAINS

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S u m m a r y

A model of a lamellar crystal with branched chains, which contains specific defects, namely supervacancies, has been proposed. The latter are voids, the longitudinal size of which is equal to the chain length, and the transverse one to the interchain distance. An expression for the free energy of the crystal has been obtained in the framework of this model. Melting was considered as a result of the growth of the number of supervacancies. A conclusion about the emergence of a mesomorphic phase in the course of melting has been drawn. Melting has been shown to include the “crystal–mesomorphic phase” and “mesomorphic phase–melt” stages.