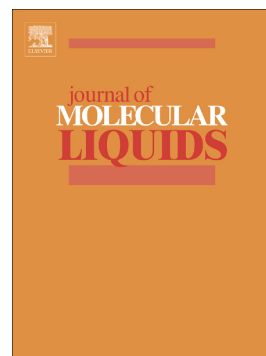


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Critical behavior of isotropic to smectic-A phase transition under confinement condition

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Abstract

Critical behavior of the isotropic to smectic-A phase transition under confinement condition is studied within Landau-de Gennes theory. The phase boundary, stability limits, and location of the critical point of the isotropic to smectic-A (I-SmA) phase transition under confinement condition are discussed extensively. The influence of quenched disorder on the I-SmA phase transition is discussed followed by the topological phase diagrams. The theoretical predictions satisfactorily explain the nature of the I-SmA transition under confinement.

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