



سمینار هفتگی گروه ماده چگال نرم

Colloidal particle with planar anchoring in nematic liquid crystal

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The colloidal particles distort the orientation of nematic molecules because of their anchoring at the surface of particles. These distortions form defects around of the colloidal particles and also induce complex elastic interactions among them. The spatial structure of defects critically depend on the size of the particle, the anchoring strength and orientation of nematic components at the surface of particle. Many theoretical and numerical studies have done on colloidal particles with homeotropic anchoring (that the director is normal of the particle surface) to consider different structure of defects and particle-particle interaction in a nematic liquid crystal. Contrary to homeotropic anchoring that the director has a unique orientation at the surface of particle, in the planar anchoring, the preferred orientation on the particle is not unique and so the director has degenerate configurations on the surface. We consider the colloid particles behavior with proper planar potential in the nematic liquid crystal.

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