
Nematic colloids and defects

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Abstract

In nematic liquid crystals, molecules tend to align in a common direction. This long-range orientational order is very sensitive to inclusion of foreign particles, which create topological defects – inducing fascinating self-assembly phenomena. The size of particles, and the anchoring at their surface, have a crucial influence on the type of colloidal interactions thus enforced. In a joint work with S. Alama and L. Bronsard we use Landau-de Gennes theory to give an accurate description of the defects created by a single spherical particle, depending on size and anchoring.

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