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Spatial Onsager Model for nematics.

We study a spatially extended Onsager-Maier-Saupe type of energy describing spatial variations of orientational ordering in nematic liquid crystals and show that it may be decomposed into Landau-deGennes-type and relative entropy-type contributions. Based on this decomposition we obtain the information about singularities of a liquid crystalline system.

This is joint work with Ibrahim Fatkullin.