An introduction to the mathematics of liquid crystals

Hörsaal 0.001 im Zentralen Hörsaal- und Seminargebäude

Inhaltsangabe.

Liquid crystals represent a vast and diverse class of materials which are intermediate between isotropic liquids and crystalline solids. The lecture will give an introduction to these fascinating materials and what mathematics, in particular the calculus of variations and partial differential equations, can say about them. A particular problem involving eigenvalue constraints on the order parameter tensor in the Landau - de Gennes theory will be described in more detail, and an analogy drawn with a corresponding unsolved problem of nonlinear elasticity.