

A variational model for two-dimensional ferronematics - Part I

jeudi 27 novembre 2025 09:20 (45 minutes)

This talk is the first of two parts, presented jointly with Federico Luigi Dipasquale. Ferronematics are composite materials characterised by the coupling between magnetic particles and nematic liquid crystals. In these talks, we will present some results on a two-dimensional model for ferronematics in confined geometries. The model is based on the coupling between a polar order parameter –the magnetisation vector, which describes the magnetic inclusions - and a nonpolar one - the Landau-de Gennes Q-tensor, which describes the liquid crystal matrix. In this first talk, we will introduce the model and discuss the qualitative behaviour of free-energy minimisers in some asymptotic regime of parameters, where both point and line singularities appear. This talk is based on a joint work with G.Canevari, A. Majumdar and Y. Wang.

Orateur: STROFFOLINI, Bianca (Naples)