

Seminario de análisis matemático y aplicaciones
Analisi matematikoa eta aplikazioak mintegia

Variational problems for Laplacian
interface models in $(1 + 1)$ dimensions

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ABSTRACT: We obtain variational problems for the free energy of a Laplacian interface model which is a Hamiltonian system with a bi-Laplacian operator. We study scaling limits and the corresponding large deviation principles perturbed by an attractive force towards the origin to complete the microscopic-macroscopic transition. In particular we analyse the critical situation that the rate functions admit more than one minimiser leading to concentration of measure problems. The interface models are a class of linear chain models with Laplacian interaction and appear naturally in the physical literature in the context of semi-flexible polymers. We discuss these connections as well as the ones with the related gradient models. These random fields are a class of model systems arising in the studies of random interfaces, critical phenomena, random geometry, field theory, and elasticity theory.

LUGAR / LEKUA:

Sala de seminarios de la sección de matemáticas
Matematika ataleko mintegi gela

DÍA Y HORA / EGUNA ETA ORDUA:

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