

Fractional multiphase transitions & nonlocal minimal partitions: closed and open questions

Thursday, June 27, 2024 2:00 PM (1 hour)

I will present a convergence result for solutions of Allen-Cahn type systems with a multiple-well potential involving the usual fractional Laplacian in the regime of the so-called nonlocal minimal surfaces.

In the singular limit, solutions converge in a certain sense to stationary points of a nonlocal (or fractional) energy for partitions of the domain with (in general) non homogeneous surface tensions.

Then I will present partially regularity results and open questions concerning the limiting problem underlying the new features compared to classical minimal partition problems. This talk is based on joint works with Thomas Gabard.

Presenter: MILLOT, Vincent (Université Paris-Est Créteil)