

Questions of crystallization in Coulomb systems

Sylvia Serfaty

Laboratoire Jacques-Louis Lions, UPMC Univ Paris 06

We are interested in the statistical mechanics of (classical) two-dimensional Coulomb gases and one-dimensional log gases in a confining potential. We connect the Hamiltonian to the "renormalized energy", a way to compute the total Coulomb interaction of an infinite jellium, which originates in the analysis of vortices in the Ginzburg-Landau model, and whose minimum is expected to be achieved by lattice configurations.