

Review of some problems related to Ginzburg-Landau energy

Rejeb Hadiji

University Paris-Est Créteil, UPEC

hadiji@u-pec.fr

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Abstract

The complex Ginzburg-Landau equation describes a vast variety of phenomena as second-order phase transitions, superconductivity, superfluidity, Bose-Einstein condensation and liquid crystals.

After a short introduction to the standard complex Ginzburg-Landau equation, I will review some of its important variants such the presence of a weight. I will describe also a theoretical problem linked to some particular potentials for the Ginzburg-Landau energy.