Singularities in PDE *and the calculus of variations*
Singularités en EDP et dans le calcul des variations
17–21 *july*/juillet, 2006
• ATELIER •

Gamma limit of the Chern–Simons–Higgs energy

Daniel P. Spirn
spirn@math.umn.edu
Department of Mathematics
University of Minnesota
Vincent Hall 112b
Minneapolis, MN 55455
USA

Abstract

The Chern–Simons–Higgs energy serves as a model for superconductivity; however, there are substantial differences with the more standard Ginzburg–Landau energy. For example a vortex contains both quantized magnetic and electrical charge. We study the CSH energy in the strongly nonself-dual regime and establish the critical field strength for the nucleation of a topological vortex.

This is joint work with *Matthias Kurzke*.