

Meeting: 1000, Albuquerque, New Mexico, SS 11A, Special Session on Nonlinear Partial Differential Equations Applied to Materials Science

1000-35-153 **Alberto Montero*** (monteroj@math.mcmaster.ca), Hamilton, Ontario L8S 1J1, Canada. *Stable vortex Solutions to the Ginzburg-Landau Energy.*

We study some aspects of the G-L energy using weak Jacobians as developed by Jerrard and Sonner. In particular we find local minimizers of this energy as well as an explicit estimate for the strength of the applied field at which vortices first appear in a spherical superconducting sample. (Received August 23, 2004)