Physics 562: Statistical Mechanics
Spring 2005, James P. Sethna
Homework 9, due Wednesday April 6
Latest revision: February 20, 2005

Reading
Order Parameters, Broken Symmetry, and Topology: Ch. 9

Problems (from Draft text)

9.1 Topological Defects in the XY Model.
9.2 Topological Defects in Nematic Liquid Crystals.
9.3 Defect Energetics and Total Divergence Terms.
9.4 Superfluid Order and Vortices.
9.5 Landau Theory for the Ising Model.
9.6 Bloch Walls in Magnets.
9.7 Superfluid Density Matrices and Off-Diagonal Long-Range Order. (Optional).