Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Critical fluctuations in N-component superconductor models
LORENZ BARTOSCH, Frankfurt University — Inspired by recent conflicting views on the order of the phase transition from an antiferromagnetic Néel state to a spin liquid or valence bond solid, we use the functional renormalization group to reconsider the N-component superconductor models, in which a dynamic gauge field is minimally coupled to N bosonic complex fields. In contrast to previous work, we only expand in covariant derivatives and use a truncation in which the full field dependence of all wave-function renormalization functions is kept. As a consequence, we find non-trivial RG fixed points for all positive integer N.

Lorenz Bartosch
Frankfurt University

Date submitted: 08 Nov 2012 Electronic form version 1.4