
FIONA GOTTSCHALK, Technische Universität Braunschweig
Infrared Bounds for Ferromagnetic Models without Translation Invariance

Subject of our considerations are the infrared bounds established by Fröhlich, Simon, and Spencer in 1976 for classical statistical mechanical lattice systems with a continuous symmetry. These bounds imply the existence of a phase transition at sufficiently low temperature in three or more spatial dimensions.

Instead of using reflection positivity, we reproduce and generalize the result by means of the Helffer-Sjöstrand Formula and the Witten Laplacian, allowing for weaker assumptions on translation invariance. This is joint work with V. Bach.