The Witten Laplacian and Infrared Bounds

Volker Bach[*1]

[1]Brunswick – Germany

Abstract

In a seminal paper [Commun. Math. Phys. 1976], Fŕohlich, Simon, and Spencer derived infrared bounds for classical statistical mechanical lattice systems with a continuous symmetry that imply the existence of a phase transition at sufficiently low temperature in d> =3 spatial dimensions. We also derive such infrared bounds, but without assuming translation invariance and without using reflection positivity. Instead, we use the Witten Laplacian and the Helffer-Sj́ostrand Formula. This is joint work with Fiona Gottschalk.

[*]Speaker