

Stochastic Representation of the Ground States for the Mean Field Models with a Transverse Component

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We give an asymptotic description of the low lying spectrum of the Hamiltonian of the mean-field models with a transverse component using the stochastic representation. In particular, we are able to describe the ground state of the model.

The general spin- s model in transverse field will be presented together with its stochastic representation as an example of the mean-field model with a transverse component. Finally, we will derive exact results for the spin- $1/2$ (Curie-Weiss) model in transverse field.