

Conformal Field Theories

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1. Conformal field theories

- Conformal field theories in D dimensions
- Conformal field theories in 2 dimensions

2. The Ising model

- The Ising Hamiltonian
- The Ising model as a conformal field theory
- The Ising model in 2 dimensions
- Conformal bootstrap and the Ising model in 3 dimensions

3. Conformal perturbation theory

- Correlation functions
- Conformal perturbation theory and OPE coefficients
- Vacuum expectation values
- The OPE coefficients are infrared finite to all order in the coupling constant
- A first example: the scalar Gaussian model in 3 dimensions
- The Ising model in 2 dimensions perturbed by σ
- The Ising model in 2 dimensions perturbed by ε
- The Ising model in 3 dimensions perturbed by σ
- The Ising model in 3 dimensions perturbed by ε