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【845】Monte Carlo Renormalization Group study of dipolar coupled XY spins

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In contrast to well-known models such as the Heisenberg model, which just incorporate the notion of the nearest neighbour, the anisotropic dipolar interaction directly depends on the geometry of the lattice and therefore its symmetries. These symmetries should be reflected by the properties of a possible phase transition in that system. To study these effects we employ the Monte Carlo Renormalization Group technique since this method can provide precise estimates of the critical exponents. We will show our latest results for the 2D XY dipolar interacting square lattice and other related systems.

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