

Poster-1-7**Connecting the 2D Ising, Heisenberg and XY magnets**

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We study the classical ferromagnetic Heisenberg model with single spin anisotropy in two dimensions. While the 2d Heisenberg model does not order at any finite temperature, it is known that for strong easy-axis anisotropy we recover the Ising model with a second-order phase transition. The other limit, strong easy-plane anisotropy, yields an XY model with a topological BKT transition. Using Monte Carlo simulations we interpolate between these limits, showing how the Ising, Heisenberg and XY cases are connected: in particular, we focus on how the critical behavior fundamentally changes as we tune the anisotropy.