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**Phase diagram of easy-plane deformations of SU(N) magnets**[1]
JONATHAN DEMIDIO, RIBHU K. KAUL, University of Kentucky — We consider Hamiltonians of SU($N$) quantum magnets with easy-plane deformations, leaving a U(1) rotation symmetry about each of the $N-1$ diagonal generators and a discrete $Z_N$ symmetry. For $N=2$ our model reduces to the XY model and can hence be considered as a larger-$N$ generalization of this well-studied model. We present numerical data from quantum Monte Carlo simulations which allows us to map the phase diagram of these models as a function of $N$, including both two-spin and four-spin interactions.

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