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Quantum Fidelity and Fidelity Susceptibility of the Spatially Anisotropic Triangular Heisenberg Model MISCHA THESBERG, ERIK S. SORENSEN, McMaster University — The phase diagram of the spin-1/2 antiferromagnetic Heisenberg model on a triangular lattice is studied. Anisotropy is introduced through the diagonal exchange constant J' differing from the intrachain exchange constant J. Previous work on this model has suggested a competition between two (three if second-nearest neighbour interactions are considered) ground state orderings. We use numerical exact diagonalization techniques to investigate the proposed phases by studying the quantum fidelity and fidelity susceptibility as a function of the anisotropy.

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