Abstract Submitted
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The phase diagram of the XXZ model and the extended Hubbard model on the triangular lattice[1] SEBASTIAN EGGERT, XUE-FENG ZHANG, DANIEL SELLMANN, Univ. of Kaiserslautern, Germany, CLAUDIUS GROS, LUCA TOCCHIO, Univ. of Frankfurt, Germany — The Heisenberg model on the triangular lattice was proposed as the first example of a spin-liquid by Anderson in the early 70's. Even though the isotropic Heisenberg model is by now well understood and known *not* to be a spin-liquid in the modern sense, so far the full phase diagram of the xxz model on the triangular lattice has received little attention. We now present DMRG calculations on order parameters and entanglement measures in order to establish the quantitative phase diagram as a function of both field and Ising anisotropy. We then also discuss the effect of introducing spin and charge degrees of freedom by considering the extended Hubbard model on the triangular lattice as a function of filling. In this case there is a very rich phase diagram with several different phases, where a stable charge order coexists with conducting behavior.

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