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Critical exponents in a transition between an AFM and a valence bond crystal SAMUEL MOUKOURI, University of Michigan, Physics Dept. and Center for Theoretical Physics, KENNETH GRAHAM, University of Michigan, Physics Dept. — We use the two-step density-matrix renormalization group method to extract the critical exponents β and ν in the transition from a Néel $Q = (\pi, \pi)$ phase to a magnetically disordered phase with a spin gap. We find that the exponent β computed from the magnetic side of the transition is consistent with that of the classical Heisenberg model, but not the exponent $z\nu$ computed from the disordered side. We also show the contrast between integer and half-integer spin cases.

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