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Supersymmetric integrable perturbations on the lattice LIZA HUIJSE, Stanford University, CHRISTIAN HAGENDORF, UC Louvain, THESSA FOKKEMA, University of Amsterdam — We study a supersymmetric model that describes the multicritical point where a Kosterlitz-Thouless and Ising transition coincide. The model is integrable at the multicritical point (Fendley, Nienhuis, Schoutens, 2003). We expand this result by identifying a line in parameter space that intersects with the multicritical point for which the model is Bethe Ansatz solvable. We show that this is a lattice realization of a well-known supersymmetric integrable perturbation of the field theory describing the multicritical point. We discuss how supersymmetry manifests itself in the Bethe equations and the consequences of dynamical supersymmetry on scaling functions.

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