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The critical Ising model on an affine plane

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For the 2d Ising model on a triangular lattice, we determine the exact values of the three critical coupling coefficients which restore conformal invariance in the continuum limit as a function of an affine transformation of the triangle geometry. On a torus with a non-trivial modular parameter, we present numerical results showing agreement with the exact CFT solution. Finally, we discuss how this method may be applied to simulate the critical Ising model on curved 2d simplicial manifolds.

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