

Abstract Submitted
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Dynamic Algorithms for Transition Matrix Generation¹ DAVID YEVICK, YONG HWAN LEE, University of Waterloo — The methods of [D. Yevick, Int. J. Mod. Phys. C, 1650041] for constructing transition matrices are applied to the two dimensional Ising model. Decreasing the system temperature during the acquisition of the matrix elements yields a reasonably precise specific heat curve for a 32x32 spin system for a limited number (50-100M) of realizations. If the system is instead evolved to first higher and then lower energies within a restricted interval that is steadily displaced in energy as the computation proceeds, a modification which permits backward displacements up to a certain lower bound for each forward step ensures acceptable accuracy. Additional constraints on the transition rule are also investigated.

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