

Abstract Submitted
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Domain Growth Law Violations in a Compressible 2D Ising Model¹ MATTHEW WRIGHT, Brigham Young University — We carry out Monte Carlo studies of a compressible two-dimensional spin-exchange Ising model, varying the Hamiltonian to imitate the “unmixing” of different phase-separating binary alloys. The Ising model is frequently used to model the dynamics of binary alloys or magnetic materials by simulating annealing. Normally, the domain growth law is of the form $R(t) = A + B t^n$. It has been found that the expected value of $n = 1/3$ does not hold for models where elements with differing atomic sizes are mixed together. We discuss the implications of these results on real alloys.

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