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**Non-constant nucleation rate in a system in apparent metastable equilibrium** HUI WANG, HARVEY GOULD, Clark University, KIPTON BARROS, AARON SCHWEIGER, BILL KLEIN, Boston University — The distribution of nucleation times for the two-dimensional Ising model with nearest-neighbor and with long-range interactions is simulated using the Metropolis algorithm. The distribution is exponential at long times as would be expected if the nucleation rate is a constant, but is suppressed at earlier times even after the mean magnetization is apparently in metastable equilibrium. We explain this discrepancy by investigating the relaxation behavior of the clusters whose size is comparable to the nucleating droplet.

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