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## Testing nucleation calculations for strong phase transitions

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Accurate calculations of the nucleation rate  $\Gamma$  for first order phase transitions are important for determining their observable consequences in particle physics and cosmology. Perturbative calculations are often used, but they are incomplete and should be tested against fully nonperturbative lattice simulations. We simulate nucleation on the lattice in a scalar field theory with a tree-level barrier, a scenario which should be well described by perturbation theory. Our computation of the nucleation rate, however, only shows qualitative agreement with the perturbative result. This motivates further study of nucleation on the lattice and to higher orders in perturbation theory.

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