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B6: Density of states for gravitational waves

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We present the application of a Wang-Landau type algorithm to a pure-gauge SU(4) model on the lattice, with the aim to calculate the gravitational wave signature of the SU(4) pure-gauge content of a composite Dark Matter model.

Due to the first order phase transition of the SU(4) model, two phases coexist at the critical temperature and for larger lattice sizes the chances of tunnelling between lattice configurations of these phases becomes less and less likely when using standard algorithms. One way around this problem is calculating the density of states directly, which we do using the Logarithmic Linear Relaxation method.

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