

## **Wang-Landau method and coarse-graining energy spectrum**

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We investigate influence of the energy spectrum partitioning on the accuracy of the Wang-Landau method. We transformed energy spectrum of one-dimensional and two-dimensional Ising model by combining 2, 4, 8 and 16 energy levels into one bin. We use exact results for the construction of the modified density of states. We found non-monotone behavior of the deviation of energy and heat capacity at high temperatures. Large level of coarse-graining leads to the large deviations and oscillations of the estimated quantities. Our results may be useful for the choose of the bin size in the simulation of the models with continuous energy spectrum.