

2D Ising model

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January 23, 2023

1 SIMULATION PARAMETERS

For the grid with a length $n = 16$ we have made $N_{INDEP} = 1000$ independent simulations, for grids $n = 32$ and $n = 64$ we used just $N_{INDEP} = 200$. In each case we used $N_{TSWEEP} = 50$ swipes for thermalization and $N_{SWEEP} = 500$ swipes for simulation, updating tracked data after each swipe after thermalization.

2 RESULTS

The best estimation of critical temperature T_c corresponding to the maximum of specific heat in 2.4 is:

$$T_c = 2.307 \text{ K.}$$

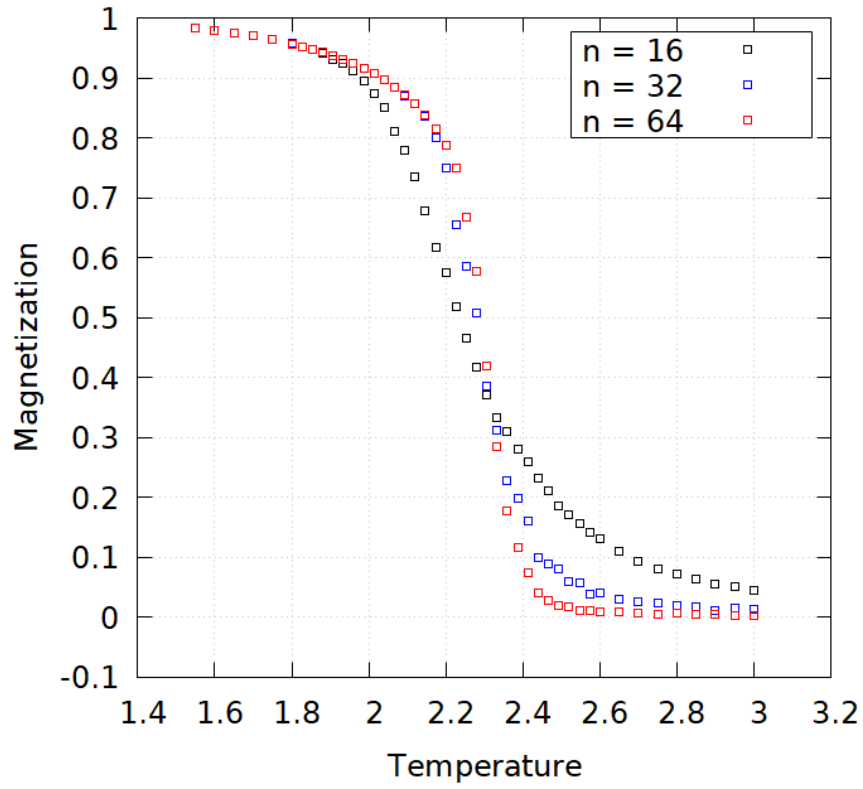


Figure 2.1: Magnetization in dependence on temperature.

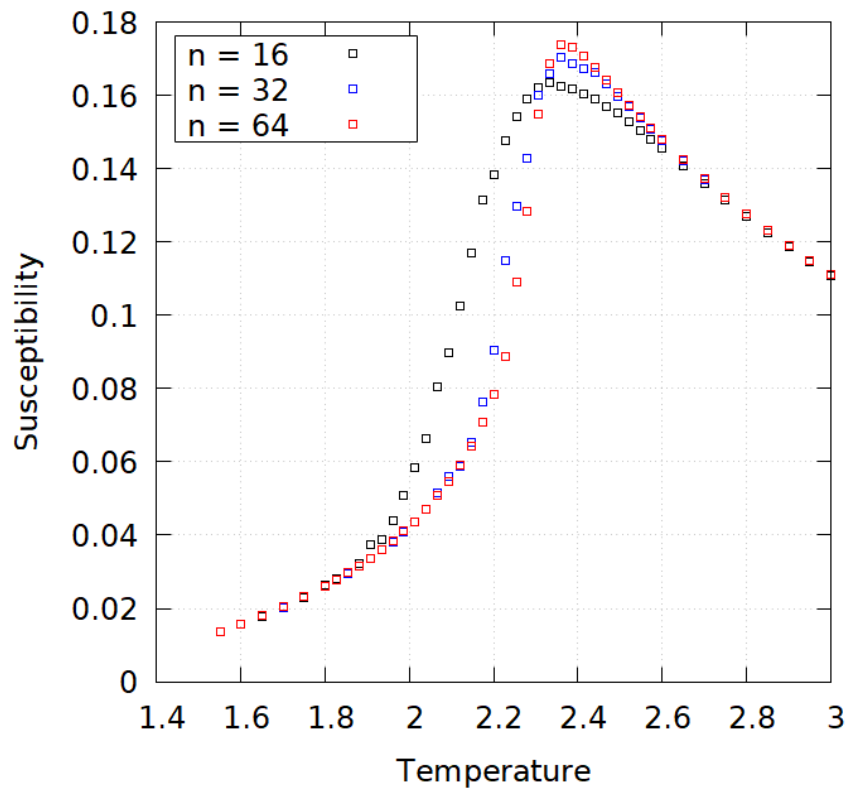


Figure 2.2: Magnetic susceptibility in dependence on temperature.

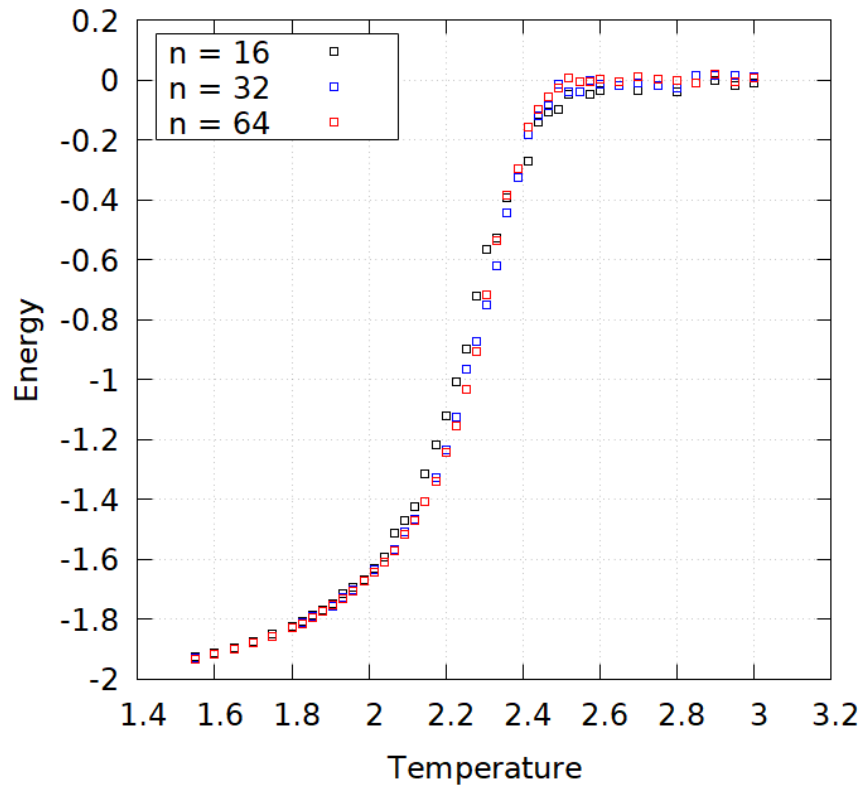


Figure 2.3: Internal energy in dependence on temperature.

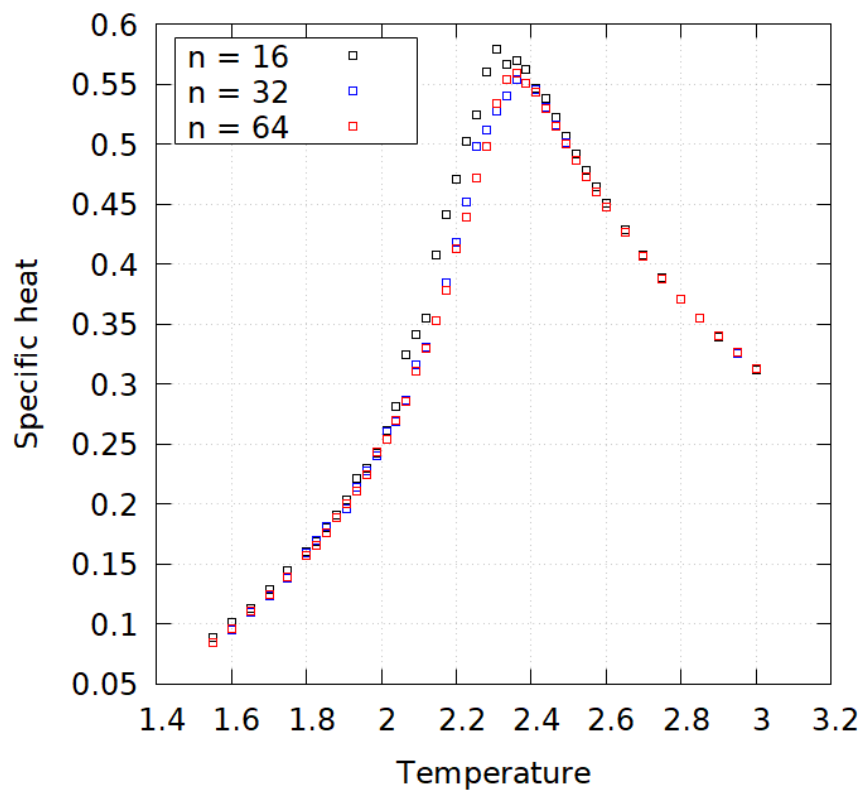


Figure 2.4: Specific heat in dependence on temperature.