Computational Physics - PHYS 410/510
Spring 2020

Department of Physics - Northern Illinois University
Prof. Andreas Glatz
www.aglatz.net/teaching/compphys_S2020

Final Project 2

due *2020-04-30*

Info	final project presentation: **Thursday, April 30, 2020**, *11:00* (tentative) Presentation and codes should be mailed to: aglatz@niu.edu (see also website).

The final project consists of writing the equations of motion or Hamiltonian, their discretization or in the Monte-Carlo case the acceptance probability, implementing the code, defining appropriate initial conditions, and running the code. This process and the results should be presented in a 10-15 minutes talk.

I. 3D ISING MODEL

Implement the Metropolis algorithm for the 3D Ising model (size should be $\sim 20^3$, with periodic boundary conditions) and reproduce the critical exponents at the phase transition - see lecture. The procedure should be similar to the one for homework 6.