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**STUDY OF TWO DIMENSIONAL ISING MODEL BY MONTE CARLO
SIMULATION**

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ABSTRACT

Many experimental systems, such as magnets, alloys and adsorbates, can be described quantitatively using Ising Model. This project studied the two dimensional Ising Model by Monte Carlo simulation. It began with preparation GNU Fortran 77 compiler in the environment of Microsoft Windows. The function of the source code in each subroutine in Jian-Shen Wang's simulation program has been studied and the energy per site and magnetization has compared using replica temperature with different lattice sizes. Outputs data have been plotted and results been analyzed. All results obtained using the simulation program are compared to theory issued in the literature and obey the stipulation of the Ising model and theory magnetism. All the outputs results show that spontaneous magnetization exists and the larger area the effect is more drastic.