Project 4
Studies of phase transition in magnetic systems

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I. INTRODUCTION

II. METHODS AND THEORY

We want to study the a 2 dimensional ferromagnetic system through the Ising model, specifically in phase transitions. The system we're studying has an energy

$$E = -J \sum_{<kl>}^{N} s_k \, s_l$$

In which the "$< kl >$" signifies summing over neighbouring spots in the lattice only. $s_k = \pm 1$, N is the total number of spins in the latice. J is a coupling constant and, as we are currently investigating ferromagnetic elements, $J > 0$.

$$\Delta E = 2Js_l^1 \sum_{<k>}^{N} s_k$$

III. RESULTS AND DISCUSSION

IV. CONCLUSION

V. APPENDIX