Ibraheem Faisal Al-Yousef

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INTRODUCTION

I am a keen physics student, interested in condensed matter theory, and computational physics. I am passionate to learn, and a fast learner. I enjoy teaching, a skill that I have developed during my undergrad experience at King Fahd University of Petroleum and Minerals.

EDUCATION

B.S. in Physics, KFUPM, expected to graduate in Spring 2022.

RESEARCH EXPERIENCE

Currently working with Prof. Bahlouli and Prof. Alhaidari in implementing an alternative formulation of quantum mechanics without dealing with potential functions, check. My work is mainly focused on verifying numerical solutions and corresponding visualizations.

Working on Jordan-Wigner transformations in condensed matter theory. Specifically, using Jordan-Wigner transformation to exactly solve extended Kitaev honeycomb model.

COMPUTATIONAL SKILLS & EXPERIENCE

Done multiple numerical projects including quantum and classical physics using Mathematica. Mainly on symbolic calculations, derivations, and visualizations.

Scored an **A** in "Computational Chemistry" a course which has given me hands-on experience in calculating atomic and molecular properties using a variety of quantum and classical methods including Hartree-Fock, Monte Carlo, and DFT.

Competent in Mathematica, Python and LaTeX.

WORK EXPERIENCE

Worked as a part-time job grader for PHYS102. This work experience has further enriched my knowledge in physics and exposed me to some common mistakes in physics.

PROFESSIONAL CERTIFICATIONS

- Data Analysis Using Python
- Introduction to LabVIEW Programming

REFERENCES

References are available on request