Accurate variational Quantum Eigensolvers

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Three Month Report

Abstract

Put your abstract or summary here, if your university requires it.

Contents

List of Figures

List of Tables

LIST OF TABLES

1

Project Proposal

One of the proposed powerful applications for near-term quantum computers is to address problems in quantum simulation of molecular structures and condensed matter physics problems, which currently stretch the limits of existing high-performance computing infrastructure[1].

1. PROJECT PROPOSAL

2

Superconducting Qubits

2.1 Quantum Information

Figure 2.1: Bloch Sphere visualisation of a single qubit state.

2.2 Superconducting Qubits

0.5

Figure 2.2: Effective Circuit for the transmon qubit

0.5

Figure 2.3: Energy levels for the transmon qubit for

$$\frac{E_J}{E_C} = ?$$

found by simulation.

2.2.1 Circuit Quantum Electrodynamics

2.2.2 Single and Two qubit gates

2.2.3 Readout

2.2.4 Noise

Figure 2.4: The transmission profile of the resonator is shifted to one of two peaks conditioned on the states of the qubit.

3

Quantum Simulations with Superconducting Qubits

3.1 Introduction

3.2 Hydrogen Hamiltonian

Figure 3.1: A Flowchart depicting the steps used in mapping Real Space Molecular Hamiltonian on to Qubit Hilbert space.

Figure 3.2: The dissociation curve for Hydrogen molecule.

3.3 Variational Quantum Eigensolvers

Figure 3.3: Hardware and software schematic of the variational quantum eigensolver.

4

State preparation Ansatze

4.1 Hardware oriented Ansatz

4.2 Six parameter circuit

Figure 4.1: a. Quantum circuit for the six-parameter Ansatz b. Plot of Converged Energies(Hartree) across interatomic distances.

4.3 Six parameter circuit

Figure 4.2: a. Converged Parameters across interatomic distances b. Plot of Concurrence of the converged state across interatomic distances.

4.4 Particle number conserving circuit

Figure 4.3: a. Quantum circuit for the particle number conserving Ansatz b. Plot of Converged Energies(Hartree) across interatomic distances.

Figure 4.4: a. Converged Parameters across interatomic distances b. Plot of Concurrence of the converged state across interatomic distances.

Figure 4.5: a. Landscape accesible to the optimizer, Energy as a function of θ_1 and θ_2. b. Zoom in of the landscape showing converged ground state energy.

5

Error Signalling Circuit

6

Active Error minimization

6.1 Limitations of Simulations

7

Outlook

7.1 Experience Gained

7.1.1 Oscilloscope Driver

7.1.2 Quantum State Tomography

7.1.3 Miscellaneous

7.2 Experience Necessary

8

Materials & methods