A Brief introduction to Quantum Computing from the Perspective of Ladder Logic

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May 29, 2018

Abstract

Insert Better Version of introduction here. Didn't Like the original one.

Keywords: Quantum, QISKit, Computing, Ladder, Logic, QASM, Introduction

1 Introduction 5 lines to max 1/2 page

This section is for context. The how, and why. From here on out, if I refer to a theory that isn't common knowledge, cite the source. [1].

2 Background Concepts

This section is not meant to be an exhaustive list, but, in my personal experience, learning about the background concepts below will greatly assist a person's ability to better understand quantum computing. The following sections will provide a brief explanation of the concepts.

2.1 Balanced Ternary

insert balanced ternary section here along with comparison table.

Use the table and tabular commands for basic tables — see Table 1, for example.

2.2 Reversible Logic Gates

Talk about why reversible logic gates are important to quantum computing, a bit of the history, etc.

Decimal	Binary (IEEE 754*)	Balanced Ternary
0	0	0
3	11	10
5	101	+ 0 -
-254	11000011011111100000000000000000*	- 0 0 - + -

Table 1: comparison table showing equivalent numbers in different display forms

3 Theory 2-3 pages

4 Experiment 1-2 pages

5 Results and interpretation 2-3 pages

Show a graph of the longitudinal resistivity (ρ_{xx}) and Hall resistivity (ρ_{xy}) versus magnetic field, extracted from the raw data shown in figure **??**. You will have the link to the data in your absalon messages, if not e-mail Guen (guen@nbi.dk). Explain how you calculated these values, and refer to the theory.

6 Discussion 1/2-1 page

Discuss your results. Compare the two values of n_s that you've found in the previous section. Compare your results with literature and comment on the difference. If you didn't know the value of the resistance quantum, would you be able to deduce it from your measurements? If yes/no, why?

References

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[3] O'Donnell, Ryan. Wright, John. *"Quantum Computation and Information".* Carnegie Mellon University, 2015, 15-859BB, https://www.cs.cmu.edu/ odonnell/quantum15/

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[6] Wooten, James. *"Using a Simple Puzzle Game to Benchmark Quantum Computers".* Medium, January 16 2018. https://medium.com/@decodoku/understanding-quantum-computers-through-a-simple-puzzle-game-a290dde89fb2

[7] Gidney, Craig. *"Algorithmic Assertions"* Google AI, http://algassert.com/. Accessed: May 29, 2018

For extended reading list, consult source code, available at:
https://www.github.com/Macrofarad/ABriefIntroductionToQuantumComputingFromThePerspectiveOfLadderLogic