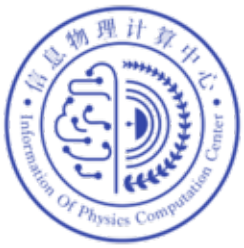


IFCC
信息物理计算中心

Quantum Generative Adversarial Network with Noise

Project Name: Quantum Generative Adversarial Network with Noise

Project member:

Yiming Huang
Zhili Chen
Wanghao Ren

Dodument Type: Report

Project Start Time: 11/01/2017

Sourcecode Version: 0.0.1

Keywords: Variational Quantum Circuit, Machine Learning

Modify May 10, 2020

Submitted by:

XXX

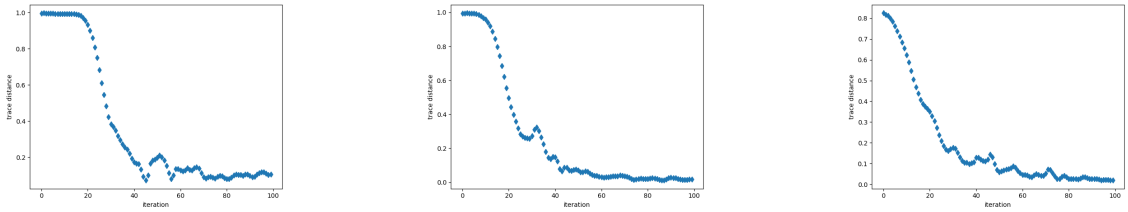
Contents

1 Experiment

I added flip noise and depolarization noise. The test was performed 100 times without noise, with flip noise or depolarization noise (the probability of noise is 0.4).

2 Results

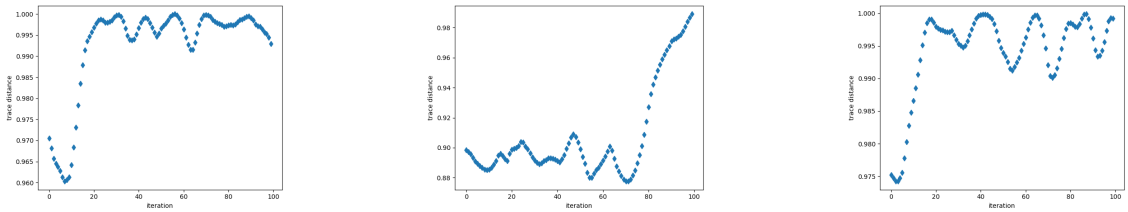
The curves for obtaining fidelity are as follows.
All circuit depths are 2, 3 qubits



(a) without noise (b) with flip noise (c) with depolarized noise

Figure 1

All circuit depths are 1, 3 qubits



(a) without noise (b) with flip noise (c) with depolarized noise

Figure 2

When the circuit depth is 1, the results are not good, there is no difference. When the circuit depth is 2, the results are good, but still no difference.

3 Next Plan

1. Add other noise to test

4 Appendix

A Source Code