

Literature Review on Many-Body Ground States via Quantum Circuits

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1 Introduction

Quantum mechanics has not only revolutionized science and how we think of nature, but more recently ,in the second quantum revolution, it has opened the scene for quantum information. In this project we are interested in approximating many-body quantum systems ground states using quantum computation. Moreover, we are going to compare the quantum algorithm to the classical ones and study its limitations and strengths. We will first