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Juan Arturo Silva-Ordaz* (arturo.silva@quantumworks.io), Tecnológico de Monterrey, Campus Estado de Mexico, Departamento de Computacion, 52926 Atizapan de Zaragoza, EdoMex, Mexico, and **Salvador E Venegas-Andraca** (salvador.venegas-andraca@keble.oxon.org), Tecnológico de Monterrey, Escuela de Ingenieria y Ciencias, Av. Eugenio Garza Sada 2501, Col Tecnológico, 64849 Monterrey, NL, Mexico. *A concise review of digital simulation software platforms of quantum algorithms.*

A central goal in quantum computing is the development of quantum hardware and quantum algorithms in order to analyze challenging scientific and engineering problems. One of the main problems that scientists and engineers face when learning and working on the development of quantum algorithms is the counterintuitive behavior of quantum mechanical systems. For this reason, together with the need to test experimental proposals before implementing them, building powerful classical computer platforms for the simulation of quantum systems is crucial in order to develop intuition about the behavior of quantum systems used for computational purposes, as well as to realize the approximate behavior of practical implementations of quantum algorithms.

In this talk, we present a succinct introduction to the mathematics and computational complexity of quantum algorithm simulation on digital systems. We then proceed to analyze several advanced platforms for digital simulation of quantum algorithms with a strong emphasis on IBM Q platform. (Received August 14, 2018)