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**Parshuram Budhathoki\***, Department of Mathematical Sciences, Cameron University, Lawton, OK. *Efficiency of Quantum Circuits for Multiplication Operation using different algorithms*. Preliminary report.

Theoretically, quantum computers are faster than classical computers. Practically, one of the requirements for the faster quantum computer is efficient quantum circuits for basic mathematical operations, such as multiplication. Efficiency of quantum circuits can be compared by measuring its use of computational time and space. Multiplication is one of the expensive operations in quantum computing. In this presentation, we are going to talk about quantum circuits for the multiplication operation. We will look over different algorithms and their contribution for efficient circuits. (Received September 17, 2019)