



## UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN FACULTAD DE CIENCIAS FÍSICO MATEMÁTICAS

## Aplicaciones de la Mecánica Cuántica Proyecto final: Algoritmo de Shor Carlos Luna

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## Palabras clave:

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- III. MARCO TEÓRICO
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    - V. DISCUSIÓN
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- [1] G. P. Berman, G. D. Doolen, G. V. López, and V. I. Tsifrinovich. Nonresonant effects in the implementation of the quantum Shor algorithm. *Physical Review A Atomic, Molecular, and Optical Physics*, 61(4):7, 2000.
- [2] Edward Gerjuoy. Shor's factoring algorithm and modern cryptography. An illustration of the capabilities inherent in quantum computers. *American Journal of Physics*, 73(6):521–540, 2005.
- [3] F. Ghisi and S. V. Ulyanov. The information role of entanglement and interference operators in Shor quantum algorithm gate dynamics. *Journal of Modern Optics*, 47(12):2079–2090, 2000.
- [4] Daniel Koch, Saahil Patel, Laura Wessing, and Paul M. Alsing. Fundamentals In Quantum Algorithms: A Tutorial Series Using Qiskit Continued. 2020.
- [5] Samuel J. Lomonaco and Louis H. Kauffman. A continuous variable Shor algorithm. pages 97–108, 2005.

- [6] Peter W. Shor. Polynomial-time algorithms for prime factorization and discrete logarithms on a quantum computer. SIAM Journal on Computing, 26(5):1484–1509, 1997.
- [7] Lieven M.K. Vandersypen, Matthias Breyta, Gregory Steffen, Costantino S. Yannoni, Mark H. Sherwood, and Isaac L. Chuang. Experimental realization of Shor's quantum factoring algorithm using nuclear magnetic resonance. *Nature*, 414(6866):883–887, 2001.
- [8] Anocha Yimsiriwattana and Samuel J. Lomonaco Jr. Distributed quantum computing: a distributed Shor algorithm. Quantum Information and Computation II, 5436:360, 2004.
- [9] S. S. Zhou, T. Loke, J. A. Izaac, and J. B. Wang. Quantum Fourier transform in computational basis. Quantum Information Processing, 16(3):1–19, 2017.