Review of: "A Generalized Space-Efficient Algorithm for Quantum Bit String Comparators"

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Potential competing interests: No potential competing interests to declare.

The authors of this paper have conducted a thorough investigation, presenting a generalized design for comparing two n-qubit logic states utilizing only two ancillary bits. The design undergoes scrutiny based on criteria such as qubit requirements, utilization of ancillary bits, quantum cost, quantum delay, gate operations, and circuit complexity. Furthermore, it is rigorously tested across various input lengths to assess its performance. The proposed approach is subjected to extensive testing, verification, and validation in comparison to alternative methods.

Following papers may also be used as references if found relevant.

1. H. Maity, S. Banerjee et al., “Design of Quantum Cost and Delay Optimized Code Converter Using New Reversible Quantum Circuit Block (QCB)”, Micro and Nanosystems (Scopus) 12(2020)
2. H. Maity, S. Banerjee, A. Biswas, A. Pal & A. K. Bhattacharjee, “Design of Reversible Shift Register Using Reduced Number of Logic Gates”, Micro and Nanosystems (Scopus), 12(2019), 33-37.

I hereby recommend this article for possible publication.