Equivalence Checking of Superconducting RSFQ logic circuits∗

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ABSTRACT

This paper presents an equivalence checking (EC) framework for Superconducting RSFQ logic circuits. These circuits provide faster operations with lower power consumption using Josephson junctions (JJs) as the switching devices. Unlike CMOS cells, most of the cells in superconducting RSFQ logic circuits require a clock signal input. Therefore, superconducting RSFQ logic circuits are completely gate-level pipelined, and equivalence checking of superconducting RSFQ logic circuits is a sequential equivalence checking (SEC) problem. We first build the miter for two superconducting RSFQ logic circuits and calculate the logic depth of each gate, that is, the longest path from any primary input to this gate. Then all the gates are layered according to the logic depth, and the equivalent nodes in each layer are eliminated. Finally, the simplified miter is verified. With the ISCA85 benchmarks, we generate two kinds of superconducting RSFQ logic circuits, and then evaluate our equivalence checking framework of the superconducting RSFQ logic circuits.

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Every superconducting RSFQ logic clock gate responds to its input by changing its internal loop current state, and the gate output only changes after the clock pulse arrives

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REFERENCES

[1] Patricia S. Abril and Robert Plant, 2007. The patent holder's dilemma: Buy, sell, or troll? *Commun. ACM* 50, 1 (Jan, 2007), 36-44. DOI: <https://doi.org/>10.1145/1188913.1188915.

[2] Sten Andler. 1979. Predicate path expressions. In *Proceedings of the 6th. ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL '79)*. ACM Press, New York, NY, 226-236. DOI:https://doi.org/10.1145/567752.567774

[3] Ian Editor (Ed.). 2007. *The title of book one* (1st. ed.). The name of the series one, Vol. 9. University of Chicago Press, Chicago. DOI:https://doi.org/10.1007/3-540-09237-4.

[4] David Kosiur. 2001. *Understanding Policy-Based Networking* (2nd. ed.). Wiley, New York, NY..

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