

Accepted Manuscript

Counting defects in quantum computers with Graphics Processing Units

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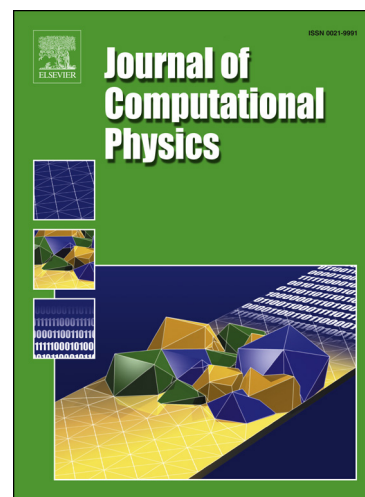
PII: S0021-9991(18)30230-4
DOI: <https://doi.org/10.1016/j.jcp.2018.04.016>
Reference: YJCPH 7955

To appear in: *Journal of Computational Physics*

Received date: 10 September 2017
Accepted date: 6 April 2018

Please cite this article in press as: B. Gardas, A. Ptok, Counting defects in quantum computers with Graphics Processing Units, *J. Comput. Phys.* (2018), <https://doi.org/10.1016/j.jcp.2018.04.016>

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Highlights

- The dynamics of the 1D quantum Ising model is computed in parallel using Graphics Processing Units.
- We have shown how the imperfection resulting from quantum annealing can be calculated using CUDA.
- The typical GPU is over two orders of magnitude faster than a single CPU core.
- Our analysis is motivated by recent findings showing that counting topological defects can be used to benchmark quantum computers.

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