Abstract Submitted
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Contextuality in Measurement-based Quantum Computation ROBERT RAUSSENDORF, UBC Vancouver — We show, under natural assumptions for qubit systems, that measurement-based quantum computations (MBQCs) which compute a non-linear Boolean function with high probability are contextual. The class of contextual MBQCs includes an example which is of practical interest and has a super-polynomial speedup over the best known classical algorithm, namely the quantum algorithm that solves the 'Discrete Log' problem.

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