

Invited lecture: What is a quantum computation?

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Abstract

The model of the one-way quantum computer [Raussendorf and Briegel, Phys. Rev. Lett. 86, 5188 (2001)] has challenged some of the earlier paradigms for quantum computation and raised new questions regarding the nature (and power) of a quantum computer. In this talk, I will review the model and some of its recent developments. I will also discuss different interpretations of this model and their implications regarding the foundations of quantum mechanics.

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