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Simple proof of equivalence between adiabatic quantum computation and the circuit model<sup>1</sup> ARI MIZEL, Pennsylvania State University, DANIEL LIDAR, University of Southern California, MORGAN MITCHELL, Institut de Ciències Fotòniques — We prove the equivalence between adiabatic quantum computation and quantum computation in the standard circuit model. An explicit adiabatic computation procedure is given that generates a ground state from which the answer can be extracted. The amount of time needed is evaluated by computing the gap. We show that the procedure is computationally efficient.

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