

Abstract Submitted
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Probing for quantum speedup on D-Wave Two TROELS F. RØNNOW, Theoretische Physik, ETH Zurich, 8093 Zurich, Switzerland, ZHIHUI WANG, JOSHUA JOB, Information Sciences Institute and Department of Electrical Engineering, University of Southern California, Los Angeles, CA 90089, USA, SERGEI V. ISAKOV, SERGIO BOIXO, Google, Los Angeles, DANIEL LIDAR, Information Sciences Institute and Department of Electrical Engineering, University of Southern California, Los Angeles, CA 90089, USA, JOHN MARTINIS, Department of Physics, University of California, Santa Barbara, CA 93106-9530, USA, MATTHIAS TROYER, Theoretische Physik, ETH Zurich, 8093 Zurich, Switzerland — Quantum speedup refers to the advantage quantum devices can have over classical ones in solving classes of computational problems. In this talk we show how to correctly define and measure quantum speedup in experimental devices. We show how to avoid issues that might mask or fake quantum speedup.

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