

Quantum Semidefinite Programming

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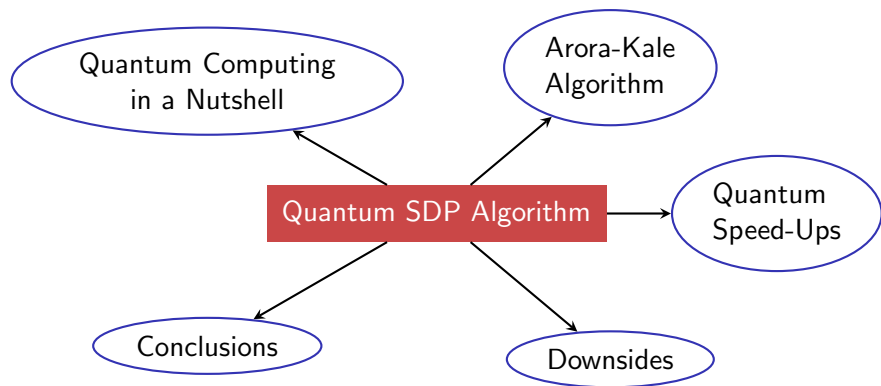
Motivation

So far: How to use convex optimization to solve problems in quantum mechanics.

Here: How to use quantum mechanics to do convex optimization¹.

¹Brandao and Svore 2016; Apeldoorn et al. 2017.

Outline



Quantum Computing in a Nutshell

Quantum Computing:

Performing computational tasks using the laws of quantum mechanics.



Joran van Apeldoorn et al. “Quantum SDP-Solvers: Better upper and lower bounds”. In: *arXiv:1705.01843 [quant-ph]* (May 4, 2017). arXiv: 1705.01843.



Fernando G. S. L. Brandao and Krysta Svore. “Quantum Speed-ups for Semidefinite Programming”. In: *arXiv:1609.05537 [quant-ph]* (Sept. 18, 2016). arXiv: 1609.05537.