Quantum Computing Seminar

Improved simulation of stabilizer circuits

By

Selman Ipek
(Bilkent)

Abstract: The Gottesman-Knill theorem establishes that stabilizer circuits (defined previously) can be simulated efficiently on a classical computer. In arXiv:quant-ph/0406196 Aaronson and Gottesman improve the efficiency of the classical simulation and demonstrate that stabilizer circuits are (most likely) not universal for classical computation. Circuits that are otherwise stabilizer with the exception of a small number of non-Clifford gates are also considered and the complexity of such circuits scales exponentially with the number of non-Clifford gates.

References: arXiv:quant-ph/0406196

Date: Friday, March 17, 2023
Time: 14:30
Place: SA141 - Mathematics Seminar Room & ZOOM

To request the event link, please send a message to selman.ipek@bilkent.edu.tr