QUANTUM COMPUTING SEMINAR

Simplicial quantum contextuality

By

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Abstract: Simplicial sets are well-known in the mathematics community as combinatorial models of topological spaces. Here they are utilized for modeling measurement scenarios. The resulting simplicial approach to contextuality generalizes the sheaf-theoretic approach of Abramsky and Brandenberger. Many standard results like the theorems of Fine, Kochen and Specker, and Gleason can be established from this perspective. Owing to its generality, the simplicial approach is a good candidate for modeling adaptive MBQC.
References: arXiv:2204.06648, arXiv:0809.4221

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