



Quantum Computing Seminar

No-cloning theorem in categorical quantum mechanics

By

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Abstract: As with many algebraic structures, the conditions and data which define a monoid structure on a set can be reframed diagrammatically, leading to the notion of a monoid object in a monoidal category. Dualizing this definition provides the notion of a comonoid. In this talk, we introduce and discuss monoids and comonoids in SMCs. These structures can be used to prove that any category with a notion of uniform deleting or uniform copying (or cloning) cannot describe quantum theory.

References:

1. Heunen, Chris, and Jamie Vicary. Categories for Quantum Theory: an introduction. Oxford University Press, 2019. Chapter 4.

Date: Friday, March 29, 2024

Time: 14:00

Place: SA141 - Mathematics Seminar Room & ZOOM

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