



Quantum Computing Seminar

Categorical Quantum Mechanics

By

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Abstract: Having built up the machinery of dagger SMCs, we revisit the motivating discussion and restate the axioms of quantum mechanics in a categorical language [1, §6]. The Born rule for computing probabilities can be derived from this point of view [1, §6.1]. A number of quantum protocols can also be described within this formalism (e.g., logic gate teleportation and entanglement swapping) with the aid of the diagrammatic calculus.

References:

1. Abramsky, Samson, and Bob Coecke. Categorical quantum mechanics. Handbook of quantum logic and quantum structures 2 (2009): 261-325. Section 6.

Date: Friday, March 22, 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