

MaZX

Mathematica(R) package for the ZX-calculus. The ZX-calculus is a graphical language to describe linear maps on qubits. In several aspects, it goes beyond quantum circuit model.

This package was inspired by the `MakeZXDiagram` function by Janathan Gorard and Manojna Namuduri.

ZXDiagram — Constructs the ZX diagram and stores it as `ZXObject`

ZXObject — The object storing the ZX expression

ZXForm — Converts a quantum circuit into a ZX diagram

ZXLayers ▪ **ToZBasis** ▪ **ToXBasis**

Related Links

- R. Duncan, A. Kissinger, S. Perdrix, and J. van de Wetering, Quantum 4, 279 (2020) , "Graph-theoretic Simplification of Quantum Circuits with the ZX-calculus."
- B. Coecke and R. Duncan, New Journal of Physics 13, 043016 (2011) , "Interacting quantum observables: categorical algebra and diagrammatics."



Janathan Gorard and Manojna Namuduri, `MakeZXDiagram` (2020) , in Wolfram Function Repository.