Causal Relations on a Quantum Logic

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Abstract

In this paper, we study type of causal relations called common cause that has been shown under the classical probability space ([1]) and we define it under a quantum structure. We choose a quantum logic as a fundamental tool to construct that structure. We use an s-map with a conditional state to define our structure when a space is a quantum logic. Moreover, we show that an s-map fulfills properties of a function of two correlated elements which called positively correlated. We also use an s-map to build the definition of common cause on a quantum logic.

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