

A Tread to Positive Maps

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Abstract:

A linear transformation acting on a Hilbert space is called a positive map, or a (positive) superoperator, if which preserves the positiveness of every positive operator, e.g., a density matrix, within the space. In this sense, it is fair to say that a quantum dynamics always allows portrayals resorting to this concept, and most concerns in the quantum realm can be related to examinations of positive maps. As the first part of a tutorial presentation of this study, we will give a quick overview on the early endeavors, such as those by Choi and Horodecki family, as well as some prerequisites for the succeeding contents.