A geometric look at the holographic nature of the quantum theory

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Abstract

We study the holographic nature of the quantum theory and show that its quantum-mechanical component has a geometric interpretation. We discuss the connection between the quantum theory and the holographic theory. In particular, we prove that the geometric interpretation of the holographic theory is a straightforward one. We also demonstrate that the holographic theory can be treated as a generalization of the classical holographic theory in which the holographic component is a vector field.