

Interpreting the Quantum Wave Function in Terms of ' Interacting Faculties '

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Abstract

In this article we discuss the problem of finding an interpretation of quantum mechanics which provides an objective account of physical reality. In the first place we discuss the problem of interpretation and analyze the importance of such an objective account in physics. In this context we present the problems which arise when interpreting the quantum wave function within the orthodox formulation of quantum mechanics. In connection to this critic, we expose the concept of ' entity ' as an epistemological obstruction.

In the second part of this paper we discuss the relation between actuality and potentiality in classical and quantum physics, and continue to present the concept of ontological potentiality which is distinguished from the generic Aristotelian notion of potentiality in terms of ' becoming actual ' . In this paper our main aim is to provide an objective interpretation of quantum mechanics which allows us to discuss the meaning of physical reality according to the theory. For this specific propose we present the concept of faculty in place of the concept of ' entity ' . Within our theory of faculties, we continue to discuss and interpret two paradigmatic experiments of quantum mechanics such as the double-slit and Schrodinger ' s cat.

Keywords: modal interpretation, objective, faculty, ontological potentiality

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