

Quantum Propensities

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Abstract

This paper reviews four attempts throughout the history of quantum mechanics to explicitly employ dispositional notions in order to solve the quantum paradoxes, namely: Margenau's latencies, Heisenberg's potentialities, Maxwell's propensitons, and the recent selective propensities interpretation of quantum mechanics. Difficulties and challenges are raised for all of them, and it is concluded that the selective propensities approach nicely encompasses the virtues of its predecessors. Finally, some strategies are discussed for reading dispositional notions into two other well-known interpretations of quantum mechanics, namely the GRW interpretation and Bohmian mechanics.

Keywords: Propensities, dispositions, quantum mechanics, problem of measurement

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