

The Consistent Histories Interpretation of Quantum Mechanics

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Abstract

The consistent histories reformulation of quantum mechanics was developed by Robert Griffiths, given a formal logical systematization by Roland Omnès, and under the label 'decoherent histories', was independently developed by Murray Gell-Mann and James Hartle and extended to quantum cosmology. Criticisms of CH involve issues of meaning, truth, objectivity, and coherence, a mixture of philosophy and physics. We will briefly consider the original formulation of CH and some basic objections. The reply to these objections, like the objections themselves, involves a mixture of physics and philosophy. These replies support an evaluation of the CH formulation as a replacement for the measurement, or orthodox, interpretation.

Keywords: quantum mechanics, physics interpretation, consistent histories

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