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The Emergence and Interpretation of Probability in Bohmian Mechanics

Callender, Craig (2007) *The Emergence and Interpretation of Probability in Bohmian Mechanics*. [Preprint]



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Abstract

A persistent question about the deBroglie–Bohm interpretation of quantum mechanics concerns the understanding of Born’s rule in the theory. Where do the quantum mechanical probabilities come from? How are they to be interpreted? These are the problems of emergence and interpretation. In more than 50 years no consensus regarding the answers has been achieved. Indeed, mirroring the foundational disputes in statistical mechanics, the answers to each question are surprisingly diverse. This paper is an opinionated survey of this literature. While acknowledging the pros and cons of various positions, it defends particular answers to how the probabilities emerge from Bohmian mechanics and how they ought to be interpreted.

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