

Peer Review

Review of: "Fundamental Issues and Measurement Problem in Quantum Mechanics"

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This paper proposes a theoretical framework intended as an alternative to standard quantum mechanics. I do not find the proposed theory to be convincing. However, personal beliefs or convictions—even those of a reviewer—are not, in themselves, valid grounds for rejecting a scientific manuscript.

Science progresses through the formulation of multiple theoretical structures aimed at explaining the same set of phenomena. At the same time, science does not admit a plurality of truths. When competing theories are proposed, only two logical possibilities exist: either one of them is correct, or none is. The essential task of science, therefore, is to develop criteria—ultimately experimental ones—by which competing theories can be distinguished and incorrect ones falsified.

This constitutes the principal weakness of the present paper. The author does not identify any domain in which the predictions of the proposed theory would differ from those of standard quantum mechanics, nor does the paper suggest experimental or observational tests that could serve as a discriminant between the two. Without such testable distinctions, it is difficult to assess the scientific viability of the proposal. I would strongly encourage the author to address this issue in future work. It should also be borne in mind that the standard textbook interpretation of quantum mechanics is deeply entrenched, and alternative interpretations are unlikely to gain acceptance in the absence of compelling theoretical or empirical motivation.

That said, efforts to explore and formulate alternative interpretations of quantum mechanics are welcome. Indeed, anyone who has studied the subject with a critical and reflective mindset is likely to experience a certain degree of conceptual unease with its standard formulation.

On this basis, I recommend that the paper be accepted for publication.

Declarations

Potential competing interests: No potential competing interests to declare.