

Peer Review

# Review of: "Quantum Probability for Statisticians: Some New Ideas"

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The paper is interesting, and it can be published as it is. However, it is very difficult for a reader. It combines a strict mathematical discussion with common-sense considerations. The author discusses the problems of rigorous mathematics (functional analysis and algebra) and applied problems of mathematical statistics (and theoretical statistics). A philosophical discussion is involved by the author, too.

A philosophical interpretation of quantum mechanics invited by the author is Quantum Bayesianism. This interpretation became widespread. Nevertheless, it is difficult to understand what the author means as she (he) writes that quantum theory is not ontology; it is rather a metalanguage. Does quantum mechanics look like the theory of proof in relation to the theory of models?

P.12. The reviewer also does not understand the following item: "the accessible variables are not necessarily maximal..."

P.16-17. It is crucial that the fundamental quantum predictions are derived in op. cit. using plausible assumptions together with basic conditions. Unclear.

P.16. It is not clear what the author wants to follow."

It might be worth splitting the paper under discussion into several papers?

## Declarations

**Potential competing interests:** No potential competing interests