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Dear Editor(s)

In this manuscript we propose a new (to our knowledge) non-contextual hidden variable model which helps clarify the limitations of the well-established notion, in the foundations of quantum mechanics, that of contextuality. Contextual hidden variable models on the other hand are already known but these are in stark contrast with the our new model which also demonstrates its importance.

Notions in foundations of quantum mechanics tend to have implications to quantum information processing and quantum cryptography. In the recent years, a strong connection was made between contextuality and the power of a certain model of quantum computing. Bell's theorem, developed to test if a certain class of HV models can be consistent with QM, has now become the cornerstone of modern cryptography, quantum key distribution. The KS Theorem, which leads to the contextuality argument, has also found applications in the same. Understanding this notion better is therefore likely to stimulate further research.

This work addresses a basic notion in the foundations of quantum mechanics which although was initiated in the 70s has recently become an active area of research. Our work contributes to this old direction which has generated new interest.

Sincerely

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