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Summary: We construct a non-contextual hidden variable model consistent with all the kinematic predictions of quantum mechanics (QM). The famous Bell-KS theorem shows that non-contextual models which satisfy a further reasonable restriction are inconsistent with QM. In our construction, we define a weaker variant of this restriction which captures its essence while still allowing a non-contextual description of QM. This is in contrast to the contextual hidden variable toy models, such as the one by Bell, and brings out an interesting alternate way of looking at QM. The results also relate to the Bohmian model, where it is harder to pin down such features.

MSC:
81P13 Contextuality in quantum theory
81Q65 Alternative quantum mechanics (including hidden variables, etc.)
81Q70 Differential geometric methods, including holonomy, Berry and Hannay phases, Aharonov-Bohm effect, etc. in quantum theory

Keywords: quantum contextuality; HV models

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