

Abstract Submitted
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A local hidden variable model of the GHZ puzzle¹ BRIAN LA COUR, Applied Research Laboratories, The University of Texas at Austin — Greenberger-Horne-Zeilinger (GHZ) states have been used to study quantum nonlocality and provide an all-or-nothing, no-go theorem for local hidden variable models. Recent experiments using coincident-detected entangled photons prepared in a three-particle GHZ state have shown significant violations of the Mermin inequality under strict locality conditions, a result believed to be inconsistent with local realism. As an argument against this conclusion, a local hidden variable model is presented which shows similar violations of the Mermin inequality, a result made possible by postselecting on coincident-detection events, as was done in the experiment.

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