

Disproofs of Bell, GHZ, and Hardy Type Theorems and the Illusion of Entanglement

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Abstract

An elementary topological error in Bell's representation of the EPR elements of reality is identified. Once recognized, it leads to a topologically correct local-realistic framework that provides exact, deterministic, and local underpinning of at least the Bell, GHZ-3, GHZ-4, and Hardy states. The correlations exhibited by these states are shown to be exactly the classical correlations among the points of a 3 or 7-sphere, both of which are closed under multiplication, and hence preserve the locality condition of Bell. The alleged non-localities of these states are thus shown to result from misidentified topologies of the EPR elements of reality. When topologies are correctly identified, local-realistic completion of any arbitrary entangled state is always guaranteed in our framework. This vindicates EPR, and entails that quantum entanglement is best understood as an illusion.

Keywords: Bell's Theorem; Local Realism; EPR Argument; Non-locality

Subjects: [Specific Sciences: Physics: Quantum Mechanics](#)

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