

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

The Misapplication of Probability Theory in Quantum Mechanics

RONALD RACICOT, Retired — This article is a revision of two papers submitted to the APS in the past two and a half years. In these papers, arguments and proofs are summarized for the following:

1. The wrong conclusion by EPR that Quantum Mechanics is incomplete, perhaps requiring the addition of “hidden variables” for completion. Theorems that assume such “hidden variables,” such as Bell’s theorem, are also wrong.
2. Quantum entanglement is not a realizable physical phenomenon and is based entirely on assuming a probability superposition model for quantum spin. Such a model directly violates conservation of angular momentum.
3. Simultaneous multiple-paths followed by a quantum particle traveling through space also cannot possibly exist. Besides violating Noether’s theorem, the multiple-paths theory is based solely on probability calculations. Probability calculations by themselves cannot possibly represent simultaneous physically real events.

None of the reviews of the submitted papers actually refuted the arguments and evidence that was presented. These analyses should therefore be carefully evaluated since the conclusions reached have such important impact in quantum mechanics and quantum information theory.

Ronald Racicot
Retired

Date submitted: 31 Oct 2013

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