

A Quantum game: The Mermin-Peres magic square

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Abstract

I shall present a tutorial on a quantum game based on Mermin-Peres magic square. It is an example of a cooperative game of two players, Alice and Bob, that need to fill a task set by a referee. No classical strategy allows Alice and Bob to win in every round. However, if Alice and Bob share quantum information they can win the game in every round. This is an example where a Quantum strategy gives an advantage over any classical strategy. It is also an example of what CS people call "Interactive multi-prover game systems".