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Hedging bets with correlated quantum strategies

In this work, we consider correlations among independently administered hypothetical tests of a simple interactive type, and demonstrate that correlations arising in quantum information theoretic variants of these tests can exhibit a striking non-classical behavior. When viewed in a game-theoretic setting, these correlations are suggestive of a perfect form of hedging, where the risk of a loss in one game of chance is perfectly offset by one's actions in a second game. This type of perfect hedging is quantum in nature: it is not possible in classical variants of the tests we consider.

Based on joint work with Abel Molina.