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Kochen-Specker sets and Hadamard matrices

Kochen-Specker sets (KS sets) demonstrate the contextuality of quantum mechanics, which is one of its properties that may become crucial in quantum information theory. We use generalized Hadamard matrices to construct infinite families of KS sets. We show that the recently discovered simplest KS set is the initial member of one of our infinite families. We introduce a new class of complex Hadamard matrices which have not been studied previously and we show that they can be used to construct KS sets.