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Dual matrix systems and Tsirelson's problem

A matrix system $\mathcal{S}$ is a $*$-vector space of complex $n \times n$ matrices that contains the identity matrix. By a theorem of Choi and Effros, the dual space $\mathcal{S}^d$ of a matrix system $\mathcal{S}$ has the structure of an operator system. In this lecture I will report on joint work with A. Kavruk, V. Paulsen, and I.G. Todorov whereby Tsirelson's problem on quantum correlations is cast in terms of states on certain tensor products of dual matrix operator systems.