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The diameter of the Birkhoff polytope

The geometry of the compact convex set of all $n \times n$ doubly stochastic matrices, a structure frequently referred to as the Birkhoff polytope, has been an active subject of research as of late. While its faces, edges and facets as well as its volume have been intensely studied over the years, other geometric characteristics with respect to usual matrix norms have only recently been studied in depth. In this talk, we shall explore the question of determining the diameter of the Birkhoff polytope with respect to the metrics induced by the operator norms from ℓ_n^p to ℓ_n^p and the Schatten p -norms, both for the range $1 \leq p \leq \infty$.