

Noncommutative Choquet simplices

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Recently, Ken Davidson and I introduced a new framework for noncommutative convexity, along with a corresponding noncommutative Choquet theory that generalizes much of classical Choquet theory. In this talk, I will discuss a notion of noncommutative Choquet simplex, which generalizes the classical notion of Choquet simplex and turns out to play an analogous role in noncommutative dynamics. I will discuss some applications, including the following extension of Glasner and Weiss's characterization of groups with Kazhdan's property (T): a group has property (T) if and only if whenever it acts on a C^* -algebra, the set of invariant states is affinely homeomorphic to the state space of a C^* -algebra. This is joint work with Eli Shamovich.