Abstract

I will present a new framework for noncommutative convexity and noncommutative function theory, along with a corresponding noncommutative Choquet theory that generalizes much of classical Choquet theory. I will also introduce a notion of noncommutative Choquet simplex, which generalizes the classical notion of Choquet simplex and plays a similar 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.