Convex Sets Associated to C*-Algebras.

Given a separable C*-algebra $\mathfrak{A}$, we can associate to it an invariant given by the weak approximate unitary equivalence classes of $\ast$-homomorphisms from $\mathfrak{A}$ to a chosen separable McDuff II$_1$-factor $M$. One can show that this object takes the form of a closed, bounded, convex subset of a separable Banach space. This invariant is closely related (and sometimes affinely homeomorphic) to the trace space of $\mathfrak{A}$, but its data is different from that of the trace space in general. We will provide a characterization of extreme points of these convex sets in the cases where either $\mathfrak{A}$ is nuclear or $M = \mathbb{R}$—the separable hyperfinite II$_1$-factor. If time permits, we will discuss some related open problems. (Received August 24, 2015)