Boundary representations and isolated points

Operator systems provide a way to examine convexity (and a generalization called matrix convexity) in operator algebraic terms. Extreme points in particular match up with a special class of irreducible representations, called boundary representations, defined by Arveson. While a single operator system S may have many different concrete forms, the boundary representations from each form nonetheless generate the same C^*-envelope of S. Similar analogues of exposed points and isolated extreme points exist within the boundary representations, though these subsets are not as commonly used. In joint work with Ken Davidson, we determined exactly when a smallest concrete presentation of a separable operator system exists, as well as how it can be identified up to unitary equivalence using a restricted class of boundary representations.