1125-46-2185 **Scott A. Atkinson*** (`scott.a.atkinson@vanderbilt.edu`). *Minimal faces and Schur's Lemma for embeddings into $R^{\mathcal{U}}$.*

As shown by N. Brown in 2011, for a separable II_1-factor N, the invariant $\mathbf{H}\mathrm{om}(N, R^{\mathcal{U}})$ given by unitary equivalence classes of embeddings of N into $R^{\mathcal{U}}$–an ultrapower of the separable hyperfinite II_1-factor–takes on a convex structure. This provides a link between convex geometric notions and operator algebraic concepts; for instance, extreme points are precisely the embeddings with factorial relative commutant. The geometric nature of this invariant provides a familiar context in which natural curiosities become interesting new questions about the underlying operator algebras. For example, consider the following simple question. Can four extreme points have a planar convex hull?

In this talk we we will generalize the characterization of extreme points by showing that given an embedding $\pi : N \to R^{\mathcal{U}}$, the dimension of the minimal face containing the equivalence class $[\pi]$ is one less than the dimension of the center of the relative commutant of π. At the same time, we will establish the "convex independence"of extreme points–providing a negative answer to the above question. Along the way we make use of a version of Schur's Lemma for this context. (Received September 19, 2016)