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Paul Skoufranis* (pskoufra@math.tamu.edu). *Problems involving Majorization in II_1 Factors.*

A notion of majorization for n -tuples of complex numbers plays an interesting role in a diverse collection of problems in linear algebra. When applied to the n -tuple eigenvalue lists of self-adjoint matrices, several fascinating operator theoretic results can be obtained. One example of this that has received much attention in recent years is the Schur-Horn Theorem, which classifies the possible diagonal n -tuples of a self-adjoint matrix based on its eigenvalues.

In this talk, we will discuss the notion of majorization of self-adjoint operators in II_1 factors and its applications. In particular, we will discuss the Schur-Horn Theorem in II_1 factors (due to Ravichandran), a classification of possible diagonals of operators in II_1 factors based on singular values (joint work with Matt Kennedy), and other applications of majorization in II_1 factors (joint work with Ken Dykema). (Received July 23, 2015)