1046-47-1917   **Mohan Ravichandran*** (`mohanr@unh.edu`), 16 Nichols Avenue, Newmarket, NH 03857.
Generalizations of Triangular Algebras.

Given a Von Neumann algebra $\mathfrak{M} \subseteq B(H)$, a Kadison-Singer or KS algebra $\mathfrak{A}$ is a maximal reflexive algebra with diagonal $\mathfrak{M}$, ie, $\mathfrak{A}^* \cap \mathfrak{A} = \mathfrak{M}$. KS algebras can be viewed as generalizations of triangular operator algebras, which were introduced by Kadison and Singer in 1959 and have a long and rich history. In this talk, we construct several KS algebras, including ones with diagonal the hyperfinite and free group factors and indicate a standard way of getting new ones from old.

We characterize the radical of a KS algebra and construct KS algebras that are simple and in particular, do not contain any compact operators. We then analyze automorphisms of KS algebras and show that they need not be given by similarities. We then indicate applications of KS algebras to questions in the theory of non-selfadjoint operator algebras, like the transitive algebra question as well as problems in the self-adjoint theory, like the isomorphism problem for free group factors.

We conclude by making a case that the theory of KS algebras with diagonal type II(resp. type III) ought to be considered as type II(type III) non-selfadjoint theory, parallel to the Murray Von Neumann theory for Von Neumann algebras. (Received September 16, 2008)