von Neumann Double Commutant Theorem

Jon Bannon   Jireh Loreaux

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Definition 1 (Blah)**.** The commutant of a set S of operators is the set of $T \in B(\mathcal{H})$ such that $\forall s \in S, Ts = sT$.

Theorem 2 (von Neumann 1929)**.** *The weak operator closure of a self adjoint star subalgebra of operators acting on a Hilbert space equals the double commutant of that algebra.*