# Characterizations of Selfadjoint Operators

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J. Neumann proved classical theorems of the above mentioned type. Revisition of these result follows:

i. $T^*T$ always has a positive selfadjoint extension. It is selfadjoint if $I + T^*T$ has full range.

ii. Any positive operator with dense domain equals $T^*T$ for some $T$ and so that it has Friedrichs extension of the form $T^*T$.

iii. A positive operator $A$ is selfadjoint if $(I + A)$ has full range and $A$ is not assumed to have dense domain.

iv. A not necessarily densely defined symmetric operator $T$ is selfadjoint if $T + iI$ has full and $T - iI$ has dense range.

v. Not necessarily densely defined symmetric operators are essentially selfadjoint in similar situations.

# Extremal Properties of the Volterra Operator

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Abstract. In this joint work with A.F.M. ter Elst and M. Sauter, we study the generation and commutation properties of the classical Volterra operator.