

Section 4.8. Compact Operators

Note. In this section we define “compact operators” and state three theorems without proofs.

Definition 4.8.1. An operator A is *compact* if for every bounded sequence $\{x_n\}$, the sequence $\{Ax_n\}$ contains a convergent subsequence.

Note. Some properties of compact operators are given in the following three theorems.

Theorem 4.8.1. Compact operators are bounded.

Theorem 4.8.2. The collection of all compact operators on a Hilbert space form a vector space.

Theorem 4.8.6. If T is compact then T^* is compact.

Revised: 4/22/2019