

ABSTRACT

INVARIANT SUBSPACES OF POSITIVE OPERATORS ON RIESZ SPACES AND OBSERVATIONS ON $CD_0(K)$ -SPACES

Çağlar, Mert

Ph.D., Department of Mathematics

Supervisor: Assoc. Prof. Dr. Zafer ERCAN

August 2005, 29 pages

The present work consists of two main parts. In the first part, invariant subspaces of positive operators and operator families on locally convex solid Riesz spaces are examined. The concept of a weakly-quasinilpotent operator on a locally convex solid Riesz space has been introduced and several results that are known for a single operator on Banach lattices have been generalized to families of positive or close-to-them operators on these spaces.

In the second part, the so-called generalized Alexandroff duplicates are studied and $CD_{\Sigma,\Gamma}(K, E)$ -type spaces are investigated. It has then been shown that the space $CD_{\Sigma,\Gamma}(K, E)$ can be represented as the space of E -valued continuous functions on the generalized Alexandroff duplicate of K .

Keywords: Riesz space, positive operator, weak quasinilpotence, $CD_0(K)$ -space, Alexandroff duplicate.