

## ABSTRACT

### ON THE GENERALIZATIONS AND PROPERTIES OF ABRAMOVICH–WICKSTEAD SPACES

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In this thesis, we study two problems. The first one is to introduce the general version of Abramovich-Wickstead type space and investigate its order properties. In particular, we study the ideals, order bounded sets, disjointness properties, Dedekind completion and the norm properties of this Riesz space. We also define a new example of Riesz space-valued uniformly continuous functions, denoted by  $CD'_0$  which generalizes the original Abramovich-Wickstead space. It is also shown that similar spaces  $CD_0$  and  $CD_w$  introduced earlier by Alpay and Ercan are decomposable lattice-normed spaces.

The second one is related to analytic representations of different classes of dominated operators on these spaces. Our main theorems say that regular linear operators on  $CD'_0$  or linear dominated operators on  $CD_0$  may be represented as the sum of integration with respect to operator-valued measure and summation operation. In the case when the operator is order continuous or *bo*-continuous, then these representations reduce to summation parts.

Keywords: Riesz space, regular operator, lattice-normed space, dominated operator, vector measure with bounded variation