

# Ordered Banach spaces: embeddings and disjointness preserving operators

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## Abstract

In Banach lattices, disjointness preserving operators are well-investigated. In ordered Banach spaces, disjointness and related notions are introduced as well. The analysis of these concepts revolves around embeddings of ordered vector spaces into vector lattice covers. Pre-Riesz spaces allow such an embedding, and every ordered Banach space with a closed and generating cone is pre-Riesz. We generalize some well-known results from the theory of Banach lattices to ordered Banach spaces, where we deal with properties of inverses of disjointness preserving operators as well as of generators of disjointness preserving  $C_0$ -semigroups. As a tool we need extensions of norms on pre-Riesz spaces to appropriate norms on vector lattice covers. We discuss similarities and differences between the settings of Banach lattices and ordered Banach spaces and outline open questions.

Lit.: A. Kalauch, O. van Gaans: Pre-Riesz Spaces. Walter de Gruyter GmbH, Berlin/Boston, 2018.