

PARTIALLY ORDERED VECTOR SPACES BEYOND VECTOR LATTICES: SOME CURRENT TOPICS

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ABSTRACT. Order structures are abundant in many areas of Analysis. For decades, most research on order structures in Functional Analysis has been devoted to vector lattices. In current research, attention for other order structures is increasing. We will briefly discuss a few of them. In particular, we will consider JB-algebras. For example, the real vector space of $n \times n$ symmetric matrices endowed with the Jordan product $A \circ B = \frac{1}{2}(AB + BA)$ is a JB-algebra. The set of squares in a JB-algebra is a cone and therefore, with its corresponding order, the JB-algebra is a partially ordered vector space. Several recent investigations will be considered.

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