ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

8. Analysis

1991 MS Classification: 46A40

Danet, Nicolae, Technical University of Civil Engineering of Bucharest, Romania:

Subspaces in directed vector spaces.

A *directed vector space* is an ordered vector space X such that $X = X_+ - X_+$. A vector subspace $G \subset X$ is called: a) *directed vector subspace,* if $a \in G$, $x \in X$, and $0, a \leq x$, then there exists $b \in G$ such that $0, a \leq b \leq x$; b) *ideal*, if G is a directed vector subspace with the positive heredity property $(0 \leq x \leq a \in G, x \in X \Rightarrow x \in G)$; c) *D-ideal*, if G has the positive heredity property and $G = G_+ - G_+$. These are the analogous notions for vector sublattice and ideal from a vector lattice. The relations between these types of subspaces are studied. Examples, counterexamples and applications to some spaces of operators are presented.

Reference: N. Danet, On the notion of ideal in a directed vector space, *Rev. Roumaine Math. Pures Appl.*, **40** (1995), 735-742.