Multinorms and Banach lattices

VLADIMIR TROITSKY

Department of Mathematical and Statistical Sciences
University of Alberta (Canada)
`troitsky@ualberta.ca`

For every $n \in \mathbb{N}$, let $\|\cdot\|_n$ be a norm on X^n, where X is a fixed vector space. The resulting sequence of norms is called a *multinorm* provided that is satisfies certain natural compatibility axioms. Multinormed spaces were introduced by Dales and Polyakov. They were investigated by Pisier and others in the language of tensor norms on $c_0 \otimes X$. Multinormed spaces can be identified with subspaces of Banach lattices. In this talk, we will discuss connections between multinormed spaces and Banach lattices. We will also discuss a more general concept of a p-multinorm, $1 \leq p \leq \infty$.

This is a joint work with G. DALES (Lancaster University) and N. LAUSTSEN (Lancaster University).