

**ULTRAPRODUCTS AND CHARACTERIZATION
OF CERTAIN CLASSES
OF CLASSICAL BANACH LATTICES**

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For a given $p \in [1, \infty)$ the classical theorem of Kakutani-Bohnenblust gives a simple (isometric) characterization of L_p -spaces among Banach lattices.

In this spirit we shall discuss the possibility of characterizing other classes of classical Banach lattices (among Banach lattices) related to L_p -spaces, (e.g. $L_p(L_q)$ -spaces, Nakano spaces).

We are seeking for characterization by axioms of a certain simple form (formalized once by Henson and Iovino). Then the existence of such a characterization for a class \mathcal{C} is equivalent to \mathcal{C} being closed by ultraproducts and ultra-roots. This is the case for the class of Nakano spaces, but not for the class of $L_p(L_q)$ spaces, for which a suitable enlargement has to be considered.

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