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Operator ideals and the principle of local reflexivity. (English)

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Our aim is, to give necessary and sufficient conditions which allow us to transform the local reflexivity principle of Lindenstrauss and Rosenthal from the canonical operator norm $\|\cdot\|$ to p -Banach ideal norms $\|\cdot\|_{\mathcal{A}}$, where $(\mathcal{A}, \|\cdot\|_{\mathcal{A}})$ is a given p -Banach ideal ($0 < p \leq 1$).

We will recognize two important facts:

- By a natural generalization of the weak \mathcal{A} -local reflexivity principle, we can omit the previously assumed maximality of the p -Banach ideal $(\mathcal{A}, \|\cdot\|_{\mathcal{A}})$. Moreover, we are allowed to consider all $0 < p \leq 1$ and not only the case $p = 1$.
- There are interesting relations between the above-mentioned generalization of weak local reflexivity and structural properties of the ideal $(\mathcal{A}, \|\cdot\|_{\mathcal{A}})$ such as accessibility. Hence, tensor norms are involved.

Keywords: local reflexivity principle of Lindenstrauss and Rosenthal; canonical operator norm; p -Banach ideal norms; p -Banach ideal; maximality; tensor norms

Classification :

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