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Compositions of operator ideals and their regular hulls. (English)

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Summary: Given two quasi-Banach ideals \mathcal{A} and \mathcal{B} we investigate the regular hull of their composition $-(\mathcal{A} \circ \mathcal{B})^{\text{reg}}$. In concrete situations this regular hull appears more often than the composition itself. As a first example we obtain a description for the regular hull of the nuclear operators which is a “reflected” Grothendieck representation: $\mathcal{N}^{\text{reg}} \stackrel{1}{=} \mathcal{J} \circ \mathcal{W}$ (theorem 2.1). Further we recognize that the class of such ideals leads to interesting relations concerning the question of the accessibility of (injective) operator ideals.

Keywords : injective operator ideals; accessibility; quasi-Banach ideals; regular hull; Grothendieck representation

Classification :

*47L20 Operator ideals

47B38 Operators on function spaces