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CONDITIONS C_p, C_p', AND C_p'' FOR p–OPERATOR SPACES

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Abstract. Conditions C, C', and C'' were introduced for operator spaces in an attempt to study local reflexivity and exactness of operator spaces [4, Chapter 14]. For example, it is known that an operator space W is locally reflexive if and only if W satisfies condition C'' [4, Theorem 14.3.1] and an operator space V is exact if and only if V satisfies condition C' [4, Theorem 14.4.1]. It is also known that an operator space V satisfies condition C if and only if it satisfies conditions C' and C'' [4, Lemma 14.2.1], [7, Theorem 5]. In this paper, we define p-operator space analogues of these definitions, which will be called conditions C_p, C_p', and C_p'', and show that a p-operator space on L_p space satisfies condition C_p if and only if it satisfies both conditions C_p' and C_p''. The p-operator space injective tensor product of p-operator spaces plays a key role.

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