

## DOMINATION SPACES AND FACTORIZATION OF LINEAR AND MULTILINEAR SUMMING OPERATORS

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ABSTRACT. It is well known that not every summability property for multilinear operators leads to a factorization theorem. In this paper we undertake a detailed study of factorization schemes for summing linear and nonlinear operators. Our aim is to integrate under the same theory a wide family of classes of mappings for which a Pietsch type factorization theorem holds. Our construction includes the cases of absolutely  $p$ -summing linear operators,  $(p, \sigma)$ -absolutely continuous linear operators, factorable strongly  $p$ -summing multilinear operators,  $(p_1, \dots, p_n)$ -dominated multilinear operators and dominated  $(p_1, \dots, p_n; \sigma)$ -continuous multilinear operators.

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