

## SUMMING MULTILINEAR OPERATORS AND SEQUENCE CLASSES

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**ABSTRACT.** We construct a general framework that generates classes of multilinear operators between Banach spaces which encompasses, as particular cases, the several classes of summing type multilinear operators that have been studied individually in the literature. Summing operators by blocks in the isotropic and anisotropic cases are taken into account. The classes we create are shown to be Banach ideals of multilinear operators and applications to coherence and coincidence theorems are provided.

### 1. Introduction

A. Pietsch systematized the theory of ideals of linear operators (operator ideals) in [57] and, shortly after, sketched the theory of ideals of multilinear operators in [58]. This field has proved to be quite fruitful and a large number of contributions have appeared in the last decades, see e.g. [1], [3], [4], [10], [14], [16], [23]–[25], [30], [39], [51], [62]. Several authors have devoted their efforts to study multilinear generalizations of the ideals of absolutely  $(q; p)$ -summing linear operators to the multilinear context. Several promising classes of multilinear operators have arisen from these efforts, for example, the class of absolutely summing multilinear operators, initiated in [12], [58], and the class of multiple

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