

# Bounded perturbations of the correct restrictions and extensions

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**Abstract:** This paper considers the correct restrictions of the maximal operator. We obtain a criterion of relative-boundedness of the perturbations of the inverse operator to a fixed correct restrictions. Given an applications of this criterion to some differential operators.

Under a weak perturbation of the compact operator  $T$  will be called the operator  $T(I+S)$ , where  $S$  is such a compact operator that the operator  $I+S$  is continuously invertible. A lot of work (see [1], [2], [3]– [7]) is devoted to the spectral properties of a weak perturbation of a compact operator  $T$ .

If  $S$  is a bounded operator, then the perturbed operator will be called the bounded perturbation. This work is devoted to describe among the correct restrictions and extensions of the bounded perturbations of the fixed operator.

**Keywords:** bounded perturbations, correct restrictions, correct extensions

**2010 Mathematics Subject Classification:** 46Nxx, 47Fxx, 35P05

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