

## THE OPTIMAL PERTURBATION BOUNDS FOR THE WEIGHTED MOORE-PENROSE INVERSE\*

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**Abstract.** In this paper, we obtain optimal perturbation bounds of the weighted Moore-Penrose inverse under the weighted unitary invariant norm, the weighted  $Q$ -norm and the weighted  $F$ -norm, and thereby extend some recent results.

**Key words.** Weighted Moore-Penrose inverse, Weighted unitary invariant norm, Weighted  $Q$ -norm, Weighted  $F$ -norm.

**AMS subject classifications.** 15A09, 15A18, 15A24.

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