Matrices Whose Norms Are Determined by Their Actions on Decreasing Sequences

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Abstract. Let \( A = (a_{i,k})_{i,k \geq 1} \) be a non-negative matrix. In this paper, we characterize those \( A \) for which \( \|A\|_{E,F} \) are determined by their actions on decreasing sequences, where \( E \) and \( F \) are suitable normed Riesz spaces of sequences. In particular, our results can apply to the following spaces: \( \ell_p \), \( d(w, p) \), and \( \ell_p(w) \). The results established here generalize ones given by Bennett; Chen, Luor, and Ou; Jameson; and Jameson and Lashkaripour.