WEIGHTED INEQUALITIES FOR A CLASS OF MATRIX OPERATORS: THE CASE $p \leq q$

RYSKUL OINAROV, LARS-ERIK PERSSON AND AINUR TEMIRKHANOVA

Abstract. We prove a new discrete Hardy-type inequality $\|Af\|_{q,u} \leq C\|f\|_{p,v}$, where the matrix operator $A$ is defined by $(Af)_i := \sum_{j=1}^{i} a_{i,j}f_j$, $a_{i,j} \geq 0$. Moreover, we study the problem of compactness of the operator $A$, and the dual result is stated.


Keywords and phrases: Inequalities, discrete Hardy-type inequalities, weights, matrix operators.

REFERENCES