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ON SOME DIFFERENCE SEQUENCE SPACES OF WEIGHTED MEANS AND COMPACT OPERATORS

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ABSTRACT. In the present paper, by using generalized weighted mean and difference matrix of order m , we introduce the sequence spaces $X(u, v, \Delta^{(m)})$, where X is one of the spaces ℓ_∞ , c or c_0 . Also, we determine the α -, β - and γ -duals of those spaces and construct their Schauder bases for $X \in \{c, c_0\}$. Moreover, we give the characterization of the matrix mappings on the spaces $X(u, v, \Delta^{(m)})$ for $X \in \{\ell_\infty, c, c_0\}$. Finally, we characterize some classes of compact operators on the spaces $\ell_\infty(u, v, \Delta^{(m)})$ and $c_0(u, v, \Delta^{(m)})$ by using the Hausdorff measure of noncompactness.

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