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CESÀRO SUMMABLE DIFFERENCE SEQUENCE SPACE

The diffrence sequence spaces $c_0(\Delta)$, $c(\Delta)$ and $\ell_\infty(\Delta)$ were introduced by Kizmaz [Canad. Math. Bull. 24(1981), 169-176]. In this paper, we introduce the Cesàro summable difference sequence space $C_1(\Delta)$ which strictly includes the spaces $c_0(\Delta)$ and $c(\Delta)$ but overlaps with $\ell_\infty(\Delta)$. It is shown that the newly introduced space $C_1(\Delta)$ turns out to be an inseparable BK-space which does not possess any of the – AK property, monotonicity, normality and perfectness. The Köthe - Toeplitz duals of $C_1(\Delta)$ are computed and as an application, the matrix classes $(C_1(\Delta), \ell_\infty)$, $(C_1(\Delta), c\,; P)$ and $(C_1(\Delta), c_0)$ are also characterized.

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