ON THE CESÁRO OPERATOR IN WEIGHTED ℓ^2-SEQUENCE SPACES AND THE GENERALIZED CONCEPT OF NORMALITY

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ABSTRACT. The weighted Cesáro operator C_h in $\ell^2(h)$-spaces is investigated in terms of several concepts of normality, where h denotes a positive discrete measure on $\mathbb{N}_0$. We classify exactly those h for which C_h is hyponormal. Two examples related to the Haar measures of orthogonal polynomials are discussed. We show that the Cesáro operator is not always paranormal. Furthermore, we prove that the Cesáro operator is not quasinormal for any choice of h.

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