

Characteristic function and reducing subspaces for a class of truncated Toeplitz operators

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For an operator T on a Hilbert space H , a closed linear subspace M is reducing for T if it's invariant for both T and its adjoint (meaning: $T(M) \subset M$ and $T^*(M) \subset M$) or equivalently M and its orthogonal M^\perp are invariant for T . Using the characteristic function associated to T appearing in Sz.Nagy-Foias theory of contractions, we give, with E. Fricain and D. Timotin, general results about reducibility for a class of completely nonunitary contractions. Then this is applied to certain truncated Toeplitz operators.

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