

COMPLEX ISOSYMMETRIC OPERATORS

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ABSTRACT. In this paper, we introduce complex isosymmetric and (m, n, C) -isosymmetric operators on a Hilbert space \mathcal{H} and study properties of such operators. In particular, we prove that if $T \in \mathcal{B}(\mathcal{H})$ is an (m, n, C) -isosymmetric operator and N is a k -nilpotent operator such that T and N are C -doubly commuting, then $T + N$ is an $(m + 2k - 2, n + 2k - 1, C)$ -isosymmetric operator. Moreover, we show that if T is (m, n, C) -isosymmetric and if S is (m', D) -isometric and n' -complex symmetric with a conjugation D , then $T \otimes S$ is $(m + m' - 1, n + n' - 1, C \otimes D)$ -isosymmetric.

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