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On a class of C-algebras generated by a countable family of partial isometries

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Abstract

The paper investigates the properties of an operator T φ on the Hilbert space l 2(ℤ), which are induced by the mapping φ of the set ℤ into itself. It is shown if the mapping φ is such that every preimage has finite, but not equipotentionally bounded cardinality, then the operator T φ allows a closure and can be represented as a countable sum of partial isometries. The C-algebras U φ, P φ and U φ associated with given mappings and generated by the mentioned partial isometries are considered. Some properties of these algebras and some relations between them are given.

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Keywords

C, Partial isometries, Toeplitz operators