

One class of C^* -algebras generated by a family of partial isometries and multipliers

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Abstract

We consider a C^* -subalgebra of the algebra of all bounded operators on the Hilbert space of square-summable functions defined on some countable set. The algebra under consideration is generated by a family of partial isometries and the multiplier algebra isomorphic to the algebra of all bounded functions defined on the mentioned set. The partial isometry operators satisfy correlations defined by a prescribed map on the set. We show that the considered algebra is \mathbb{Z} -graduated. After that we construct the conditional expectation from the latter onto the subalgebra corresponding to zero. Using this conditional expectation, we prove that the algebra under consideration is nuclear. © Allerton Press, Inc., 2012.

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Keywords

Completely positive map, Conditional expectation, Nuclear C^* -algebra, Partial isometry