

**Solel, Baruch**

**Limit  $C^*$ -algebras associated with an automorphism.** (English) Zbl 1067.46059

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Summary: We present and study  $C^*$ -algebras generated by “periodic weighted creation operators” on the Fock space associated with an automorphism  $\alpha$  on a  $C^*$ -algebra  $A$ . These algebras can be viewed as generalized Bunce-Deddens algebras associated with the automorphism and can be written as a certain direct limit. We prove a crossed product presentation for such an algebra and find a necessary and sufficient condition for it to be simple. In the case where the automorphism is induced by an irrational rotation (on  $C(T)$ ), we compute the  $K$ -theory groups and obtain a complete classification of these algebras.

**MSC:**

[46L40](#) Automorphisms of selfadjoint operator algebras

[46L55](#) Noncommutative dynamical systems

[46L80](#)  $K$ -theory and operator algebras (including cyclic theory)

Cited in 1 Document

**Full Text:** [DOI](#) [arXiv](#)