

ABSTRACT. Noncommutative multivariable versions of weighted shift operators arise naturally as ‘weighted’ left creation operators acting on the Fock space Hilbert space. We identify a natural notion of periodicity for these N -tuples, and then find a family of inductive limit algebras determined by the periodic weighted shifts which can be regarded as noncommutative multivariable generalizations of the Bunce-Deddens C^* -algebras. We establish this by proving that the C^* -algebras generated by shifts of a given period are isomorphic to full matrix algebras over Cuntz-Toeplitz algebras. This leads to an isomorphism theorem which parallels the Bunce-Deddens and UHF classification scheme.