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Isomorphisms of Non Commutative Domain Algebras

Noncommutative domain algebras were introduced by Popescu as the non-selfadjoint operator algebras generated by weighted shifts on the Full Fock space, and they generalise noncommutative disk algebras. They provide a setting for extending the theory of functions in several complex variables to multivariate operator theory. In a joint work with A. Arias, we classify a large class of these algebras using the classification of domains in Hermitian spaces up to biholomorphic maps, including the work of Sunada and Thullen on Reinhardt domains. This talk will present our results, emphasising the connection with complex analysis, and proving that there are indeed many non-isomorphic domain algebras. We will provide a few examples.