

1135-47-1058

Guy Salomon, Haifa, Israel, **Orr Moshe Shalit*** (oshalit@tx.technion.ac.il), Haifa, Israel, and **Eli Shamovich**, Waterloo, Canada. *Algebras of Bounded Analytic Noncommutative Functions on Noncommutative Varieties*.

We study algebras of bounded analytic noncommutative (nc) functions on subvarieties of the nc unit ball. In recent work, it was shown that two such algebras are completely isometrically isomorphic, if and only if the underlying nc varieties are conformally equivalent. Moreover, every completely isometric isomorphism arises as composition with a conformal automorphism of the ball, and vice versa. Thus, the conformal structure of the underlying variety is a complete invariant of the (completely isometric) operator algebraic structure of such an algebra, and one may consider the classification of such algebras up to completely isometric isomorphism as settled.

In this talk I will review the existing results, and then report on our progress in answering the following two questions:

1. **The algebraic isomorphism question:** What is the appropriate complete invariant that “classifies” algebras of bounded analytic functions on subvarieties of the nc unit ball up to algebraic (or completely bounded) isomorphism?
2. **Going beyond the nc unit ball:** Can algebras of bounded analytic functions on subvarieties of other nc bounded domains be classified along the same lines?

(Received September 19, 2017)