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Huilan Li* (huilan@math.drexel.edu), Department of Mathematics, Drexel University, 3141 Chestnut Street, Philadelphia, PA 19104. *Combinatorial Hopf algebras and representation of Towers of algebras.*

Combinatorial Hopf algebra can be realized as the Grothendick group of some tower of algebras. A well-known example is that the space of symmetric functions (in commutative variables) can be understood as the Grothendick group of the symmetric groups. The induction and restriction on modules in the Grothendick group give rise to the algebra and coalgebra structures. We show that the space of symmetric functions in noncommutative variables could be realized as the Grothendick group of the upper triangular groups over finite fields. This talk is based on the work with N. Bergeron, N. Thiem, M. Aguiar and more. (Received August 19, 2014)