

REPRESENTATION OF TOWER OF ALGEBRAS AND COMBINATORIAL HOPF ALGEBRAS

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One approach to understand Combinatorial Hopf Algebra is to realize them as the Grothendick group of some tower of algebras (if possible). Induction and restriction (under certain hypothesis) give rise to multiplication and comultiplication of modules in the Grothendick group, giving us a structure of Hopf algebra. It turns out that this model is very restrictive as the dimension of the algebras in the towers must be $r^n n!$ to give rise to a Hopf algebra.

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