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Equivalences of Hopf (co)module algebra structures

We introduce the universal Hopf algebra of a given comodule algebra structure generalizing the universal group of a grading. The construction turns out to be the initial object in a certain category. The universal Hopf algebra of a given module algebra is also considered. We study the main properties of the two constructions, including the categorical ones, and provide several examples including Hopf-Galois extensions. As an application we discuss an analogue of Amitsur's conjecture for polynomial H-identities.

REFERENCES:

[1] A.L. Agore, A. Gordienko, J. Vercruysse, Equivalences of Hopf (co)module algebra structures, preprint 2018.

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[*]Joint work with Alexey Gordienko and Joost Vercruysse.