

Title: Extensions of Yetter-Drinfel'd Hopf Algebras

Abstract: Beginning with Schreier's work on group extensions in 1926, the theory of extensions has been developed for many algebraic systems. In particular, such a theory has been developed for Hopf algebras, with contributions by N. Andruskiewitsch, M. Feth, I. Hofstetter, S. Majid, W. M. Singer, and others. This theory carries over to Hopf algebras in monoidal categories, and therefore in particular to Yetter-Drinfel'd Hopf algebras, without any substantial modification.

However, there are important examples of Yetter-Drinfel'd Hopf algebras that do not fit into this framework that arises via direct generalization, because in these examples, the so-called cleaving map is not a morphism in the category. We describe a framework that is able to incorporate also these examples.