

Title: New Examples of Yetter-Drinfel'd Hopf Algebras

Abstract: We describe new examples of semisimple cocommutative Yetter-Drinfel'd Hopf algebras over finite abelian groups in which cores have special properties. In the case where the finite abelian group has prime order, cores are always completely trivial in the sense that both the action and the coaction of the finite abelian group on the core is trivial. As our example shows, this is not a general phenomenon: Although we conjecture that the core is always trivial, it is not always completely trivial in the sense just stated.

The examples that show this fact are eight-dimensional Yetter-Drinfel'd Hopf algebras over an elementary abelian group of order 4. The corresponding Radford biproducts are semisimple Hopf algebras of dimension 32 that are interesting in themselves, because they do not have some standard features of Hopf algebras of prime power dimension. The talk is based on joint work with Yevgenia Kashina.