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**Yorck Sommerhäuser\*** (yorcksom@buffalo.edu), University at Buffalo (SUNY), Department of Mathematics, 244 Mathematics Building, Buffalo, NY 14260. *A Triviality Theorem for Yetter-Drinfel'd Hopf Algebras.*

Usually, a Yetter-Drinfel'd Hopf algebra is not a Hopf algebra. Yetter-Drinfel'd Hopf algebras that are ordinary Hopf algebras are called trivial; by a result of P. Schauenburg, this happens if and only if the quasismmetry in the category of Yetter-Drinfel'd modules accidentally coincides with the ordinary flip of tensor factors on the second tensor power of the Yetter-Drinfel'd Hopf algebra. In the case of Yetter-Drinfel'd Hopf algebras over group rings of finite groups, this happens if the degrees of homogeneous elements act trivially.

In certain situations, every Yetter-Drinfel'd Hopf algebra is trivial. One such situation will be discussed in the talk, where we will outline a proof of the following triviality theorem:

Suppose that  $A$  is a Yetter-Drinfel'd Hopf algebra over the group ring of a finite abelian group  $G$ , for a base field of characteristic zero. Suppose that  $A$  is commutative and semisimple. If the dimension of  $A$  is relatively prime to the order of  $G$ , then  $A$  is trivial.

The result was known in the case where the order of  $G$  is prime. (Received September 15, 2014)