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Daniel K Nakano* (nakano@math.uga.edu), Department of Mathematics, University of Georgia, Athens, GA 30602. *Endotrivial Modules for Hopf Algebras.*

It is well known that for a finite group, the group of endotrivial modules (over its group algebra) is finitely generated. Much less is known when one considers endotrivial modules over arbitrary finite-dimensional cocommutative Hopf algebras.

In this talk I will present a general survey outlining key results on endotrivial modules with open conjectures. Moreover, more recent results will be presented that describe the torsion free rank for the endotrivial group for finite groups of Lie type. The results encompass endotrivial modules in both the describing and non-describing characteristic cases. As a byproduct, the number of components of the orbit space for the poset of elementary abelian subgroups of rank at least two in a finite group of Lie type is described.

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