Meeting: 1001, Evanston, Illinois, SS 24A, Special Session on Hopf Algebras at the Crossroads of Algebra, Category Theory, and Topology

1001-16-380   **Siu-Hung Ng*** (rng@math.iastate.edu), Department of Mathematics, Iowa State University, Ames, IA 50011, and **Peter Schauenburg** (schauen@mathematik.uni-muenchen.de), Mathematisches Institut Der Universität M. *Central Invariants and Higer Indicators for Semi-simple Quasi-Hopf Algebras.* Preliminary report.

In this talk, we will discuss the higer Frobenius-Schur (FS) indicators for an irreducible representation V of a semi-simple quasi-Hopf algebra H. For each integer $n \geq 2$, there exists a canonical central element ν_n of H which is uniquely determined by the associator, the antipode and the integral of H. These elements ν_n are invariant under gauge transformations and the nth FS indicator $c_n(V)$ is defined to be $\chi(\nu_H)$ where χ is the character afforded by V. Our notion of higher indicators coincide with the definition given by Kashina, Sommerhäuser and Zhu when H is a Hopf algebra. We show that higher indicators for a semi-simple quasi-Hopf algebra are, indeed, invariants of the tensor category H-**mod**. Moreover, this notion of FS indicators can be further generalized to pivotal fusion categories. (Received August 31, 2004)

1