1125-20-2328   **Siu-Hung Ng*** (`rng@math.lsu.edu`), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *Gauge invariants from the powers of antipodes.*

Let S be the antipode of a finite-dimensional Hopf algebra H, which is not necessarily semisimple. It has been known that $Tr(S)$ and $Tr(S^2)$ are invariant of the finite tensor category $Rep(H)$ of the representations of H. However, it remains unclear whether $Tr(S^n)$ is an invariant for each integer n. An affirmative answer of this question immediately implies the invariance of the orders of S and S^2. In this talk, we will show that they are invariants of $Rep(H)$ when the Jacobson radical of H is a Hopf ideal. This is a joint work with Cris Negron. (Received September 20, 2016)