

1067-16-2184

**Yorck Sommerhaeuser\*** ([sommerh@jaguar1.usouthal.edu](mailto:sommerh@jaguar1.usouthal.edu)), University of South Alabama, Department of Mathematics and Statistics, 411 University Blvd N, Mobile, AL 36688. *The Central Charge of Factorizable Hopf Algebras coming from Bilinear Forms*. Preliminary report.

Recent work of Yongchang Zhu and the speaker established the following fact: For a semisimple factorizable Hopf algebra, the value of an integral on the Drinfel'd element and the value of this integral on the inverse Drinfel'd element differ only by a fourth root of unity. If the dimension is odd, they only differ by a sign, and this sign is a plus sign if the dimension is one modulo four, but a minus sign if the dimension is three modulo four.

The authors of this work conjecture that these two integral values always differ only by a sign, even if the dimension is not odd. In the talk, we provide some evidence for this conjecture by proving it for a class of factorizable Hopf algebras coming from bilinear forms. We also show that the conjecture is false for quasi-Hopf algebras, which can be constructed in an analogous way if one replaces bilinear forms with Eilenberg-MacLane cocycles. (Received September 22, 2010)