

Mathematics Colloquium

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Left Quantum Groups

In the 1980's, J. Green, W. Nichols and E. Taft constructed some left Hopf algebras, i.e., bialgebras with a left antipode S which is not a right antipode. I will outline the construction of a left quantum group, i.e., it looks like a quantum group, but there is a left antipode which is not a right antipode. In fact, there are an infinite number of such left antipodes. The construction is a variation of quantum $SL(2)$, where we use only some of the relations defining quantum $SL(2)$. We hope that this will indicate some lack of symmetry in physics. If time permits, I shall also indicate current efforts to extend this construction to variations of quantum $SL(n)$ for $n > 2$. (Joint with S. Rodriguez-Romo of UNAM, Mexico)

Wednesday, February 16

4:00 pm

204 Smith Hall