A Complete Formulation of the Baum-Connes Conjecture for the Action of Discrete Quantum Groups

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Thursday, February 26, 2004
102 Bradley Hall, 1:00 pm
NOTE SPECIAL TIME

Abstract

The goal of this talk is to present a formulation of the Baum-Connes conjecture for the action discrete quantum groups and test the conjecture with some examples.

The talk starts with an explanation of the philosophy behind the classical formulation of the conjecture in terms of group actions and the rationale for the new formulation in terms of quantum group actions.

Next we provide definition of the basic notions involved in the classical formulation of the conjecture — full and reduced group C^*-algebras, K-theory and K-homology for C^*algebras, proper group actions, universal space for proper actions, assembly maps — leading to the classical formulation of the conjecture. We also briefly review the current state of knowledge on the conjecture.

Next we define quantum analogues of the notions above — discrete quantum groups, A, say, equivariant and proper A-actions, A-equivariant K-theory and K-homology, assembly maps etc., culminating in the new formulation of the conjecture. Finally we state the the results obtained by testing the new conjecture with some examples.

This talk should be accessible to general faculty.