Realising quantum flag manifolds as graph C*-algebras

Karen Strung

Abstract

In this talk we show how the C*-completions of the Drinfeld-Jimbo quantum flag manifolds can be realised as graph C*-algebras. We begin by recalling how to construct a C*-algebra from a directed graph, how to read the K-theory groups of the C*-algebra directly from the graph, and how to see its ideal structure. We then briefly recall the construction of a quantum flag manifold, and how to compute the primitive ideal space by using Dijkhuizen and Stokmanns description of a complete set of irreducible *-representations. Finally, we show how to construct a graph directly from the Weyl group of the associated Lie algebra, and show that we recover some known isomorphisms between the C*-algebras of quantum flag manifolds, as well as determining surprising new ones.