JIE DU
University of New South Wales

Ringel-Hall algebras and the geometric setting of quantum GL_n

We will discuss a connection between the defining basis presented by Beilinson, Lusztig and MacPherson in their geometric setting for quantum GL_n and the isomorphism classes of linear quiver representations. This approach extends to q-Schur algebras, yielding a monomial basis property with respect to the Drinfeld-Jimbo type presentation for the positive (or negative) part of the q- Schur algebra. An explicit connection between the canonical basis for the positive part of quantum GL_n and the Kazhdan-Lusztig basis for q-Schur algebras is also established.