STRUCTURE CLASSIFICATION AND HOMOLOGICAL PROPERTIES OF QUANTUM AFFINE ALGEBRAS

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Time：Wed, Oct. 27th, 10:30-11:00
Venue: Room 111, SCMS
Abstract:

We mainly focus on the structure and algebraic properties of quantum (affine) algebras, with the following two research directions: (1) Research on the classification of construction and structure of quantum (affine) algebras: We have constructed a new admissible quantum affine algebra of type $A\_^{(1)}$ generated by sign deformation. As an infinite dimensional point Hopf algebra, it is not isomorphic to the standard one. In view of this interesting discovery, we further explore the essential cause of the new quantum algebraic structure generated by symbolic deformation, and describe all the possible structures of other quantum algebraic structures generated by symbolic deformation in the sense of isomorphism. (2) In addition to the classification of construction and structure of quantum (affine) algebras, we pay special attention to their homological properties ，whether they are Noetherian, principal ideal integral, and whether they have finite injective dimensions.