

## Quantum affine algebras and KLR algebras

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**摘要：** Recently, Baumann-Kamnitzer-Knutson introduced a remarkable algebra morphism:  $\bar{D}$  from  $C[N]$  to the field of rational functions  $C(a_1, \dots, a_n)$ , where  $N$  is the unipotent radical of a simply laced complex algebraic group and  $a_i$  are simple roots, in their proof of a conjecture of Muthiah about MV basis of  $C[N]$ . The algebra  $C[N]$  and a larger algebra  $K_0(C^{\xi})$  have monoidal categorifications using representations of quantum affine algebras introduced by Hernandez and Leclerc. We defined an algebra morphism  $\tilde{D}$  from  $K_0(C^{\xi})$  to  $C(a_1, \dots, a_n)$  and proved that when restricts to  $C[N]$ ,  $\tilde{D}$  coincides with  $\bar{D}$ . Moreover, using  $\tilde{D}$  and  $\bar{D}$ , we can recover information of  $q$ -characters of representations of quantum affine algebras from ungraded characters of modules of KLR algebras and vice versa. This is joint work with Elie Casbi.

**时间：2023年3月6日 14:30-15:30**

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