Green's Formula with C*-action and Caldero-Keller's Formula for Cluster Clgebras

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Abstract

It is known that Green's formula over finite felds gives rise to the multiplications of Ringel-Hall algebras and quantum groups (see [Green], also see [Lusztig]). In this talk, we deduce the projective version of Green's formula in a geometric way. Then following the method of Hubery in [Hubery2005], we apply this formula to prove Caldero-Keller's multiplication formula for acyclic cluster algebras of arbitrary type. The talk is based on a joint work with F. Xu.