Non symmetric quantum groups and critical cohomology of quiver varieties

Eric Vasserot

1. Abstract

We realize the quantum loop groups and shifted quantum loop groups of arbitrary types, possibly non symmetric, using critical K-theory. This gives a generalization of Nakajima's construction of symmetric quantum loop groups via quiver varieties to non symmetric types. This also yields a geometric realization of some simple modules, in particular the Kirillov-Reshethikin modules, and the tensor product of prefundamental modules.