

Title: Deformed quantum enveloping algebra and its application to quantized semisimple coadjoint orbits

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Abstract: After Podles's work on quantum 2-spheres, study on quantizations of actions of complex semisimple Lie groups has been developed as a branch of quantum group theory. Especially quantizations of semisimple coadjoint orbits has attracted many researchers. In 90's Donin clarifies the moduli space of equivariant Poisson structures on such a space and use it to classify all of its equivariant deformation quantizations. His proof did not give any explicit construction, but Mudrov and Etingof-Enriquez-Marshall gives a concrete construction in the generic case, using the parabolic induction functor.

In this talk I will introduce deformed quantum enveloping algebras to generalize their construction to the non-generic cases. Such an algebra is defined for any element of the toric variety associated to a root system and can be thought as a limit of the usual quantum enveloping algebra when we consider a non-generic element of the toric variety.

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