

Introduction to representations of quantum affine algebra $U'_q(\widehat{sl}_2)$

In this lecture, we study representations of quantum affine algebra $U'_q(\widehat{sl}_2)$ based on several examples. This lecture is organized as follows:

- Review representations of $U(sl_2)$ and $U_q(sl_2)$,
- Construction of \widehat{sl}_2 ,
- Quantization of $U(\widehat{sl}_2)$,
- Evaluation modules over $U'_q(\widehat{sl}_2)$,
- Classification of finite-dimensional simple (type 1) modules over $U'_q(\widehat{sl}_2)$,
- Tensor product of finite-dimensional simple (type 1) modules over $U'_q(\widehat{sl}_2)$ and R-matrix.