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Section:

7. Lie Groups and Lie Algebras

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Quantized Kac-Moody algebras and symmetric functions

We introduce an affinization of the quantum Kac-Moody algebra associated to a symmetric generalized Cartan matrix. Based on the affinization, we construct a representation of the quantum Kac-Moody algebra by vertex operators from bosonic fields. The vertex representation gives an interesting and non-trivial combinatorial identity involving Hall-Littlewood polynomials.

Ref: N. Jing, Quantum KAc-Moody algebras and vertex representations, Lett. Math. Phys., to appear. math. QA/9802036