

Kashiwara, Masaki; Nakashima, Toshiki

Crystal graphs for representations of the q -analogue of classical Lie algebras. (English)

Zbl 0808.17005

J. Algebra 165, No. 2, 295-345 (1994).

The notion of a crystal base was introduced by Kashiwara and proved to exist uniquely for any integrable highest weight representation of the q -analogue of symmetrizable Kac-Moody Lie algebras. In the present paper the authors give their explicit description for finite dimensional irreducible representations of A_n , B_n , C_n and D_n . In particular, in the A_n -case the crystal bases are labelled by the semistandard tableaux. The description is concrete and self-contained.

Reviewer: [H. Yamada \(Tokyo\)](#)

MSC:

17B37 Quantum groups (quantized enveloping algebras) and related deformations

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Keywords:

crystal graph; q -analogue of classical Lie algebras; crystal base; irreducible representations; semistandard tableaux

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