ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

7. Lie Groups and Lie Algebras

1991 MS Classification: 17
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Demazure Crystals for quantum affine Lie algebras
The crystal basis for an integrable representation of a quantum affine Lie algebra provides a useful combinatorial tool to study the representation. In 1993, Kashiwara defined a crystal for the Demazure modules. In this talk we will discuss some recent results obtained by the author and his collaborators on the crystals associated with the Demazure modules for quantum affine Lie algebras. In particular we show that under certain conditions these crystals admit tensor product structure. In this study the theory of perfect crystals play an important role.