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The Kazhdan-Lusztig coefficients in the lowest two-sided cells for an affine Weyl group of type $\tilde{A}_3$. (Chinese. English summary) [Zbl 07366883]


Summary: For Kazhdan-Lusztig polynomials $P_{y,w}(q)$, the leading coefficients $\mu(y,w)$ play an important role in Lie algebra and representation theory. We get the leading coefficients of Kazhdan-Lusztig polynomials in the lowest two-sided cells for the affine Weyl group of type $\tilde{A}_3$ by the properties of Heck algebra and calculating the product of Kazhdan-Lusztig basis and the multiplicity formula of irreducible module in tensor product.

MSC:

20F55 Reflection and Coxeter groups (group-theoretic aspects)

Keywords:

affine Weyl group; leading coefficient; the lowest two-sided cells