

Lie Tori and Structurable Tori

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Abstract

We report some recent progress on Lie tori. Lie n -tori are certain \mathbf{Z}^n -graded Lie algebras which coincide with the cores of extended affine Lie algebras. Lie 1-tori of type A_1 and BC_1 are exactly affine Kac-Moody Lie algebras of type $A_1^{(1)}$ and $A_2^{(2)}$ respectively. We discuss Lie 2-tori of type A_1 and BC_1 which are coordinatized by analogues of the algebra of Laurent polynomials in two variables. It turns out that the coordinate algebras for type A_1 include one infinite family containing the algebra of Laurent polynomials in two variables and precisely one other algebra. For type BC_1 the situation is rather different. There are precisely five different coordinate algebras in that case.