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Erratum to

Central extensions of Lie superalgebras

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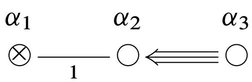
1. The Cartan matrix of type $G(3)$ in [IK1]

In [IK1], we have shown the existence of a Chevalley basis for the basic classical Lie superalgebras (Theorem 3.9) and define Lie superalgebras over $\mathbb{Z}$ (Corollary 3.10). However, in the case of $G(3)$, our choice of the Cartan matrix in Appendix A is not appropriate and half integers appear as structure constants given by Theorem 3.9.

An appropriate choice of the Cartan matrix of type $G(3)$ is as in [K]:



$$\begin{bmatrix} 0 & 1 & 0 \\ -1 & 2 & -3 \\ 0 & -1 & 2 \end{bmatrix} = \begin{bmatrix} -1 & & \\ & 1 & \\ & & \frac{1}{3} \end{bmatrix} \begin{bmatrix} 0 & -1 & 0 \\ -1 & 2 & -3 \\ 0 & -3 & 6 \end{bmatrix}$$

Remark that the Lie superalgebras defined by the Cartan matrix in Appendix A and by the above one are isomorphic over any field of characteristic $\neq 2$.

Consequently, the table in Remark 3.3.6 should be

type of $\mathfrak{g}$	λ	type of $\mathfrak{g}$	λ
$A(m,n)$	± 1	$D(2,1;a)$	$-1,\ a+1,\ -a$
$C(n)$	$-1,\ -2$	$F(4)$	$-1,\ -2,\ 3$
$B(m,n)$	$\pm 1,\ 2$	$G(3)$	$-1,\ -3,\ 4$
$D(m,n)$	$\pm 1,\ -2$		

and all structure constants given by Theorem 3.9 are integers. Hence, Corollary 3.10 holds, also for $G(3)$.

2. Equivalence class of central extensions

In Lemma 4.1, we stated that the equivalence classes of central extensions $0 \to V \to \mathfrak{u} \to \mathfrak{a} \to 0$ are parametrized by $H^2(\mathfrak{a}, V)$. Although, we only consider even central extensions ($V = V^{\bar{0}}$) in Lemma 4.1, it is more natural to treat not only even central extensions but also odd ones. For a superspace V, such equivalence classes are parametrized by $H^2(\mathfrak{a}, V)^{\bar{0}}$. For the details, see Section 5.1 in [IK2].

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References

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