Erattum 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]:

$$
\begin{pmatrix}
\alpha_1 & \alpha_2 & \alpha_3 \\
0 & 1 & 0 \\
-1 & 2 & -3 \\
0 & -1 & 2
\end{pmatrix}
\begin{pmatrix}
0 & -1 & 0 \\
-1 & 2 & -3 \\
0 & -3 & 6
\end{pmatrix}
$$

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

<table>
<thead>
<tr>
<th>type of $g$</th>
<th>$\lambda$</th>
<th>type of $g$</th>
<th>$\lambda$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A(m, n)$</td>
<td>$\pm 1$</td>
<td>$D(2, 1; a)$</td>
<td>$-1, a + 1, -a$</td>
</tr>
<tr>
<td>$C(n)$</td>
<td>$-1, -2$</td>
<td>$F(4)$</td>
<td>$-1, -2, 3$</td>
</tr>
<tr>
<td>$B(m, n)$</td>
<td>$\pm 1, 2$</td>
<td>$G(3)$</td>
<td>$-1, -3, 4$</td>
</tr>
<tr>
<td>$D(m, n)$</td>
<td>$\pm 1, -2$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 ($V = V^\mathbb{Z}_2$) 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 $H^2(\mathfrak{a}, V^\mathbb{Z}_2)$. For the details, see Section 5.1 in [IK2].

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References

