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Superconformal tensor calculus and matter couplings in six dimensions

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Erratum

Erratum to “Superconformal tensor calculus and matter couplings in six dimensions” [Nucl. Phys. B 264 (1986) 653]

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Here are corrections on this paper. We thank T. Kugo, who pointed out several of these.

- Section 2: the algebra is mentioned as $OSp(6, 2|1)$. It should be $OSp(8^*|1)$, the latter having $SO(6, 2) \times SU(2)$ as a bosonic subgroup, while the former has $SO(6, 2) \times SU(1, 1)$.
- (2.11): the expression for f_μ^a should have an overall minus sign if the definition for R_μ^a is used as in (2.25).
- (2.24): in the middle equation: replace $+T_{\mu bc}^- T^{-abc}$ by $-T_{\mu bc}^- T^{-abc}$.
- (2.25): in first equation: replace $+\frac{1}{8}T_{\mu cd}^- T^{-acd}$ by $-\frac{1}{8}T_{\mu cd}^- T^{-acd}$.
- (2.26): remove the bar from η^i in one but last equation.
- (2.29): the $[\mu\nu]$ indices should be replaced by flat indices. Otherwise there would be extra ψ_μ -dependent terms. Furthermore, the last term in $\delta\hat{R}_{\mu\nu}^i$ should be $+\frac{1}{2}T_{ab[\mu}^- \gamma^{ab}\gamma_{\nu]}\eta^i$.
- Table 5: in the linear multiplet, the fermion field is denoted as φ rather than ϕ .
- (3.10): last term should be $-2gY_{ij}^\alpha{}_\beta$.
- (3.26): in third line the last $+$ sign is superfluous, thus it clearly means: $+\frac{3}{4}\bar{\epsilon}_2\gamma_{[a}\epsilon_1 \times \bar{\psi}_b\gamma_{c]}\Gamma$.
- (3.41): the third and fourth line should be

$$\begin{aligned}\delta(eE^{\mu\nu}) &= e(\bar{\epsilon}\gamma^{\mu\nu}\varphi + \bar{\psi}_\rho^i \gamma^{\mu\nu\rho}\epsilon^j L_{ij}) + \partial_\rho(\tilde{A}^{\mu\nu\rho}), \\ \hat{D}_\nu E^{\mu\nu} &= E_{;\nu}^{\mu\nu} - \bar{\psi}_\nu \gamma^{\mu\nu}\varphi - \frac{1}{2}\bar{\psi}_\rho^i \gamma^{\mu\nu\rho}\psi_\nu^j L_{ij},\end{aligned}\tag{1}$$

where $E_{;\nu}^{\mu\nu}$ indicates the derivative with Levi-Civita connection, i.e., $\partial_\nu E^{\mu\nu} + \frac{1}{2}E^{\mu\nu}g^{-1}\partial_\nu g$.

- (4.15): delete the e^{-1} at the end.
- Equation after (A.10): the j should be a lower index.

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