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Quantum Corrections in Kaluza-Klein Theory.

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The factor of $2E^2$ in eq. (16*a*) is incorrect and should be replaced by $64E^4$. This effects eqs. (16*b*), (17) and the equation for $V_E(\boldsymbol{r}, x_5)$ in the long-range limit and the expression given for the gravitational potential in the following paragraph, all of which should have $32E^4$ in place of E^2.

In equation (30), the factor 238 should be changed to 2380 and in (32) 970 replaced by 961.

Due to an incorrect interaction Lagrangian given in appendix B, namely (B.2), which should be omitted entirely, the vertex rule given in (B.3) should read

$$K^{-2} M_n^2 (\eta^{\mu\varrho}\eta^{\nu\sigma} + \eta^{\nu\sigma}\eta^{\nu\varrho} - 2\eta^{\mu\nu}\eta^{\varrho\sigma})/4\,.$$

Hence the scattering corrections, eqs. (33), are modified to read

$$T^{[a]} \sim -i\sum_n (3M_n^2)^{-4} \int \frac{\mathrm{d}^4 q}{(2\pi)^4} \frac{(p\cdot q)^2 (k\cdot q)^2 (q^2 + p\cdot q)^2 (q^2 - k\cdot q)^2}{(q^2 - M_n^2)^2 (q^2 + 2p\cdot q - M_n^2)(q^2 - 2k\cdot q - M_n^2)}\,, \tag{33}$$

$$T'^{[a]} \sim -i\sum_n (3M_n^2)^{-4} \int \frac{\mathrm{d}^4 q}{(2\pi)^4} \frac{(p\cdot q)^2 (k\cdot q)^2 (q^2 - p\cdot q)^2 (q^2 - k\cdot q)^2}{(q^2 - M_n^2)^2 (q^2 - 2p\cdot q - M_n^2)(q^2 - 2k\cdot q - M_n^2)}\,, \tag{33'}$$

$$T''^{[a]} \sim -i\sum_n (3M_n^2)^{-4} \cdot \tag{33''}$$

$$\cdot \int \frac{\mathrm{d}^4 q}{(2\pi)^4} \frac{(p\cdot q)(k\cdot q)(q^2 + p\cdot q)(q^2 - k\cdot q)(p\cdot k - p\cdot q)^2 (p\cdot k + k\cdot q)^2}{(q^2 - M_n^2)^2 (q^2 - 2k\cdot q - M_n^2)(q^2 + 2p\cdot q - M_n^2)((q + k - p)^2 - M_n^2)}\,.$$

Then, in the following sentence, which reads « The leading part of the result is of order $(k\cdot p)^{10}$ ... », $(k\cdot p)^{10}$ should be replaced by $(k\cdot p)^6$. Finally eq. (34) and the following line should be changed to

$$« \; T_{\text{tot}} \sim -\frac{468\,617}{105} \cdot \frac{|B_8|}{8!} (2\pi R)^8 \frac{(p\cdot k)^7}{(36\pi)^2} \left(\frac{1}{2 - l}\right)_{l\to 2}\,, \tag{34}$$

where B_8 comes from the sum over massive modes,

$$\sum_n (n^2)^{l-6} \quad \text{as } l \to 2 \; ».$$