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Gordon W. F. Drake
University of Windsor

R. A. Swainson

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Errata: Expectation values of $r^p$ for arbitrary hydrogenic states
G. W. F. Drake and R. A. Swainson

This paper contains typographical errors in three of the equations for the expectation values of the inverse powers of $r$, given on p. 1125. The corrected equations should read

\[
\langle 1/r^{11} \rangle = 630G_{11}(n,l)\left\{ \frac{441}{63}n^9 - \frac{27}{3}n^7 \left[f_1(l) - \frac{25}{6} \right] + \frac{66}{7}n^5 \left[f_2(l) - 10f_1(l) + \frac{145}{6} \right] \\
- \frac{44}{3}n^3 \left[f_3(l) - \frac{44}{3}f_2(l) + 48f_1(l) - \frac{12}{7}f_1(l) + n \left[f_4(l) - \frac{16}{5}f_3(l) + \frac{168}{5}f_2(l) - \frac{57}{5}f_1(l) + 64 \right] \right\},
\]

\[
\langle 1/r^{13} \rangle = 2772G_{13}(n,l)\left\{ \frac{1199}{5}n^9 - \frac{30905}{69}n^7 \left[f_1(l) - 9 \right] + \frac{3310}{7}n^5 \left[f_2(l) - \frac{44}{3}f_1(l) + \frac{63}{10} \right] \\
- 130n^7 \left[f_3(l) - 20f_2(l) + \frac{441}{3}f_1(l) - \frac{105}{2} \right] \\
+ \frac{92}{7}n^5 \left[f_4(l) - 18f_3(l) + 174f_2(l) - \frac{1633}{21}f_1(l) + \frac{15078}{35} \right] \\
- n \left[f_5(l) - \frac{35}{3}f_4(l) + 80f_3(l) - \frac{1600}{7}f_2(l) + 1600f_1(l) - \frac{14400}{11} \right] \right\},
\]

\[
\langle 1/r^{16} \rangle = 1716G_{16}(n,l)\left\{ \frac{1671}{143}n^9 - \frac{130075}{33}n^7 \left[f_1(l) - 15 \right] + 52003n^9 \left[f_2(l) - \frac{44}{3}f_1(l) + 185 \right] \\
- 33915n^7 \left[f_3(l) - 38f_2(l) + \frac{1449}{3}f_1(l) - \frac{3251}{2} \right] \\
+ 11305n^5 \left[f_4(l) - 42f_3(l) + \frac{579}{3}f_2(l) - \frac{17433}{35}f_1(l) + 13718 \right] \\
- 1785n^4 \left[f_5(l) - \frac{112}{5}f_4(l) + 791f_3(l) - \frac{26844}{5}f_2(l) + \frac{403200}{35}f_1(l) - \frac{14400930}{35} \right] \\
+ 105n^2 \left[f_6(l) - 25f_5(l) + \frac{1503}{3}f_4(l) - 6908f_3(l) + \frac{2612288}{35}f_2(l) - \frac{3772512}{35}f_1(l) + \frac{224972736}{35} \right] \right\}.
\]

The changes are a closing bracket in the second line of $\langle 1/r^{11} \rangle$, the leading multiplying factor in $\langle 1/r^{13} \rangle$, and a factor of $n^4$ in the fourth line of $\langle 1/r^{16} \rangle$. Also, Eq. (15) should read

\[
\langle r^2 \rangle = 6(n/4Z^2)\left\{ \frac{5}{4}n^2 - n \left[f_1(l) - \frac{1}{12} \right] \right\}.
\]

Erratum: Relativistic effects on low-frequency Rayleigh scattering including spin flip for hydrogenic atoms
Viorica Florescu, M. Marinescu, and R. H. Pratt

In Eq. (5) $s_z$ should be replaced by $s_z^\dagger$ and $\xi$ by $e_3$.
In the last equality of Eq. (13) $Z$ should be replaced by $\tau$.
In Eqs. (14) and (16) $Z$ should be replaced systematically by $\tau$. On the right-hand side of the last equality of Eq. (14) $\delta$ should be replaced by $\tau$.
In Eq. (15) $\gamma_{11}$ should be replaced by $\gamma_{22}+1$.
In Eq. (16) $J_m$ should be replaced by $J^m$, the first $\delta$ by $\tau$ and the second $\delta$ by $\lambda$.
In Table I, in the heading of the last column $\Sigma$ should be replaced by $e$ and in the column RDLWL the fifth number, $-0.11122$, should be replaced by $-0.011122$.

In Table III the value of $B$ for $k=0.6$ and $Z=13$ is $-4.6244[-4]$, not $-8.9674[-3]$; the values of $B$ for $Z=30$, $k=0.5$, and $k=0.6$ should be interchanged; and the value of $B$ at $k=0.5$, $Z=50$ is $4.4561[-6]$, not $4.4522[-6]$.

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