Errata

Erratum: Accurate determination of the total electronic energy of the Be ground state [Phys. Rev. A 14, 1965 (1976)]

Carlos F. Bunge

The mass polarization correction to the energy of Be^{++} and Be^{+} was taken from literature data (Ref. 36) with the wrong sign. It should be noted that in Table IV of Pekeris' paper (Ref. 38) the mass polarization is given with the wrong sign. The predicted $E_r = E - E_{nr}$ given in Table X should should then be corrected from $-0.001\,987(30)$ to $-0.000\,204\,7(30)$. It then appears that L-shell correlation energy effects on the relativistic energy correction may be about $-0.000\,060(30)$ a.u., which would allow agreement between theory and experiment.

Erratum: Many-body scattering theory methods as a means for solving bound-state problems: Applications of arrangement channel quantum mechanics [Phys. Rev. A 15, 2147 (1977)]

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In subsection II B 4 b, simple perturbation expressions were written in terms of the row vectors $\langle\chi_\alpha|$, which carried an implied transpose of the column vectors $|\chi_\alpha\rangle$. This is in fact incorrect because $|\chi_\alpha\rangle$ is an eigensolution of a non-Hermitian operator. Orthogonality in this case must be expressed in terms of the *dual* vectors $\langle\phi_\alpha|$, which are *bi-orthogonal* to the $|\chi_\alpha\rangle$: $\langle\phi_{\alpha'}|\chi_\alpha\rangle = 0$, $\alpha' \neq \alpha$. In the notation of subsection II B 4 b, $\langle\phi_\alpha|$ obeys $\langle\phi_\alpha|H_0^M = W_\alpha\langle\phi_\alpha|$. Using the $\langle\phi_\alpha|$, the incorrect Eq. (32) becomes

$$|\psi^{(1)}\rangle = \sum_{\beta\neq\alpha} \frac{|\chi_\beta\rangle}{\langle\phi_\beta|\chi_\beta\rangle} \frac{\langle\phi_\beta|V^M|\chi_\alpha\rangle}{W_\alpha - W_\beta}\,,$$
$$E^{(1)} = \langle\phi_\alpha|V^M|\chi_\alpha\rangle\,, \tag{32}$$

with similar changes in any higher-order terms.