Errata

Erratum: Nonadiabatic corrections to the polarizability of the hydrogen molecule [Phys. Rev. A 12, 2239 (1975)]

G. Karl and J. D. Poll

Table II of this paper contains numerical errors. The entries under "Theory with corrections" should read 0.2997 and 0.2953 for H_2 and HD, respectively, while the entry under "Expt-Theory" for H_2 should be changed to 0.0019 ± 0.0005. The main conclusion of the paper remains unchanged. The authors are indebted to J. H. Martin, Jr., for bringing these errors to their attention.

Erratum: Measurement of the centrifugal-distortion dipole moment of GeH_4 using a CO_2 laser [Phys. Rev. A 15, 2298 (1977)]

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We failed to quote the prediction by K. Fox [Phys. Rev. A 6, 907 (1972)] of the centrifugal-distortion dipole moment of GeH_4. His predicted upper limit for C_{34} of 8×10^{-6} Debye corresponds to a θ_z^{xy} of 3.6×10^{-4} Debye and agrees well with our experimental value of $(3.33\pm0.05)\times10^{-5}$ Debye.

Erratum: Resonance broadening of Hanle-effect signals in rubidium [Phys Rev. A 10, 231 (1974)]

A. Gallagher and E. L. Lewis

Table III of this paper indicates a factor-of-2 disagreement between theory and experiment for the resonance broadening of the $5\,^2P_{1/2}$ zero-field orientation signal, but agreement for the $5\,^2P_{3/2}$ state orientation and alignment. This is now understood; it is due to an incorrect treatment of the nuclear-spin correction for the $^2P_{1/2}$ case, whereas the $^2P_{3/2}$ level was correctly treated. The $^2P_{1/2}$ signal was calculated for the case $Q^0/Q^1 = 0.5$, which is appropriate for foreign-gas broadening. [The Q^x are defined in Eq. (16) of the original paper.] Thus an $\alpha = 0.375$ correction factor for experimental versus J depolarization rates was obtained, in agreement with the treatment of foreign-gas broadening by Bulos and Happer.[1] However, the theoretical calculation for the resonance broadening of $^2P_{1/2}$ level by Carrington *et al.*[2] (without nuclear spin) gives $Q^0/Q^1 = 1.588$, for which the correction factor of $\alpha = 0.760$ has recently been calculated by Lewis and Wheeler[3] in a general treatment of these effects. Also the measured broadening varied almost linearly with density in contradiction to the predictions for the $Q^0/Q^1 = 0.5$ case, whereas Lewis and Wheeler find essentially linear broadening for $Q^0/Q^1 = 1.588$.

Using this $\alpha = 0.76$ correction factor, the final result for the broadening of the zero-field orientation Hanle signal of $5\,^2P_{1/2}$ in rubidium (without nuclear spin) is, in terms of $\beta = 10^{-2}N\lambda^3\Gamma$ defined in Table III: theory, 1.155; experiment, 1.23 ± 0.1; i.e., experiment/theory $= 1.06 \pm 0.10$, in agreement with the other three Hanle signals investigated.

[1]B. Bulos and W. Happer, Phys. Rev. A 4, 849 (1971).
[2]C. Carrington, D. N. Stacey, and J. Cooper, J. Phys. B 6, 417 (1973).
[3]E. L. Lewis and C. S. Wheeler, J. Phys. B 10, 911 (1977).