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# Errata

**Frequency Shifts in Spin-Exchange Optical Pumping Experiments,** L. C. BALLING, R. J. HANSON, AND F. M. PIPKIN [Phys. Rev. **133**, A607 (1964)]. Equation (A14) in this paper is incorrect. It should read

$$\frac{dP_M(\mathrm{Rb}^{87})}{dt}=\frac{P(e)-P_e(\mathrm{Rb}^{87})}{T_{e\mathrm{Rb}^{87}}},$$

where

$$P_M=\tfrac{1}{2}(2R_{11}+R_{22}-R_{44}-2R_{55}-R_{66}+R_{88}).$$

We have since realized that some of our statements concerning the replacement of $Rb^{87}$ by an equivalent spin-one-half system are misleading. We were not able to rigorously justify such a replacement—Eqs. (68), (72), (76), (77), and (79) are only an approximation for $Rb^{87}$. The actual situation is quite complicated, particularly in the manner in which the diagonal elements of the rubidium density matrix depend upon the absorption of light. It is our feeling, however, that such a replacement and the use of an effective pumping time is a good approximation. We are indebted to Stuart Crampton for pointing out the error in Eq. (A14).

**Theory of Electron Capture in $H^+$–H Collisions,** BENJAMIN ROTH [Phys. Rev. **133**, A1257 (1964)]. The term $V_{0c}^*(R)$ in Eq. (7) should have the asterisk deleted and should read $V_{0c}(R)$. This correction makes the calculation for the damping factor $g$ in error, and Eqs. (15), (17) and (18) are not valid. However, making this correction does not affect the calculation for the phase angle $\varphi$ which locates the resonances and antiresonances on the energy scale. Equations (12) and (13) which contain the essential part of the method should be corrected to read as follows:

$$[-\varphi_+'+ig_+'+\alpha(V_{00}+V_{0cR})+i\alpha V_{0cI}]\times\exp(i\varphi_++g_+)+\Phi_+=0, \quad (12)$$

$$[-\varphi_-'+ig_-'+\alpha(V_{00}-V_{0cR})-i\alpha V_{0cI}]\times\exp(i\varphi_-+g_-)+\Phi_-=0. \quad (13)$$

The author is grateful to Professor D. R. Bates for helpful correspondence on this matter.

**Incoherent Scattering of Radiation by Plasmas. I. Quantum Mechanical Calculation of Scattering Cross Sections,** D. F. DUBOIS AND V. GILINSKY [Phys. Rev. **133**, A1308 (1964)]. In Eq. (3.9), a factor of $\omega^{-2}$ should be removed from the right-hand side to obtain agreement with the previous equations. The caption to Fig. 2 should have the additional sentence: "The frequency scale is normalized to $\alpha k$." In the Appendix, Eq. (A5) should read

$$\mathrm{Im}\,\Pi_e{}^+(k,\omega)=(4\pi e^2)\sum_f\sum_i\rho_i|\langle f|n_e(0,0)|i\rangle|^2\times(2\pi\hbar)^3\delta^3(\mathbf{P}_f-\mathbf{P}_i+\hbar\mathbf{k})\times(2\pi)\delta(E_f-E_i+\hbar\omega)(1-e^{-\beta\hbar\omega}),$$

and Eq. (A7) should have an additional factor of $\hbar^{-1}$ on the right-hand side. None of the results of this paper are affected by these changes.

**Incoherent Scattering of Radiation by Plasmas. II. Effect of Coulomb Collisions on Classical Plasmas,** D. F. DUBOIS AND V. GILINSKY [Phys. Rev. **133**, A1317 (1964)]. Equation (2.5) should contain an additional over-all factor of $k^{-2}$ on the right-hand side.

In Eq. (4.9) the factor in curly brackets should read

$$\left\{\frac{4\omega^2}{k^4}\Gamma_{ei}+\frac{4}{25}\frac{\omega^2}{k^4}(\nu_{ee}+\alpha^{-2}\nu_{ii})+\frac{5}{3}\frac{\omega^2}{k^2}\left(\frac{1}{\omega_{ii}}+\frac{1}{\omega_{ee}}\right)\right\},$$

so that the factor in curly brackets in Eq. (4.11) should read

$$\left\{\frac{1}{25}(\nu_{ee}+\alpha^{-2}\nu_{ii})+\frac{5}{12}k^2\left(\frac{1}{\omega_{ii}}+\frac{1}{\omega_{ee}}\right)\right\}.$$

**Analysis of the 50-MeV Proton-Proton Scattering Data,** PETER SIGNELL, N. R. YODER, AND N. M. MISKOVSKY [Phys. Rev. **133**, B1495 (1964)]. The symbols $C_{NN}$ and $C_{KP}$ in the last two lines of Table I should be interchanged. We are indebted to Dr. K. Nisimura for pointing out this misprint.