

# Errata

**Hyperfine Structure of Hydrogen, Deuterium, and Tritium**, L. WILMER ANDERSON, FRANCIS M. PIPKIN, AND JAMES C. BAIRD, JR. [Phys. Rev. **120**, 1279 (1960)]. In constructing Table VI, the pressure shifts in cycles/sec mm Hg were calculated incorrectly from the measured pressure shifts in cycles/sec cm oil. The correct entries for Table VI are:

Hydrogen isotope	Buffer gas	Pressure shift cycles/sec mm Hg	(Pressure shift/ $\Delta\nu$ ) $\times 10^9$ (mm Hg) $^{-1}$
H	A	-6.6	-4.7
H	He	+5.2	+3.7
H	Ne	+3.0	+2.1
H	H <sub>2</sub>	-0.44	-0.31
D	A	-1.2	-3.6
D	Ne	+0.81	+2.5
T	A	-3.7	-2.4
T	Ne	+5.5	+3.7

Because of this correction the ordinate scale in Fig. 12 should read

$$(1/1.86)(\Delta\nu/\nu)\times 10^{+9}/\text{mm Hg}.$$

**Single and Multiple Stripping of  $\alpha$  Particles**, M. EL NADI [Phys. Rev. **120**, 1360 (1960)]. The numerical factors  $T$  in Eqs. (16), (17), and (23) should read, respectively:

$$T = \frac{2\pi^2\gamma_d^3}{\gamma_a^{9/2}} \left(1 + \frac{\gamma_d^2}{2\gamma_a^2}\right)^{-3} f_{l(p)l(n)}(R_0),$$

and

$$T = 2.49(\pi^2/\gamma_h^3) f_{l(n)l(p)}(R_0),$$

$$T = (2^3\pi^{11/4}/\gamma_a^{9/2}) f_{l[n(1)]l[p(1)]l[n(2)]}(R_0).$$

**Elastic Constants of  $\beta$ -Tin from 4.2°K to 300°K**, J. A. RAYNE AND B. S. CHANDRASEKHAR [Phys. Rev. **120**, 1658 (1960)]. Equations (1) and (2) should read

$$\theta_0^3 = \frac{9N}{V\rho^3} \left(\frac{h}{k}\right)^3 / \sum_{i=1}^3 \int \frac{d\Omega}{\xi_i^3}, \quad (1)$$

$$\theta_0^3 = \frac{9N}{16V\rho^3} \left(\frac{h}{k}\right)^3 / \sum_{i=1}^3 \int_{\theta=0}^{\pi/2} \int_{\phi=0}^{\pi/4} \frac{\sin\theta d\theta d\phi}{\xi_i^3}. \quad (2)$$

**Momentum Spectrum of Muons**, W. PAK, S. OZAKI, B. P. ROE, AND K. GREISEN [Phys. Rev. **121**, 905 (1961)]. In the above article it was incorrectly stated that no comparable data on the muon spectrum at large zenith angles had previously been published. We regret our failure to make note of the article by J. R. Moroney and J. K. Parry [Australian J. Phys. **7**, 423 (1954)], which reported

measurements of the spectrum at zenith angles of 0°, 30°, and 60°. The spectrum at 60° agrees with ours at 68° as well as can be expected, and has a similar statistical accuracy and upper energy limit.

**Photothermal effect in Semiconductors**, W. W. GÄRTNER [Phys. Rev. **122**, 419 (1961)]. Add after Eq. (II.5): Calculating  $j_p$  and  $j_n$  from expressions presented in footnotes 5 and 6, one observes that  $f_p$ , i.e., the electronic contribution to the thermal conductivity, practically vanishes in thin slabs with long carrier lifetimes and low back-surface recombination rates. By measuring the thermal conductivity in such thin slabs and also in bulk crystals of the same material, one may therefore determine directly the electronic contribution to the thermal conductivity. Since this electronic contribution is frequently only a small percentage of the total thermal conductivity, the measuring technique used must be unusually accurate.

**Cartesian Tensor Scalar Product and Spherical Harmonic Expansions in Boltzmann's Equation**, T. WYATT JOHNSTON [Phys. Rev. **120**, 1103 (1960)]. p. 1103: After Eq. (3) omit  $\sin\theta$  in the definition of  $Y_{lm}(\theta, \phi)$ . p. 1105: Exchange  $\mathbf{Q}$  and  $\langle \mathbf{Q} \rangle$  in Eq. (10b). Omit  $(\mathbf{f}_1 \cdot \mathbf{f}_1)$  in the equation for a triad, after Eq. (10c). p. 1107: Equation (12a) should read

$$\frac{\partial f}{\partial t} + v^i \frac{\partial f}{\partial x^i} + \dots, \text{ not } \dots v^i \frac{\partial f}{\partial v^i} \dots$$

In the second large equation after (12a) the  $le_{ijk} \dots$  term should have  $v^l$  in its denominator rather than  $v$ . In Eqs. (14) and (15) there should be a multiplication sign  $\times$  between  $\omega_b$  and  $\{\mathbf{f}_1\}$  and  $\{\mathbf{f}_2\}$ , respectively, while in Eq. (15) a factor  $v$  is missing from the denominators of the terms with  $\mathbf{a} \cdot \{\mathbf{f}_2\}$ ,  $\{\mathbf{f}_3\}$ ,  $\{\mathbf{f}_4\}$ , and  $\{\mathbf{f}_5\}$ . p. 1108: In footnote 16,  $f_1$  should read  $f_l$ .

This Erratum replaces an earlier Erratum [Phys. Rev. **120**, 2277(E) (1960)].

**Theory of Solid He<sup>4</sup>**, LOUIS GOLDSTEIN [Phys. Rev. **122**, 726 (1961)]. On p. 729, in the fourth line underneath Eq. (21b), read "the isochores  $p(T)_v \dots$ " instead of "the isobars  $\dots$ ".

**Thermal Conductivity of CaF<sub>2</sub>, MnF<sub>2</sub>, CoF<sub>2</sub>, and ZnF<sub>2</sub> Crystals**, GLEN A. SLACK [Phys. Rev. **122**, 145 (1961)]. The values of  $\Gamma(\text{CaF}_2)$  and  $\Gamma(\text{ZnF}_2)$  due to isotopes should be a factor of 3 larger than given by Eq. (4). This neglected factor of 3 arises from the fact that there are three atoms per molecule. This change will lower the dotted isotope curve in Fig. 10 by a factor of 1.73 so that it will be tangent to the experimental curve at 25°K.