Errata

Isospin Conservation and β-γ Circular-Polarization Correlation in Mixed Transition, STEWART D. BLOOM, LLOYD G. MANN, AND JOHN A. MISKEL [Phys. Rev. **125**, 2021 (1962)]. The sign of the second term in Eq. (2′) should read ∓ instead of ±.

Flow Instability in Liquid Helium II, R. MESERVEY [Phys. Rev. **127**, 995 (1962)]. The hydrodynamic equations (6) and (7) which were attributed to Landau and London should have referred to Zilsel[1] in place of London. Footnote 15 should have contained this reference and referred to Zilsel's equations. The suggestion on p. 1002 that the term $(\rho_s\rho_n/2\rho)\nabla|\mathbf{V}_n-\mathbf{V}_s|^2$ might cause an instability was previously proposed by Fried and Zilsel.[2]

[1] P. R. Zilsel, Phys. Rev. **79**, 309 (1950).
[2] H. M. Fried and P. R. Zilsel, Phys. Rev. **85**, 1044 (1952).

Circular-Polarization Measurements in the β Decay of V^{48}, Co^{56}, Fe^{59}, and Cs^{134}, LLOYD G. MANN, STEWART D. BLOOM, AND R. J. NAGLE [Phys. Rev. **127**, 2134 (1962)]. The sign of the second term in Eq. (1) should read ∓ instead of ±. The last column in Table IV should read 2×10^{-2} instead of 2×10^{-4} for Fe^{59}, and 5×10^{-4} instead of 5×10^{-2} for Cs^{134}.

Harmonics in the Scattering of Light by Free Electrons, VACHASPATI [Phys. Rev. **128**, 664 (1962)]. Some modifications in the expressions for the scattering cross sections given in the original paper should be made. They are necessitated by the following circumstance: Denoting the instantaneous position of the electron vibrating about the origin by $\mathbf{z}$, its distance from the point of observation, $\mathbf{x}$, is $r=|\mathbf{x}-\mathbf{z}|$. We put it as approximately equal to $|\mathbf{x}|$, which is the distance from the mean central point of the electron vibration. This seems reasonable, at first sight, when we are interested in calculating the radiation field, but a closer look reveals that we should write instead

$$r=|\mathbf{x}|\left(1-2\frac{\mathbf{x}\cdot\mathbf{z}}{|\mathbf{x}|^2}+\frac{\mathbf{z}^2}{|\mathbf{x}|^2}\right)^{1/2}=|\mathbf{x}|-\mathbf{n}\cdot\mathbf{z}\text{ for large }|\mathbf{x}|.$$

The finite term, $\mathbf{n}\cdot\mathbf{z}$, cannot be neglected when finding the retarded time, τ_{ret}, from the equation

$$x_0-z_0=r.$$

The contribution from the $\mathbf{n}\cdot\mathbf{z}$ term leads to some modifications in the final results.

Using the expressions for $\mathbf{z}$ and z_0 given in Eqs. (2a) and (2b) of that paper, we now find

$$k_0'\tau_{\text{ret}}=\psi+\tfrac{1}{2}\phi,$$

where $\psi=k_0(x_0-r)$ satisfies the equation

$$\psi=\psi_0-(eE_0/mk_0')\cos\alpha[(1-\tfrac{1}{16}q')\cos\psi+\tfrac{1}{16}q'\cos3\psi]-\tfrac{1}{8}q'\cos\theta\sin2\psi,$$

with

$$\psi_0=k_0(x_0-|\mathbf{x}|),$$

and ϕ is given, as before, by

$$\phi\approx\phi_1=\tfrac{1}{4}q'\sin2\psi.$$

The solution of the equation for ψ is, to terms of order E_0^2,

$$\psi=\psi_0-(eE_0/mk_0)\cos\alpha\cos\psi_0-\tfrac{1}{8}q(4\cos^2\alpha+\cos\theta)\sin2\psi_0.$$

The expression (8) can now be written in terms of ψ_0 as

$$\mathbf{M}=\mathbf{N}^{(1)}\cos\psi_0+\mathbf{N}^{(2)}\sin2\psi_0+\mathbf{N}^{(3)}\cos3\psi_0,$$

where

$$\mathbf{N}^{(a)}=\mathbf{e}_0C^{(a)}+\mathbf{n}_0D^{(a)},\quad a=1,2,3,$$

$$C^{(1)}=-(eE_0/m)[1-(q/16)(5-\cos\theta+2\cos^2\alpha)],\quad D^{(1)}=(eE_0/m)(q/8)\cos\alpha,$$

$$C^{(2)}=-2k_0q\cos\alpha,\qquad D^{(2)}=-\tfrac{1}{2}k_0q,$$

$$C^{(3)}=-(9/16)(eE_0/m)q(1-\cos\theta-6\cos^2\alpha),\quad D^{(3)}=(9/8)(eE_0/m)q\cos\alpha.$$

$\mathbf{N}^{(1)}$, $\mathbf{N}^{(2)}$, $\mathbf{N}^{(3)}$ should now be used in calculating the cross sections instead of $\mathbf{M}^{(1)}$, $\mathbf{M}^{(2)}$, $\mathbf{M}^{(3)}$, which were used before. When this is done, the correct cross sections that should replace the expressions (9)–(14) are obtained. They are

$$(d\sigma^{(1)}/d\Omega)_{\text{polarized light}}=(e^2/m)^2[\sin^2\alpha-\tfrac{1}{8}q(5-\cos\theta-3\cos^2\alpha-2\cos^4\alpha-\cos^2\alpha\cos\theta)];$$

$$(d\sigma^{(2)}/d\Omega)_{\text{polarized light}}=\tfrac{1}{4}(e^2/m)^2q[\sin^2\theta+4\sin^22\alpha-8\cos^2\alpha\cos\theta];$$

$$(d\sigma^{(1)}/d\Omega)_{\text{unpolarized light}}=d\sigma_T/d\Omega-\tfrac{1}{32}(e^2/m)^2q[11-6\cos\theta+12\cos^2\theta+2\cos^3\theta-3\cos^4\theta];$$

$$(d\sigma^{(1)}/d\Omega)_{\text{unpolarized light}}=\tfrac{1}{4}(e^2/m)^2q\sin^2\theta[3+6\cos^2\theta-4\cos\theta];$$

$$\sigma^{(1)}=[1-(27/40)q]\sigma_T;\quad\sigma^{(2)}=(21/20)q\sigma_T.$$

The numerical estimate of the cross section for the second harmonic is

$$\sigma^{(2)}=0.7\times10^{-17}I_0\lambda^2\sigma_T\text{ cm}^2.$$

The contribution of the finite term $\mathbf{n}\cdot\mathbf{z}$ in r to the cross sections was indicated to me by L. M. Bali.