Errata

Ferromagnetic and Antiferromagnetic Curie Temperatures, H. A. Brown and J. M. Luttinger [Phys. Rev. **100**, 685 (1955)]. A calculational error in the published value of kT_c/J for the body-centered cubic lattice with spin 1 found by the Bethe-Peierls-Weiss method has been corrected. The corrected values are $kT_c/J=8.66$ and 8.96 for the ferromagnetic and antiferromagnetic lattices, respectively, for which the values given in the above reference are 8.72 and 9.03. This correction still is far from Weiss's earlier result[1] and the recent remarks of Van Vleck[2] as to the doubtfulness of that result still apply.

Thanks are given to J. S. Smart, who found the error and to D. F. Morgan, who calculated the correct result. Since the error involved using incorrect values of $w(S_1)$ [see Eq. (19) of the above], only this particular case is affected.

[1] P. R. Weiss, Phys. Rev. **74**, 1493 (1948).
[2] J. H. Van Vleck, J. phys. radium **20**, 124 (1959).

Effective Mass of Electrons in Gallium Arsenide, L. C. Barcus, A. Perlmutter, and J. Callaway [Phys. Rev. **111**, 167 (1958)]. A recent redetermination of the carrier concentration in the sample of GaAs used in the measurement of the index of refraction gave $N=1.05\times10^{18}$ cm^{-3} (instead of 6.9×10^{17} cm^{-3} previously reported). Consequently, the computed effective-mass ratio is $m^*/m=0.065$ (instead of 0.043). We are indebted to Dr. Emil Arnold of Sylvania Laboratories for making this measurement.

Scattering of Protons from Helium and Level Parameters in Li^5, Philip D. Miller and G. C. Phillips [Phys. Rev. **112**, 2043 (1958)]. The values of k used for the dispersion-theory analysis of the phase shifts are incorrect by a constant factor due to a numerical error. The figures and conclusions are correct, however, if all radii and reduced widths are multiplied by 1.177. This requires $\theta_p{}^2$ in Table VI to be multiplied by 1.39. The corrected Table VI now reads:

Table VI. Parameters for the first two states of Li^5 as given by the scattering of protons from He^4, using an interaction radius of 3.1×10^{-13} cm.

Excitation energy (Mev)	Spin ($\hbar$)	Parity π	$\gamma_p{}^2$ (Mev-cm)	$\theta_p{}^2$	$(E_{\text{res.}})_{\text{lab}}$ (Mev)	$(E_\lambda)_{\text{c.m.}}$ (Mev)
0	$\frac{3}{2}$	−	14.1	0.55	2.6	3.9
8.6	$\frac{1}{2}$	−	35.3	1.4	10.8	16.9

The authors are grateful to Dr. R. J. N. Phillips for pointing out this error.

General Relativity and Particle Dynamics, L. H. Thomas [Phys. Rev. **112**, 2129 (1958)]. In the first sentence of the second paragraph of the abstract the words "the product of two matrices . . ." should be replaced by "the product of a matrix and the Hermitian conjugate of a second . . ."

In the third sentence of the fourth-from-last paragraph of the paper, the words ". . . of the matrix product of two of them . . ." should be replaced by ". . . of the matrix product of one of them with the Hermitian conjugate of another . . ."

The second sentence in the third-from-last paragraph should be changed to read: "It is an infinitesimal unitary transformation of the larger space if A_r and B_r are Hermitian, and it further maintains the Hermitian nature of F if it has the form

$$F'=F+\iota\epsilon\sum_r (A_rFB_r-B_rFA_r), \qquad (4.2)$$

where A_r and B_r are Hermitian, while any transformation which does this can be reduced to this form."

The next-to-last and last paragraph should be replaced by the following:

"Any infinitesimal transformation of classical mechanics can be put in the form, with A_s and B_r dynamical variables,

$$F'=F+\epsilon\sum_{r,s} B_r(A_s,F), \qquad (4.4)$$

where (A,F) means the Poisson bracket, and the condition it has a unit multiplier is

$$\sum_{r,s} (A_s,B_r)=0. \qquad (4.5)$$

We may regard the form, with A_s and B_r Hermitian matrices,

$$F'=F+\frac{2\pi}{\iota h}\frac{\epsilon}{4}\sum_{r,s}\{(B_rA_s+A_sB_r)F+2A_sFB_r -F(B_rA_s+A_sB_r)-2B_rFA_s\}, \qquad (4.6)$$

subject to

$$\sum_{r,s} (A_sB_r-B_rA_s)=0, \qquad (4.7)$$

as a quantization of the classical transformation: it is of the form (4.2) with (4.3). Moreover it can be written

$$F'=F+\frac{2\pi}{\iota h}\frac{\epsilon}{2}\sum_{r,s}\{B_r(A_sF-FA_s) +(A_sF-FA_s)B_r\}, \qquad (4.8)$$

and, as in the classical case, any dynamical variable commuting with each of A_s is invariant for this transformation.

The Einstein theory of Sec. 3 can be at once quantized if the operators for the homogeneous

Lorentz group are supposed to be in canonical form, while the operators for space and time displacement are of the more general kind, forming a four-vector for the homogeneous Lorentz group. The conditions for a Riemannian space are then naturally taken to be the result of quantizing (3.12) in the above manner, which can be done in the above way. The classical limit will then be a theory of motion of a dynamical system in a Riemannian space determined by the system.

These operators are expected to have enough of the properties of the infinitesimal operators of classical theory to allow us to extend that theory. Even if the difficulty that our observers and test particles are defined by q numbers rather than c numbers makes it impossible to set up a Riemann space except on the classical limit, that would perhaps be sufficient.[19]"

Metastability of 2*s* States of Hydrogenic Atoms, J. Shapiro and G. Breit [Phys. Rev. **113**, 179 (1959)]. *Addendum:* After the publication of the above-mentioned paper, our attention has been called to related work by Spitzer and Greenstein,[1] in which the probability of double photon emission to $2s$ states of hydrogenic atoms has been calculated for the case $Z=1$. There is excellent agreement in the values obtained for the transition probability in the two papers, the value of Spitzer and Greenstein being 8.277 $\sec^{-1}$ and that in the above-mentioned reference, 8.226 ± 0.001 $\sec^{-1}$. The latter publication goes somewhat beyond the earlier one in this connection in the consideration of the Z dependence, of the accuracy of the result, and the discussion of the distinction between the double emission and cascade processes especially in connection with the Lamb shift.

[1] L. Spitzer and J. L. Greenstein, Astrophys. J. **114**, 407 (1951).

Effect of Impurities of Angular Correlation of Positron Annihilation Radiation, R. L. deZafra [Phys. Rev. **113**, 1547 (1959)]. The title as it now reads is incorrect. It should read: "Effect of Impurities on Angular Correlation of Positron Annihilation Radiation."

Fixed Angle Dispersion Relations for Nucleon-Nucleon Scattering, M. Cini, S. Fubini, and A. Stanghellini [Phys. Rev. **114**, 1633 (1959)]. In Table III the residues B and C of the poles for the amplitude $T_{10}+T_{01}$ are incorrect. These items on the fourth line should be replaced by:

$$T_{01}+T_{10} \quad -\sqrt{2}f^2M(1-c^2)^{\frac{1}{2}} \quad 2\sqrt{2}f^2M(1-c^2)^{\frac{1}{2}}.$$