

in a magnetic field of 200 000 gauss, the spin of Λ^0 would precess through an angle of 33° in 3×10^{-10} sec if its magnetic moment is one nuclear Bohr magneton.

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¹ Lee, Steinberger, Feinberg, Kabir, and Yang, Phys. Rev. **106**, 1367 (1957).

² F. S. Crawford *et al.*, Phys. Rev. **108**, 1102 (1957); F. Eisler *et al.*, Phys. Rev. **108**, 1353 (1957); L. Leipuner and R. Adair, Phys. Rev. (to be published).

³ See, e.g., the review article by L. Wolfenstein, *Annual Review of Nuclear Science* (Annual Reviews, Inc., Stanford, 1956), Vol. 6, p. 43.

⁴ It has been pointed out before that the magnetic moment of a hyperon may be measured by using the angular asymmetries in the hyperon decay as an analyzer. M. Goldhaber, Phys. Rev. **101**, 1828 (1956).

Errata

Meson Production by Mesons, SAUL BARSHAY [Phys. Rev. **103**, 1102 (1956)]. In Eq. (9),

$$\exp[i(-\mathbf{k}_1 - \mathbf{p}_n - \mathbf{p}_m) \cdot \mathbf{y}]$$

should read:

$$\exp[i(-\mathbf{k}_1 - \mathbf{p}_n + \mathbf{p}_m) \cdot \mathbf{y}].$$

In Eq. (21), $\cos 2(\theta_1 - \theta_2)$ should read: $\cos 2(\phi_1 - \phi_2)$. In comparing Table I with experiment it would be best (in view of the static model of the nucleon used here) to take the energies given under the heading "Incident-meson kinetic energy" as total available kinetic energies in the pion-nucleon center-of-mass system. The cross sections given are then somewhat larger in magnitude than those given in the work of Franklin¹ on this subject. Large production cross sections near threshold have been found in recent important measurements in the U.S.S.R.²

¹ Jerrold Franklin, Phys. Rev. **105**, 1101 (1957).

² V. G. Zinov and S. M. Korentchenko, "Pion Production by $\pi^- - p$ Collisions near Threshold," preprint, Joint Institute of Nuclear Research, U.S.S.R.

Associated Production of Hyperons and K Mesons, SAUL BARSHAY [Phys. Rev. **104**, 853 (1956)]. In the sigma-sigma- π -meson interaction, the matrices denoted by τ_α are the three-by-three isotopic spin matrices. In Fig. 1(d), the intermediate state baryon should be labeled Σ^0 .

Interaction of 0.5- and 1.0-Mev Neutrons with Some Heavy Elements, R. C. ALLEN, R. B. WALTON, R. B. PERKINS, R. A. OLSON, AND R. F. TASCHKE [Phys. Rev. **104**, 731 (1956)]. 0.2 barn per steradian should be subtracted from the ordinate scale of the U^{235} curve in Fig. 3.

Analysis of the $B^{11}(d,n)C^{12}$ Reaction by Nuclear Stripping, GEORGE E. OWEN AND L. MADANSKY [Phys. Rev. **105**, 1766 (1957)]. The equation

defining \mathbf{r} which follows Eq. (10) should read: $\mathbf{r} = \mathbf{r}_{n(1)} - \mathbf{r}_{p(1)}$.

Equation (17) should have a phase $(+i)$ instead of $(-i)$. It should read:

$$f_D(k_1 R_1) = (+i) 2(3\pi)^{\frac{1}{2}} (-V_1) \Gamma_1(R_1) j_1(k_1 R_1).$$

The definition of \mathbf{K}_2 [preceding Eq. (20)], the relative wave vector of the heavy-particle neutron, is in a direction opposite to that physically required. The proper definition of \mathbf{K}_2 is

$$\mathbf{K}_2 = \mathbf{k}_n + \frac{M_n}{M_B} \mathbf{k}_D.$$

This correction changes the phase of $G_H(K_2)$, Eqs. (22) and (24), from $(+i)$ to $(-i)$.

With these sign changes the discussion of the phases on page 1771 will read as follows: "The sign of the interference term depends upon the phase of h_D and h_H . Equations (16) and (17) show that the phase of $G_D(K_1) f_D(k_1 R_1)$ is $(+i)$. Equations (24) and (25) show that the phase of $G_H(K_2) f_H(k_2 R_2)$ is $(-i)$. Therefore the sign of the interference term is positive."

Incorporation of these corrections does not alter in any way the conclusions of the derivation.

Field Effect in Germanium at High Frequencies, H. C. MONTGOMERY [Phys. Rev. **106**, 441 (1957)]. The field effect mobility appropriate to Fig. 5(c) is $\mu_p - \mu_n' + \mu_n + \alpha_1 \mu_n'$ and not $\mu_p + \alpha_1 \mu_n'$ as stated. Hence, the difference between low- and high-frequency field effect mobility does not contain the Schrieffer correction, and a determination as discussed in the second paragraph on p. 445 is not only impractical, as stated, but is not possible in principle from small signal measurements. The author is indebted to Dr. Ichiro Nakada for pointing this out.

Angular Distribution of Protons from the $Ca^{42}(d,p)-Ca^{43}$ Reaction, C. K. BOCKELMAN, C. M. BRAAMS, C. P. BROWNE, W. W. BUECHNER, R. R. SHARP, AND A. SPERDUTO [Phys. Rev. **107**, 176 (1957)]. On p. 180, line 9, "it is seen that a large value of $R = 7.5 \times 10^{-13}$ cm is needed to fit the theoretical maximum of Fig. 5 to the experimental maximum from β -decay evidence" should read: "it is seen that a large value of $r = 7.5 \times 10^{-13}$ cm is needed to fit the theoretical maximum of Fig. 5 to the experimental maximum. The third excited state at 0.991 Mev is believed to be a $\frac{3}{2}^+$ state from β -decay evidence."

Approximate Wave Functions for the M -Center by the Point-Ion Lattice Method, BARRY S. GOURARY AND PERRY J. LUKE [Phys. Rev. **107**, 960 (1957)]. In footnote 5 of this paper, we wrote: "Professor Inui has kindly checked his calculations and finds that because of the values of the interionic distance

used in his work, his results should probably pertain to LiF and NaF, not to LiCl and NaCl, respectively . . .” This led to disagreement with experiment. Mr. H. Mimura, of Professor Inui’s group, now informs us that a complete recalculation of the M -center wave functions shows that correct values of the interionic distance (4.86 atomic units for LiCl and 5.32 atomic units for NaCl) were used in the actual calculations of Inui *et al.*, even though the wrong values were given in their article. Thus their original theoretical energy values are indeed correctly stated for LiCl and NaCl, respectively, and the A_1B_1 transitions agree quite well with the observed M -bands. Their predicted A_1B_2 transition corresponds to 297 $m\mu$ for NaCl, and it agrees tolerably well with our value of 345 $m\mu$; this agreement should serve as a further spur to a diligent search for this band in various crystals. Mr. Mimura has also carried through the LCAO calculations for LiF and NaF, even though he did not expect the LCAO method to work too well in these cases because of the large overlap. The A_1B_1 transition for NaF was computed as 537 $m\mu$, in good agreement with experiment. For LiF, however, the predicted A_1B_1 transition was 843 $m\mu$, in clear disagreement with experiment, while the point-ion lattice method gave good agreement even in this case. We are indebted to Professor Inui and Mr. Mimura for their communications.

We regret that two names were omitted from the acknowledgments. We are indebted to Dr. J. A. Krumhansl and Dr. L. C. Aamodt for stimulating discussions of our work.

Associated Production in Pion-Nucleon Collisions and Charge Independence, SAUL BARSHAY [Phys. Rev. **107**, 1454 (1957)]. The sign between the two terms in the coupling form should be positive. In the text, the references to the Σ^+ particle should read as references to the Σ^- particle. The remark in parentheses should read: “with about the same total cross section as the Σ^0 and about one-third that of the Λ^0 .”

The observation of parity nonconservation¹ in the decay of the hyperons produced in these collisions implies that the production reactions polarized these particles. The partial wave amplitudes given by the Born approximation calculation all have the same phase and hence give zero polarization. One must probably appeal to resonance denominators in the one-meson and higher terms in order to obtain complex amplitudes, and hence some polarization.

I would like to thank Dr. G. Feinberg for useful discussion.

¹ F. S. Crawford *et al.*, Phys. Rev. **108**, 1102 (1957).

Extension of the WKB Equation, CHARLES E. HECHT AND JOSEPH E. MAYER [Phys. Rev. **106**, 1156 (1957)]. On page 1160 under Eq. (42) the sentence “We shall now show that this is no more than a formal difficulty and . . .” should be changed to “We shall now show that the continuum of solutions for z_1 demonstrated by Ballinger and March does not in anyway invalidate our equations and . . .”

The original paper of Ballinger and March raised the point of the ambiguity of z_1 in connection with a different physical problem. Nothing in our paper bears on the connection with this other problem, and we apologize that our sentence might be so interpreted.

Relativistic Wave Equations for Spin 2 Particles with Unique Mass, O. BRULIN AND S. HJALMARS [Phys. Rev. **107**, 1730 (1957)]. *Addendum*.—There is another possible choice of the arbitrary constants, giving unique mass, namely $k_2 = -(5/3)k_1$. With this choice, the divergence of the vector and the trace of the tensor vanish separately.

Inherent Noise of Quantum-Mechanical Amplifiers, M. W. P. STRANDBERG [Phys. Rev. **105**, 617 (1957)]. Equation (9) on page 619 should read:

$$\text{Noise figure} = \frac{1}{t p_v(T_s)} \left[\frac{(g+1)^2}{g^2} \left\{ t p_v(T_s) + (1-t) p_v(T_i) \right. \right. \\ \left. \left. + \frac{Q_e}{Q_0} [p_v(T_c) - p_v(T_x)] \right. \right. \\ \left. \left. - \left(\frac{g-1}{g+1} \right) p_v(T_x) \right\} + g^{-2} p_v(T_0) \right]. \quad (9)$$

Magnetoresistance of Holes in Germanium and Silicon with Warped Energy Surfaces, J. G. MAVROIDES AND BENJAMIN LAX [Phys. Rev. **107**, 1530 (1957)]. In Eqs. (5) the numerical factors for σ_{xyxy} and σ_{zyzy} should read 21.3 instead of 0.213.

Computation of Noise Figure for Quantum-Mechanical Amplifiers, M. W. P. STRANDBERG [Phys. Rev. **107**, 1483 (1957)]. Equation (7) on page 1484 should read:

$$\text{Noise figure} = \frac{1}{t p_v(T_s)} \left[\frac{(g+1)^2}{g^2} \left\{ t p_v(T_s) + (1-t) p_v(T_i) \right. \right. \\ \left. \left. + \frac{Q_e}{Q_0} [p_v(T_c) - p_v(T_x)] \right. \right. \\ \left. \left. - \left(\frac{g-1}{g+1} \right) p_v(T_x) \right\} + g^{-2} p_v(T_0) \right]. \quad (7)$$