

## Errata for Vol. 90

**The Abundances of the Elements**, HAROLD C. UREY [Phys. Rev. **88**, 248 (1952)]. On page 252, the abundances of bismuth are given incorrectly by a factor of 10. The percent should be  $2 \times 10^{-5}$ , and the atomic abundance in the third column should be 0.0014. This atomic abundance is also given incorrectly in *The Planets* (Yale University Press, New Haven, 1952), second edition. Also, Kuiper's atomic abundance for argon should be 25 000 instead of 2500.

**Spherical Model of a Ferromagnet**, H. W. LEWIS AND G. H. WANNIER [Phys. Rev. **88**, 682 (1952)]. In this Letter, we presented an alternative derivation of the results of T. H. Berlin and M. Kac [Phys. Rev. **86**, 821 (1952)], using a different statistical ensemble. We stated in the Letter that all their results could be derived by our method. We want to amend this to say that all thermodynamic properties can be so derived. For other averages this may or may not be the case; discrepancies are particularly apt to occur in those averages which are connected with the fluctuations in the assumed constraints. A discrepancy of this sort does indeed arise in connection with  $\sum_i \epsilon_i^4$  which, in our derivation, equals  $3N$  at all temperatures, while in the original paper, it drops to  $N$  near absolute zero. The quantity in question is one of the sums which determines the fluctuation of the thermodynamic variable  $D = \sum_i \epsilon_i^2$  (assumed equal to  $N$ ). In the original paper, the fluctuation of  $D$  was assumed exactly zero, while in our Letter, its value is controlled through its conjugate function  $s$ . The discovered discrepancy makes a contribution of  $(2/N)^{1/2}$  to the relative fluctuation of  $D$ ; this is the normal order of magnitude to be expected.

**Activation Cross Sections for 14-Mev Neutrons**, STUART G. FORBES [Phys. Rev. **88**, 1309 (1952)]. The caption to Fig. 1 is incorrect. The data are for  $\text{Cu}^{62}$  beta-rays, not for  $\text{Cu}^{64}$ .

**Nuclear Mass Determinations from Disintegration Energies: Oxygen to Sulfur**, C. W. LI [Phys. Rev. **88**, 1038 (1952)]. In Table III, Table of atomic masses, the value of  $M - A$  for  $\text{Mg}^{27}$  should be  $-6.633 \pm 0.028$  Mev, instead of

$-8.633 \pm 0.028$  Mev. The value of  $M$  is correct. In Table I, footnote a, the words "p. 000" should be replaced by "p. 1040."

**Theory of the Response of Organic Scintillation Crystals to Short-Range Particles**, J. B. BIRKS [Phys. Rev. **86**, 569 (1952)]. The probability of an exciton traveling a distance  $a$  from 0 is  $\exp(-a/a_0)/a^2$ , and not  $\exp(-a/a_0)$ . This modifies the expression for  $\phi$  to

$$\phi = 1 - \frac{1}{2} [\exp(-r/a_0) - (r/a_0) \text{Ei}(r/a_0)], \quad (2)$$

where  $\text{Ei}(r/a_0)$  is the exponential integral. This expression has a similar form to that previously given, though it falls more sharply to 0.5 at  $r=0$ .

**Conversion of an Amplified Dirac Equation to an Approximately Relativistic Form**, W. A. BARKER AND Z. V. CHRAPLYVY [Phys. Rev. **89**, 446 (1953)]. Two second-order terms in Table I are dimensionally incorrect. The fourth spin-field term in the tensor column should read

$$\frac{\beta i \hbar^2}{8m^2 c^2} \boldsymbol{\sigma} \cdot \nabla \times \frac{\partial \mathbf{P}}{\partial t}.$$

The first spin-orbit term in the pseudovector column should read

$$\frac{1}{2m^2 c} \{ \boldsymbol{\sigma} \cdot (\mathbf{S} \times \mathbf{p}) \times \mathbf{p} \}.$$

**A Third Rydberg Series of  $\text{N}_2$** , R. EDWIN WORLEY [Phys. Rev. **89**, 863 (1953)]. On page 864, column 1, the paragraph beginning with "Professor Mulliken . . ." should *begin* with its *last* sentence.

**The Macroscopic Theory of Superfluid  $\text{He}^3$ - $\text{He}^4$  Mixtures**, P. J. PRICE [Phys. Rev. **89**, 1209 (1953)]. Equation (15') was printed incorrectly. It should read

$$w' = ewS'/S. \quad (15')$$

**Impurity Diffusion and Space Charge Layers in "Fused Impurity"  $p$ - $n$  Junctions**, J. S. SABY AND W. C. DUNLAP, JR. [Phys. Rev. **90**, 630 (1953)]. The above title and authors were inadvertently omitted from the May 15, 1953 Table of Contents. They should replace "Scattering of Protons by Protons"—H. H. Hall and J. L. Powell (p. 630).

### Proceedings of the American Physical Society

MINUTES OF THE 1953 SPRING MEETING OF THE OHIO SECTION AT THE OHIO STATE UNIVERSITY, COLUMBUS, OHIO, APRIL 24 AND 25, 1953

THE regular spring meeting of the Ohio Section of The American Physical Society was held at The Ohio State University, Columbus, Ohio, on April 24-25, 1953. This was a joint session with Section F of the Ohio Academy of Science. Ninety-three were present at the first paper and fifty-three were in the room at the end of the contributed papers on Saturday. Five invited papers and two films were presented which dealt with current knowledge of high altitudes and problems arising from rocket flight.

The invited papers presented were "The Proposed Artificial Satellite," Dr. J. Allen Hynek, The Ohio State University; "Contributions of Astrophysics to Our Knowledge of the Upper Atmos-

phere," Dr. Geoffrey Kellar, The Perkins Observatory; "The Physics of the Earth's Atmosphere," Dr. David T. Williams, Battelle Memorial Institute; "Human Factors in Space Travel," Dr. F. A. Hitchcock, Physiology Department, The Ohio State University; and "The Physics of Propulsion in the Upper Atmosphere," Lt. Col. R. W. Hoffman, U. S. Air Force, Wright Field.

The two recently released films shown were "Living Animals in Rocket Flight," through the courtesy of the Wright Air Development Center, and "The Viking" through the Naval Research Laboratory. The Saturday morning program was devoted to the contributed papers: "A Simplified Derivation of Formulas for Refraction at a Spher-