the Cosmotron laboratory, particularly to Dr. G. Collins and Dr. R. Adair for their cooperation in obtaining the exposure. We are particularly grateful to Dr. G. Harris of Columbia University for his assistance both preliminary to, and during the actual exposure and to Dr. J. Blum for his assistance in the technical preparation and processing of the emulsion stack.

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* On leave from Laboratoire Leprince-Ringuet, Ecole Polytechnique, Paris.

‡ On leave from the Weizmann Institute of Science, Rehovoth, Israel.

[1] Yekutieli, Kaplon, and Hoang, Phys. Rev. **101**, 506 (1956).

[2] The possibility that we observe an internally converted radiative decay mode of $K_{\mu 2}^{+} \rightarrow \mu^{+}+2e+\nu$ is ruled out in the fifth paragraph by the fact that the missing mass is finite.

[3] The blob density is normalized to that of 1.5-Bev π^{-} mesons.

Errata

Possibility of a Zener Effect, GREGORY H. WANNIER [Phys. Rev. **100**, 1227 (1955)]. Additional study of the problem treated reveals that the speculation following the formal development of band functions is not correct. To justify the speculation, one must be able, for sufficiently small, but nonvanishing electric field, to construct Bloch type functions $b_q(x;k)$ which are derived from the equation stated and which are periodic and continuous in k, with continuous derivative (since the operator $\partial/\partial k$ enters in the defining equation). One verifies immediately that the free-electron wave functions e^{ikx} are not of this type: as written they are not periodic in the reciprocal lattice, and if periodicity is artificially imposed the derivative with respect to k acquires discontinuities. We have been able to prove that this same situation prevails for the Bloch bands due to a periodic potential when a uniform electric field is superimposed, however small. Either one must assume that the periodicity in k is lost, or else one finds that the derivative with respect to k ceases to be continuous. It follows from this that $\psi_q(x,t;k)$ is actually modified after traversing in time a quasi-period of k, and that, hence, the Zener effect exists. It is not yet known whether a quantitative evaluation of his proof yields agreement with his formula.

Nonelastic Scattering Cross Sections for Fast Neutrons, H. L. TAYLOR, O. LÖNSJÖ, AND T. W. BONNER [Phys. Rev. **100**, 174 (1955)]. The value of T_0 given at the bottom of the second column of page 177 as "$T_0=e^{-N\sigma e}$" was incorrect and should read "$T_0=e^{-N\sigma_{tr}}$, where σ_{tr} is the transport cross section." All computations were made using the correct expression for T_0.

Polarization Effects of the Brightness Waves of Electroluminescence, FRANK MATOSSI [Phys. Rev. **98**, 434 (1955)]. Equation (7) should be replaced by

$$\bar{\imath}=\tfrac{1}{2}\epsilon[\exp(-A_1Nt)-\exp(-A_1mt)] +\tfrac{1}{2}\beta[\exp(-A_1mt)-1].$$

From this it follows that

$$t_m=(1/A_1m)\ln[(m/N)(1-\beta/\epsilon)].$$

The last term of C' of Eq. (15) should read $-a(b-g)(kb-gd)$ instead of $-ak(b-g)^2$. From this there follows a new Eq. (3):

$$\sigma^2=\epsilon^2\frac{4\omega^2A_1{}^2m^4+\omega^2m^2[16\omega^4+A_1{}^2(A_2-A_1)^2N^2m^2]}{[16\omega^4+4\omega^2A_1{}^2m^2+A_1{}^2A_2{}^2N^2m^2]^2},$$

$$q/p=[4\omega^2-A_1(A_2-A_1)Nm]/2\omega A_1m,$$

with appropriate changes in Eqs. (4a), (5), and (6). We note only that

$$\omega_0=\tfrac{1}{2}[(A_2-A_1)A_1Nm]^{\frac{1}{2}};$$
$$\omega_m\cong 1.25A_1(Nm)^{\frac{1}{2}}\quad\text{for}\quad A_1=A_2.$$

The general conclusions of the paper are not affected by these corrections.

Recently, Steinberger *et al.*[1] have disputed the validity of the proposed theory on the grounds that it leads, for ac fields, to a ripple pattern with two peaks per period of the field while in some important cases only one peak is observed. But the appearance of two peaks is not a necessary consequence of the general theory. It depends on the special form $\epsilon\cos^2\omega t$ of the additional terms of Eq. (2). This form was chosen just for the fact that it accounts for the then only observed double periodicity of the ripple pattern. Any other function $f(t)$ instead of $\cos^2\omega t$ could have been used, which would give the desired result about the ripple pattern without altering the principle of the theoretical approach and the general conclusions. Of course, the specific formulas, for instance the dependence of σ on ω, would be changed.

[1] Steinberger, Low, and Alexander, Phys. Rev. **99**, 1217 (1955).

Masses of Light Nuclei, J. E. DRUMMOND [Phys. Rev. **97**, 1004 (1955)]. The error in the ratio of the three sulfur masses given by Geschwind and Gunther-Mohr (reference 2) was incorrectly quoted by the author. The value $(S^{33}-S^{32})/(S^{34}-S^{32})=0.500714 \pm 0.000003$ should have read 0.500714 ± 0.000030. This is confirmed in a later full report.[1]

[1] Geschwind, Gunther-Mohr, and Townes, Revs. Modern Phys. **26**, 444 (1954).

Perturbation Calculation of the Elastic Scattering of Electrons by Hydrogen Atoms, SIDNEY BOROWITZ [Phys. Rev. **96**, 1523 (1954)]. There are several errors appearing in the subject paper. In the following discussion, all equation numbers pertain to this paper. Equations (2.3) and (2.5) should be replaced by

$$V=[(1/r_1)-(1/r_{12})], \tag{2.3}$$

$$V=-1/r_{12}, \tag{2.5}$$

and consequently all subsequent equations for f_{0s} and g_{0s} should be multiplied by a factor of $\frac{1}{2}$. In (4.2) and (4.3), the minus sign should be omitted; the same follows for all subsequent equations for g_{0s}. Equation (4.20) should be replaced by

$$\frac{1}{A_1{}^sA_2\cdots A_n}=\frac{(n+s-1)!}{(s-1)!}\times\int\frac{x_1{}^s\delta(x_1+\cdots+x_n-1)dx_1\cdots dx_n}{(A_1x_1+\cdots+A_nx_n)^{n+s}}. \tag{4.20}$$

If (4.20) is correctly applied to the calculation of g_{0s}, it is found that the term in $1/k^4$ vanishes and that the leading order terms are of order $1/k^5$. Equations (4.37) and (4.38) therefore should be replaced by

$$g_{0s}=2i/k^5\mu \quad \text{when} \quad k^2\mu\gg 1, \tag{4.37}$$

and

$$g_{0s}=2/k^2 \quad \text{when} \quad \mu=0. \tag{4.38}$$

In addition, (4.40) and (4.41) should be replaced by

$$g_{0a}=(-2/k^6)(8-1/\mu^2), \quad k^2\mu\gg 1; \tag{4.40}$$

$$g_{0a}=2/k^2, \quad \mu=0. \tag{4.41}$$

The general conclusions of the paper hold since the energy dependence of the exchange scattered amplitudes in all but the forward direction still differs from the results when the plane waves are used. We wish to thank Dr. Milton M. Klein for calling our attention to this discrepancy.

Influence of Atomic Electrons on Radiation and Pair Production, John A. Wheeler and Willis E. Lamb, Jr. [Phys. Rev. **55**, 858 (1939)]. Several kind friends have brought to our notice that the scale in

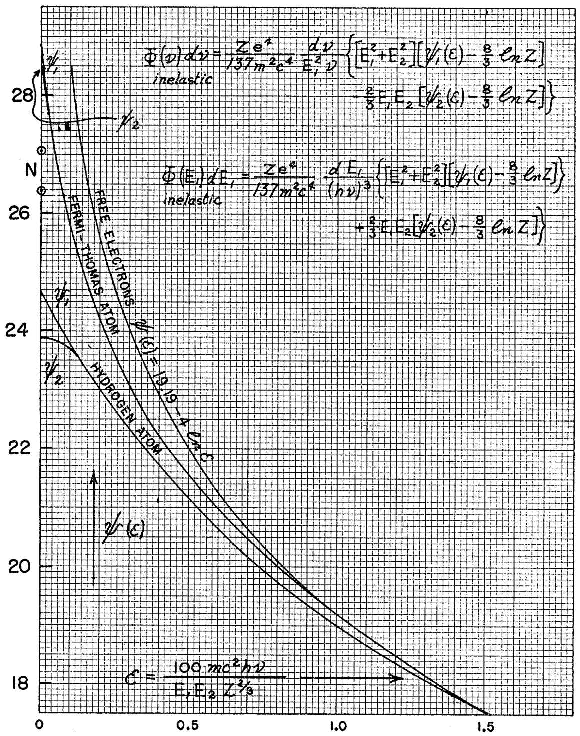

Fig. 1. Screening factors for inelastic pair production and radiative processes. The two points marked N give the factors ψ_1 and ψ_2 as calculated for nitrogen from atomic wave functions. For free electrons $\psi_1=\psi_2=\psi$.

Fig. 1 was mistakenly labeled. Consequently, we show the curves with corrected scale.