The solution (6) is inserted into the inversion formula for the Mellin transform to yield a relation for the required distribution function:

$$g(x,E)=\frac{1}{2\pi i}\int_{-i\infty+\delta}^{i\infty+\delta}\exp[-s\log E+(s-1)\log(E_0-x\beta)+a_1(s)x+a_2(s)x^2]ds. \quad (8)$$

An experimental number *versus* energy plot for protons in Al, taken from the work of Reynolds *et al.*,[10] is shown in Fig. 1. In order to compare this with results obtained from the numerical evaluation of (8), one plots the quantities $N(x,E)$ defined by

$$N(x,E)=\int_E^{E_0} g(x,E)dE. \quad (9)$$

The integral distribution obtained in this way from the present calculations is seen to fit the experimental result very closely. The agreement is even better when one notes the initial energy spread of the incident particles shown on the right of Fig. 1. The slight asymmetry of the experimental curve is present also in the theoretical result.

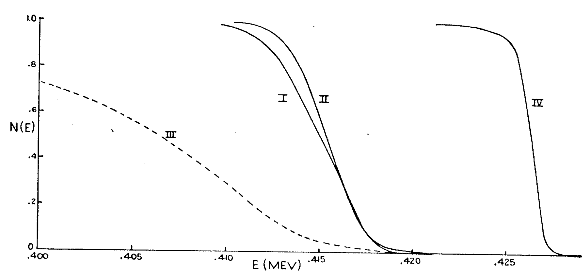

FIG. 1. Curves for the energy distribution of 0.4263-Mev protons after passing through 3.795×10^{-5} g/cm^2 of Al. $N(E)$ is the number of particles with energy greater than E, normalized to 1 incident particle. Curve I gives experimental results from the work of Reynolds *et al.* Curve II has been calculated on the basis of the present theory. Curve III has been calculated on the basis of the Landau theory. Curve IV shows the initial energy spread of the protons of curve I.

The distribution obtained from Landau's theory is also shown in Fig. 1. In view of the important omissions in this treatment it is not surprising that the Landau curve is unsatisfactory. It is worth noting that for electrons the Landau theory gives a distribution which is too narrow, whereas for protons the distribution is much too wide.

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[1] P. Rothwell, Proc. Phys. Soc. (London) **B64**, 911 (1951).
[2] D. West, Proc. Phys. Soc. (London) **A66**, 306 (1953).
[3] R. D. Birkhoff, Phys. Rev. **82**, 448 (1951).
[4] O. Blunck and S. Leisegang, Z. Physik **128**, 500 (1950).
[5] O. Blunck, Z. Physik **131**, 354 (1952).
[6] L. D. Landau, J. Phys. (U.S.S.R.) **8**, 201 (1944).
[7] U. Fano, Phys. Rev. **92**, 328 (1953).
[8] For electrons the last term in (3) introduces large corrections and must be worked out to a sufficient degree of approximation. This term gives rise to the characteristic asymmetry of the distribution. In all cases for electrons $\epsilon_{\max}=\frac{1}{2}(E-mc^2)\gg E_0-L$, the upper limit of integration must be taken as E_0-L and so contains the transform variable itself. The result is a considerably more complicated transform equation than (3). Furthermore for electrons the zero, first and second order moment terms will not be the same as they were for protons and a different $w(\epsilon)$ must be used in calculating the last term of (3). In the accurate calculations, therefore, it is not possible to use the same method of solution for heavy particles and electrons as is done by Landau. The solution for electrons will be presented elsewhere.
[9] H. A. Bethe, *Handbuch der Physik* (Verlag Julius Springer, Berlin, Germany, 1933), Vol. 24, Part 1, p. 516.
[10] H. K. Reynolds *et al.*, Phys. Rev. **92**, 742 (1953).

Errata

Search for 15-Mev Gamma Radiation from $N^{14}+d$ and $Be^9+\alpha$, V. K. RASMUSSEN, JOHN R. REES, M. B. SAMPSON, AND N. S. WALL [Phys. Rev. **96**, 812 (1954)]. The subscripts α and γ were interchanged at the bottom of the first column of page 813. The statement as to the relative probability of α and γ decay should read "Γ_α is certainly less than 100 Γ_γ and is probably less than 10 Γ_γ."

Recombination Processes in Insulators and Semiconductors, ALBERT ROSE [Phys. Rev. **97**, 322 (1955)]. In item 5 of the section labeled "Summary" on page 333, read "usually" instead of "always."

Average Number of Neutrons Emitted During the Spontaneous Fission of Cf^{252}, W. W. T. CRANE, G. H. HIGGINS, AND S. G. THOMPSON [Phys. Rev. **97**, 242 (1955)]. The first sentence should read "The average number of neutrons per spontaneous fission of Cf^{252} has been found to be $3.53\pm0.15\cdots$" instead of "The average $\cdots$ has been found to be $3.10\pm0.15\cdots$."

Origin of Nitrous Oxide in the Atmosphere, P. HARTECK AND S. DONDES [Phys. Rev. **95**, 320 (1954)]. It has come to the attention of the authors that Adel[1] (the discoverer of nitrous oxide in the atmosphere) has also discussed the origin of nitrous oxide in the atmosphere. Bates and Witherspoon[2] have theoretically examined the photochemistry of the constituents of the atmosphere. The results of Bates and Witherspoon quantitatively reflect the idea of photochemical processes causing the presence of nitrous oxide in the atmosphere, similar to our own views, and question the adequate