α-particle pulse. (The α-particle pulse corresponds to about 35 fast particles incident on the chamber from the vertical direction.) Measurements were taken at sea level in a light wooden building, and at 30,000 feet in the rear cabin of a B-29. The results are as shown in Table I.

TABLE I. Results of measurements.

Altitude (feet)	Time of observation (hours)	N_c (Counts in the chamber, per hour)	N_g (Counts in the G. M. counter tray, per hour)	Coincidence (per hour)	Chance coincidence (per hour) $N_cN_g(\tau_1+\tau_2)$
0	292	1.94	0.72×10^5	0.25	0.002
30,000	1.6	500	14.7×10^5	96	10

At both elevations only a small fraction of the coincident records obtained is accounted for by chance coincidences. We also believe that air showers have a negligible effect on our results because of the small number of showers with a particle density high enough to be recorded in these measurements, and thus conclude that most of the coincidences observed are caused by ionizing particles capable of producing a burst in the ionization chamber after traversing 6 in. of lead.

It does not seem possible to assume that these particles are electrons since an electron capable of producing a sufficiently large shower under 6 in. of lead must have an energy in excess of 10^{12} ev. Hence they must be of the "penetrating" type. On the other hand, the total number of penetrating cosmic-ray particles only increases by a factor of about 6 from sea level to 30,000 feet, while the observed effect increases by a factor of several hundreds. We are thus led to the conclusion that the penetrating component at 30,000 feet contains particles which are much more effective in producing bursts than are ordinary mesons.

As has been shown by one of us,[1] the shape of the pulse from an ionization chamber enables one to decide in most cases whether the pulse is caused by heavily ionizing particles from a disintegration or by an electron shower. Classification of our records according to pulse shape gives the results shown in Table II.

TABLE II. Classification of records according to pulse shape.

Altitude (feet)	Percent of pulses from Showers	Heavily ionizing particles	Uncertain origin
0	78	—	22
30,000	57	30	13

It is likely that most of the showers observed at sea level are initiated by collision or radiation processes of ordinary mesons. These processes can only account for a very small fraction of the showers observed at 30,000 feet. It is natural to assume that the majority of the showers at this altitude are produced by electrons or photons generated by primary cosmic-ray particles (protons?) either directly or through the intermediary of short-lived mesons.

At 30,000 feet our data show evidence for nuclear disintegrations produced by penetrating ionizing rays. It is likely that most of the particles responsible for this effect are also primary "protons" (even though some of them may be negative mesons undergoing nuclear capture after being brought to rest).

The shower production by primary cosmic-ray particles, for which evidence is found in the present experiments, may account for that part of the soft component which cannot be explained by the disintegration of ordinary mesons.[2]

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[1] H. Bridge, Phys. Rev. **72**, 172(A) (1947).

[2] H. Bridge and B. Rossi, Phys. Rev. **71**, 379 (1947).

Erratum: The Band Theory of Graphite

[Phys. Rev. **71**, 622 (1947)]

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Figure 13, the plot of the trend of $\rho\perp/\rho\parallel$ (ratio of resistivity *across* graphite planes to that *in* the planes),

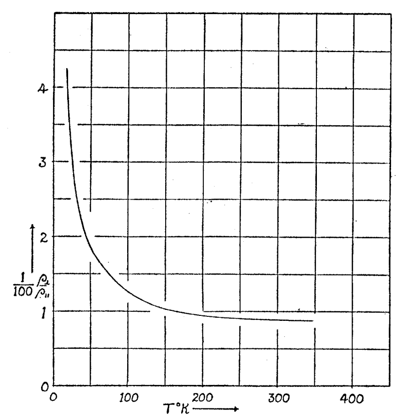

FIG. 1.

appeared in the paper in incorrect form. The corrected graph is as follows:

Nuclear Moments of the Bromine Isotopes*

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THE molecular beam[1] resonance method has been used to study the radiofrequency spectrum[2] of Br^{79} and Br^{81} in CsBr and LiBr. Typical results are shown in Fig. 1.

The positions of the resonance minima are the same in CsBr and LiBr, indicating that the minima are due to the bromine isotopes. The positions of the resonance minima shift proportionately to the magnetic field. This is the usual criterion[1] for assuming that the observed resonance frequency is at the Larmor frequency of the nucleus in the external magnetic field, which gives for the gyromagnetic