of particles was deduced. In this way the factor of proportionality between pulse size and particle density was determined accurately. Subsequently the scintillator pulses were fed through a discriminator which registered a count every time more than 19 particles have traversed the scintillator simultaneously. The possibility of a random noise count is eliminated by demanding a coincidence with a tray of 6 G26 Geiger counters. The discriminator thus records the rate of showers containing more than 19 particles. This rate was determined accurately for the calibrated scintillator. Once this rate of showers with more than 19 particles was known, all the gains of the other scintillator channels were adjusted to give the same rate of showers above the 19 particle discrimination level of the first calibrated system. This rate with which a scintillator records showers of a certain mean size serves as a continuous future check on its calibration since the rate of showers is very constant, *i.e.* apart from a small variation with atmospheric pressure.

The mu-meson telescopes are similar to the one described at the Moscow Conference except that only 3 triggered spark counters are used in each telescope. The vertical distance between successive counter is 40cms. A layer of lead above each spark counter shields it from electrons. The accuracy with which the direction of a mu-meson can be obtained is about 0.2 degrees by 0.2 degrees.

No results are available yet.

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III-4-9. Concluding Comments After EAS Ordinary Session 1

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In concluding this session I wish to call attention to the fact that in air showers of 10^4–10^7 particles the mesons carry the dominant amount of energy. The remaining electrons, photons and nuclear active particles are debris left over after many interactions, and are near the point of extinction. The mesons (in showers of $N=10^5$–10^6) not only carry an order of magnitude more energy than the other components, but suffer only weak interactions, and therefore are a particularly good component for preserving the record of high-energy interactions near the shower origin. Therefore all of the studies of mu mesons that were reported today are of great interest, and further measurements of the meson component show great promise to improve our understanding of essential aspects of the EAS in the future.