II-3B-10. Interpretation of the July 1959 and November 1960 Cosmic Ray Events*

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Discussion

Paghis, I.: In support of your remarks on sharp cut-off of solar particles, some of the riometer P.C.A. events return quite sharply to normal levels.

Carmichael, H.: (1) The Observation of a sweeping away of the solar particles by a new plasma cloud from the sun is a most interesting and important contribution.

(2) Is there a simple relation between the known change of spectrum of the 11 year cycle and the effect of successive Forbush decreases that you have demonstrated?

Roederer, J. G.: Yes, as far as I know, both effects follow the same or nearly the same functional form of primary variation spectrum.

Biermann, L.: Hydromagnetics are usually applied to this problem assuming very small or zero resistivity or effectively constant magnetic flux; it is moreover, likely that this idealization to disregards processes which lead to the cutting of magnetic line of force.

Sandström, A. E.: Dr. Tendon of Delhi University has published a theoretical study of two beams crossing in space. According to his results both beams would resolve in small clouds and disappear. This would probably happen to a couple of clouds too.

Roederer: I feel this is just the test which rules out the continuous beam picture. In the case of clouds, one cloud penetrates into the magnetic region left behind the former cloud, rather than interfering with the cloud itself.

We expect therefore in this latter case a linear superposition of effects.

Elliot, H.: How does Prof. Gold envisage superposition of Forbush decreases like that observed in July 1959?

Does each successive plasma emission drawing out fresh magnetic flux?

Gold, T.: Yes, each cloud draws out flux from the sunspot region and thus creates a further magnetised shell expanding into the previous ones. They would then be approximately linearly superposed.

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* Both manuscript and prepsint have not been received.