Radial Development of a Solar Cosmic Ray Event Between o.4 and 1 AU on March 3, 1975 as observed from Helios 1 and IMP.

G. Wibberenz, H. Kunow, C. Green, R. Müller-Mellin, M. Witte, H. Hempe
Institut für Reine und Angewandte Kernphysik, Universität Kiel, F.R.Germany

R. A. Mewaldt, E. C. Stone, R. E. Vogt
CALTECH, Pasadena, California, 91125

R. Reinhard
ESTEC, Noordwijk, Netherlands

Theoretical ☐ Experimental ☒ Both ☐

A micro event was observed by cosmic ray particle experiments on board of Helios 1 and IMP on March 3,1975. At the time of the event Helios 1 was at a radial distance of o.4 AU from the sun. The IMP space craft near earth was connected via interplanetary magnetic fieldline with a solar region about 7° west of Helios. The roots of both fieldlines were well within the fast propagation region of two active centers which were capable to accelerate solar particles.
This relative position of the two space craft allows to separate solar injection and interplanetary propagation processes and to check existing models. The observed intensity-time profiles and anisotropies require a finite solar injection process; from a comparison of the event profiles and the absolute intensities at the two space craft the amount of interplanetary scattering is derived.

Coordinates: SP 4.5. (Interplanetary Propagation)
Radial Gradients
Helios Space Craft

Mailing address: H. Kunow
Institut für Kernphysik, Universität Kiel
Olshausenstr. 4o-6o
2300 Kiel
Fed. Rep. Germany