

COSMIC RAY EVIDENCE FOR MAGNETIC FIELD LINE DIS- CONNECTION INSIDE INTERPLANETARY CORONAL MASS EJECTIONS

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Bi-directional flows of solar wind electron heat fluxes are a characteristic feature of many interplanetary coronal mass ejections. They are believed to indicate looped magnetic field lines that are rooted at the Sun. These regions of looped fields tend to exclude galactic cosmic rays (GCRs) since particles have to diffuse across field lines to enter the interior of the region. However, such bi-directional electron flows are frequently observed to be intermittent. It has been suggested that field lines where bi-directional flows are absent have reconnected with the ambient interplanetary magnetic field. Hence, one or both ends are connected to the IMF rather than to the Sun. We would expect galactic cosmic rays to be able to stream into the interior of ICMEs along such field lines. We will investigate whether regions inside ICMEs where there are no bi-directional electrons are preferentially populated by GCRs, and examine their flow properties.