ICRC'07

Mérida, Yucatán, Méx.

Contribution ID : **1272**   Type : **Oral**

Solar Modulation of galactic cosmic ray

Abstract content

In studying solar modulation of galactic cosmic rays, a modulation parameter \phi is often used, whose value vary by a factor of more than 2 from the solar maximum to the solar minimum, reflecting the effects of different levels of solar activities on the modulation. Simple and elegant, this approach however, based on the assumption that the current of GCRs is small and can be taken to be zero, leading to a steady state solution of the transport equation. Recently, Wiedenbeck et al, using data from CRIS/ACE and neutron monitor, found that, for the declining phase of the solar cycle 23, the neutron monitor counting has been at a level of 4 percents higher than during the period when \phi had comparable values during the rising phase of solar cycle 23. In this paper, we address this differences of neutron monitor counting rates (or alternatively, the difference of \phi themselves) between the rising phase and declining phase of solar cycle. We show that the modulation of low energy GCRs is more sensitive to the phase of the solar cycle than high energy GCRs. By solving the transport equation using a new approach, we identify the influence of the solar cycle phase on the transport of galactic cosmic ray. We compare our simulation with ACE/CRIS observations.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

Primary author(s) :   Dr. LI, Gang (IGPP, UC Riverside and SSL, UC Berkeley)

Presenter(s) :   Dr. LI, Gang (IGPP, UC Riverside and SSL, UC Berkeley)

Session Classification :   SH 3.6, SH 3.3, SH 4.2, SH 3.1

Track Classification :   SH.3.1