

CR-SA hysteresis phenomenon on the basis of satellite data, 2. Proton fluxes

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Abstract. We analyzed satellite 5-min data on proton fluxes with energies > 1 MeV, > 2 MeV, > 5 MeV, > 10 MeV, > 30 MeV, > 50 MeV, > 60 MeV, > 100 MeV, and in intervals 10-30 MeV, 30-60 MeV, and 60-100 MeV during January 1986 31 December 1999. In the first we excluded periods with great CR increasings caused by particle acceleration in solar flare events. Then we determined monthly averaged fluxes as well as 5 months and 11 months smoothed data. We corrected these data on drift effects according to the procedure described in Dorman et al. (2001) in dependence of particle energies. Corrected on drifts proton fluxes we compare with expected according to convection-diffusion modulation for different values of X_0 from 1 to 60 av. months (described in Dorman et al., 2001). By this way we can determine X_{0max} , at what the correlation coefficient reaches

the maximum value. Then it can be determined the dimension of modulation region (with taking into account the influence of nonlinear processes on the solar wind speed in the outer Heliosphere according to Le Roux and Fichtner, 1997), the radial diffusion coefficient and transport path as well as expected proton intensity out of the modulation region and absolute proton flux modulation (relative to the proton intensity level in the interstellar space).

REFERENCES Dorman, L.I., et al., CR-SA hysteresis phenomenon on the basis of nm data, 1. Approaches to the convection-diffusion and drifts long-term modulations for NM energies. Proc. 27 ICRC, Paper SH&, 2001

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