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STUDY OF HYSTERESIS EFFECT ON COSMIC RAY INTENSITY IN REFERENCE TO SOLAR PARAMETERS

Abstract content

In order to perform the influence of solar activity parameters (Sun spot numbers SSN) on cosmic ray intensity (CRI), we have used six monthly averaged cosmic ray data from Oulu ($R_c = 0.78\text{GV}$) and Rome ($R_c = 6.32\text{GV}$) neutron monitoring stations for three solar cycles. (21 - 23). The detailed analysis of hysteresis effect between SSN & CRI has been done. The area of hysteresis loops and time lag with correlation coefficient between cosmic ray intensity and sunspot numbers have also been calculated and noticeable differences have been found during odd and even number solar cycles. Area of odd cycle loops is much larger than even cycle loop. Each hysteresis loop consists of a small secondary loop near solar maxima. Time lag between cosmic ray intensity and sunspot numbers is different in odd and even cycles. Implication and consequences of observed differences have been discussed in this paper.

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

Summary

Reference

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