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## CHARACTERISTIC FEATURES OF SOLAR PROTON EVENTS

### Abstract content

Proton fluxes are observed as integral 5-minute averages for energies  $> 10$  MeV, given in particle flux units (pfu), measured by GOES spacecraft. Proton events associated with flares tend to occur in sunspot region with field strength of 1500-2500 G and under specific configuration. Proton events associated active regions have large H alpha-flare index values (usually more than 100 sfu) and also produce type III metric burst. The Ca-II plage index radio emission flux and the maximum intensity of the 9.1 cm radio measurement tend to increase as the proton event approaches. In the present paper we have investigated the annual occurrence of solar proton events and their dependence on active region in different phases of solar cycle and found that occurrence of solar proton events generally follows the phase of solar cycle, whereas statistical study of solar proton events shows that maximum number of solar proton events associated with X- class flares. The solar -interplanetary features associated with solar proton events are also discussed.

**If this paper is presented for a collaboration, please specify the collaboration**

### Summary

### Reference

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