

The characteristics of Solar Flare Effect(SFE) at high latitude F-region as observed by SuperDARN HF radar

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A sudden perturbation of ground magnetic fields follows a solar flare, and geosynchronous satellites simultaneously observe the enhancement of X-ray emission. This ground variation is called Solar Flare Effect(SFE).SFEs are due to the extra ionization produced by the X-ray emission from a solar flare.Past studies show that the ionization which is caused by the X-ray emission is dominant in D and E-region of the earth's ionosphere, and the duration is about 1 hour.In this study, we analyze 23 SFE events which occurred in the period from 1996 to 1998 using SuperDARN HF radar network in Northern and Southern Hemisphere.At presentation we will show the characteristics of the SFE event at high latitude F-region, and discuss their mechanisms.

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