Remote sensing for management of solar geomagnetic disturbances on power system

Naidu H.K., Thanushkodi K.

Electrical and Electronics Engineering, Adhiyamaan college of Engineering, Dr.M.G.R.Nagar, Hosur-635109, TamilNadu, India; Akshaya College of Engineering and Technology, Bagavathipalayam Road, Kinathukadavu, Coimbatore, TamilNadu, India

Abstract: The recent developments in the field of remote sensing with its wide spectrum of sensor systems provide opportunity to gather information on solar wind, solar flares and other solar phenomena occurring in space as well as high geological resistivity areas consisting of igneous rock formation on earth by Geographical information system, in space and time domain for vast range of scientific discipline. India has made most significant contribution by developing state of art sensor systems, building launch capabilities of remote sensing series satellites & developing applications needed for national development. With judicious combination of satellite data sets with GIS, it is possible to carry out detailed mapping and correlating advanced digital image processing techniques like artificial intelligence & neural network, which may further improve the accuracy of the derived thematic layers from satellite image for forecasting effects of solar Geo magnetic disturbances on power systems and transformers reliably. This paper will present the causes and nature of geomagnetic storms & their resulting effects on Electrical power system to reliably operate since the solar flares can cause transient fluctuations in the earth's magnetic field. © 2010 CAFET-INNOVA TECHNICAL SOCIETY. All rights reserved.

Author Keywords: Geo magnetic disturbance; Geographical information system; Reliability; Remote sensing; Solar flares

Year: 2010

Source title: International Journal of Earth Sciences and Engineering

Volume: 3

Issue: SPECIAL ISSUE

Page: 45-54

Link: Scorpus Link

Document Type: Article

Source: Scopus

Authors with affiliations:

- 1. Naidu, H.K., Electrical and Electronics Engineering, Adhiyamaan college of Engineering, Dr.M.G.R.Nagar, Hosur-635109, TamilNadu, India
- 2. Thanushkodi, K., Akshaya College of Engineering and Technology, Bagavathipalayam Road, Kinathukadavu, Coimbatore, TamilNadu, India