

Metadata Details

Title

Study of Solar-Terrestrial Interaction Based on Magnetic Field Observations from Bharati Station, Larsemann Hills, Antarctica.

Science Keywords

Category	Paleoclimate
Topic	Geomagnetism
Expedition Year	2007-2008
ISO Topic	Geodesy

Summary

Abstract

Various dynamic processes in the near-Earth space environment, driven by the transient solar activity, severely affect the high latitude regions. Magnetic field data collected at globally distributed observatories have been an important tool for the study of manifestations of solar-terrestrial interaction in different regions of the Earth. A newly commissioned Indian Antarctic station, Bharati located at corrected geomagnetic (CGM) coordinates 74.7° S and 97.2° E is well suited for the study of several polar region specific processes associated with solar-terrestrial interaction. Around 20 days magnetic field variations recorded at Bharati during the austral summer months of XXVI and XXVII Indian Scientific Expeditions to Antarctic (ISEA), form the basis for this study. Initial results of polar geomagnetic substorms and long period geomagnetic pulsation characteristics have been presented in this study.

Purpose

In this study we carry out a detailed analysis of about 20 days geomagnetic disturbance data collected at Bharati station (geographic location 69.4° S, 76.2° E) during the summer season of XXVI (Mar 2006) and XXVII (Feb - March 2007) ISEA. A digital fluxgate magnetometer (DFM) was operated to record variations of three orthogonal components (H in magnetic north-south, D in east-west and Z vertically upward) of the geomagnetic field.

Data Center