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ABSTRACTS

Terra Nova Bay Geomagnetic Observatory

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The Italian Base in Antarctica is equipped with a magnetic observatory that started its operations in 1986/87; data were used for magnetic surveys data reduction, studies of secular variation seasonal behaviour effects of the geomagnetic daily variation amplitude and solar cycle control on magnetic activity.

The coordinates of the observatory are the following: Geographic latitude 74.695°S ; Geographic longitude 164.124°E ; Magnetic latitude (IGRF 1985) 77.34°S ; Magnetic longitude (IGRF 1985) 279.41°E ; Altitude a.s.l. 28 m.

The instruments used at the observatory include proton precession magnetometers (P.P.M.) for total intensity $|\vec{F}|$ digital recordings; DI magnetometers for absolute measuring of the angular elements D and I and a recording system composed of three fluxgate magnetometers for H , D and Z time variation digital data acquisition. Absolute measurements independently taken, are input to a mathematical procedure in order to determine baseline values for the relative fluxgate measurements; one minute absolute average values of the three elements H , D and Z are finally obtained and published. In order to record data through a full solar year an automatic wintering over system was also set up.

In 1993/94 summer expedition measures were made on several frequency bands and many technical improvements were made on the Observatory equipments.

Data were collected at summer rate from Oct. 22nd (1993) to Feb. 18th (1994) with the execution of 70 absolute measurement of the geomagnetic field. All data stored in 1993 winter were archived (data sampling was sized in order to allow storage of a full year information).