Riometer Observations at Antarctic Stations During Total Solar Eclipse on 23-24 November 2003 to Show Decrease in D-layer Electron Density

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Solar Eclipse provide an unique opportunity to investigate the ionospheric response to the change in the solar flux emission to words the Earth. Indian Antarctic station Maitri(Geo. Lat 70°46' S, Long. 11°44' E) is located in Schirmacher oasis in the central Dronning Maud Land. During the Solar Eclipse on 23-24, November 2003 it was in the Totality and experienced greatest eclipse. India operate 30 MHz Riometer and Digital Fluxgate Magnetometer at Maitri throughout the year. During the Eclipse 30 MHz Riometer observation shows reduction in the cosmic radio noise absorption, indicating decrease in electron density in D- region. These observations are compared with observations at Australian Antarctic stations Casey and Davis. Geomagnetic conditions during this time were quiet to moderate.

Key words: Total Solar Eclipse, Riometer, Cosmic radio noise