

**IONOSPHERIC RESPONSES OVER THE BRAZILIAN TERRITORY  
TO THE MAGNETIC STORM OF FEBRUARY 7-10, 1986**

by

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**ABSTRACT**

Large total electron content (TEC) variations have been observed over Cachoeira Paulista (geogr.  $22.8^{\circ}\text{S}$ ,  $45^{\circ}\text{W}$ , dip =  $28^{\circ}\text{S}$ ) during the magnetic storm that initiated on February 7, 1986. More specifically, large TEC increases over average quiet-day (Feb 1 to 5, 1986) TEC values were registered. Intense TEC fluctuations, possibly associated with gravity wave occurrence and with period of oscillation of the order of two hours, were observed during the time interval of 1200LT to 1800LT on February 8. The ionogram parameter  $f_{\text{O}}F_2$  are also analysed. The former is seen to increase during the first and second days, which coincided with the days of the storm main phase and to decrease on the third and fourth days which corresponded to the storm recovered period. The ionosphere over Cachoeira Paulista appeared to return to its undisturbed condition on February 11, that is, the fifth day, in spite of the fact that the  $D_{\text{st}}$  index remained negative up to the end of the month. A model analysis of the behavior of the  $f_{\text{O}}F_2$  and  $f_{\text{m}}F$  is given.