

## **Occurrence of the Blanketing Sporadic E-Layer during the Recovery Phase of the 2003 Super Storm**

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We have routinely monitored the total frequency ( $f^oE_s$ ) and the blanketing frequency ( $f^bE_s$ ) of sporadic E layers with the digital sounder under the magnetic equator in the Brazilian sector. Sporadic layers appear in the equatorial region ( $E_{s_q}$ ) at heights between 90 and 130 km, mainly due to irregularities in the equatorial electrojet (EEJ) current. However, during the recovery phase of the October 2003 super storm, an anomalous intensification of the ionospheric density that exceeded the normal ambient background values for local time and location was observed. The parameter  $f^bE_s$  rose to almost 7.5 MHz during this event, due to a type “c” blanketing sporadic layer ( $E_{s_c}$ ), which is driven by wind shear. This result is discussed in terms of the atmosphere dynamics based on magnetic signature of the equatorial electrojet current using magnetometer data. Also, using data measured by sensors onboard the Geostationary Operational Environmental Satellite 10 (GOES 10) we analyze the possible influence of the solar flare-associated X-ray flux as an additional source of ionization.