

LONGITUDE-ALTITUDE TOMOGRAPHIC IMAGES OF EQUATORIAL PLASMA DEPLETIONS

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Key words: Equatorial plasma depletions, ionospheric tomography, CERTO beacon, C/NOFS satellite

Abstract. While equatorial plasma depletions have been studied for decades, observations utilizing the relatively new technique of ionospheric tomography have been very few in number. However, a newly-deployed array of RF-receivers in Peru, coupled with the CERTO beacon on the C/NOFS satellite, has made possible high-resolution tomographic images of depletions in the longitude-altitude plane. Four of the receivers are NWRA units operated by NRL; the nal unit is a CIDR unit operated by UT Austin. The NWRA units were co-located with LISN instrumentation. The MART algorithm was used to create the tomographic images; vertical proles of plasma density from the Jicamarca ionosonde provided the initial guess for the algorithm. We present here the rst high-resolution tomographic images from this array.