# EFFECT OF PROMPT PENETRATION ELECTRIC FIELD ON TEC IN LOW LATITUDES: A CASE STUDY

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The effect of prompt penetration electric field (PPEF) of high latitude origin on ionospheric total electron content (TEC) has been a subject of considerable recent interest. We present a case study of an interplanetary event that occurred on August 24, 2005. The storm commenced during the daytime in the Indian longitude sector at about 0630 UT (1200 LT). The effect of the penetration electric field during the main phase of the storm has been evidenced in the low latitude TEC data as obtained from Udaipur, India, situated near the crest of the equatorial ionization anomaly (EIA). Hence these observations signify the importance of this case study during the storm in low latitudes. We observed a positive ionospheric storm on daytime of August 24, 2005. The enhancement in TEC at low latitudes shows the effect of prompt penetration of electric field and subsequent uplift of F layer, resulting in increased density. These density enhancements have been reflected in TEC enhancements. Supporting evidences of Ionosonde and magnetometer data in the Indian zone would also be presented and discussed.

prompt penetration electric field, total electron content, equatorial ionization anomaly

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