On Performance of IRI 2012 Model in deriving TEC at Equatorial Ionization Anomaly (EIA) Region in Indian sector.

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The present study reports the comparison of GPS derived Total Electron Content (TEC) with that predicted by the latest IRI-2012 model at three different stations located within the Equatorial Ionisation Anamoly region (EIA) in the Indian sector. The data used for the study are from three different stations namely Surat (Geographic latitude 21.16 N, Geographic longitude 72.78E, Geomagnetic latitude 12.90N), Hyderabad (Geographic latitude 17.20N, Geographic longitude 78.30E, Geomagnetic latitude 8.65N) and Bangalore (Geographic latitude 12.58N, Geographic longitude 77.33E, Geomagnetic latitude 4.58N). The period of comparison is three years for rising solar activity from 2010-2012. Here it is to note that both Hyderabad and Bangalore are IGS station with the station code (HYDE and IISC respectively). The results of the comparison of seasonal variation shows a good agreement between the measured and modeled TEC for all seasons with a slight deviations of ($\pm 15\%$) for all three years at Surat and Bangalore and with a deviation of ($\pm 25\%$) at Hyderabad. The winter anomaly was observed for Surat station for the year 2011 and so the deviations are more for winter 2011.