



International Reference Ionosphere – A tool for Space Weather Applications: Recent Developments

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We will present the latest developments regarding the COSPAR and URSI sponsored International Reference Ionosphere (IRI). IRI is a widely used standard for the specification of ionospheric densities and temperatures recommended by the International Standardization Organization (ISO) and the European Cooperation for Space Standardization (ECSS). With the latest version of the model, IRI-2012, significant improvements and new parameters have been introduced in the model and will be discussed in this talk. Recent comparisons and applications of the model will be briefly reviewed. Of special interest is the performance of IRI during the recent, highly unusual solar minimum of cycle 23/24. Measurements by the CHAMP, GRACE, and C/NOFS satellites have found large discrepancies with IRI predictions during the minimum while ionosonde data show good agreement at the F2 peak. We will discuss these results and investigate possible causes. An exciting new activity are the efforts towards the development of a Real-Time IRI based on data assimilation and model updating with real-time data. We will give a progress report following the special IRI-RT workshops in Colorado Springs (May 2009) and Prague (March 2012).