IRI and GNSS Data Assimilation – A Brief Review

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Abstract

Different techniques have been used to improve the accuracy of the International Reference Ionosphere (IRI) with GNSS measurements in real-time or retrospective mode. One set of methods uses the data to determine equivalent solar and ionospheric indices and then uses these indices for generating profiles of all IRI output parameters either globally or regionally or locally. Data assimilation methods, on the other hand, use mathematical techniques to bring the initial 3-d representation of an ionospheric parameter as given by IRI closer to the available GNSS and/or ionosonde data. This talk will give a brief review of these techniques and their successes.