



ALGORITHMS AND BASIS FUNCTIONS IN TOMOGRAPHIC RECONSTRUCTION OF IONOSPHERIC ELECTRON DENSITY (MonPmOR12)



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* Abstract :

Computerized ionospheric tomography (CIT) is a method to investigate ionosphere electron density in two or three dimensions. This method provides a flexible tool for studying ionosphere. Earth based receivers record signals transmitted from the GPS satellites and the computed pseudorange and phase values are used to calculate Total Electron Content (TEC). Computed TEC data and the tomographic reconstruction algorithms are used together to obtain tomographic images of electron density. In this study, a set of basis functions and reconstruction algorithms are used to investigate best fitting two dimensional tomographic images of ionosphere electron density in height and latitude for one satellite and one receiver pair. Results are compared to IRI-95 ionosphere model and both receiver and model errors are neglected.