

Abstract Details

<u>AOGS 1st Annual Meeting</u> > <u>Interdisciplinary Working Groups</u> > Regional ionospheric model derived from ground-based GPS receiver data for correction of the ionospheric effect on the GPS occultation radio waves >

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Title:	Regional ionospheric model derived from ground-based GPS receiver data for correction of the ionospheric effect on the GPS occultation radio waves		
Abstract:	for correction of the ionospheric effect on the GPS occultation radio waves An airplane-borne GPS occultation receiver has been developed by Electric Navigation Research Institute, Japan. To assess and correct the ionospheric effect on the GPS occultation radio waves, a regional ionospheric model was developed. The model is based on the observational data of total electron content measured by GEONET, a dense GPS receiver array in Japan. The regional model covers the surrounding area of Japan to assess the low- elevation angle radio wave received by the air-borne receiver around Japan. To derive the three-dimensional distribution of the ionospheric electron density, the vertical profile of the IRI model are used with modifications. Because of the high density of the GPS receiver distribution, the spatial resolution of the model is high in the horizontal direction. The temporal resolution 30 seconds is also high enough because the typical period of the ionospheric variation is longer than one minute. The errors of the model are mainly attributed to the accuracy of the vertical profile of the electron density especially around the density maximum of the equatorial anomaly crest that are located at about 15 degrees of the geomagnetic latitude.		

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