Analysis of Global Ionosphere Maps from CODE

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Reference

Schaer S. 1999. Mapping and Predicting the Earth’s Ionosphere Using the Global Positioning System. PhD thesis, Astronomical Institute, University of Berne, Switzerland

The Center for Orbit Determination in Europe (CODE) produces daily maps of the Earth’s ionosphere on a regular basis since January 1, 1996. These global ionosphere maps (GIMs) are derived from the GPS tracking data.

It should be noted that Jet propulsion Laboratory also produces GIMs as well.

CODE GIMs are constructed using a series of spherical harmonics functions whose coefficients are determined using available VTEC data from about 300 International GPS Service for Geodynamics (IGS) stations

Instrumental biases, so-called differential P1-P2 code biases (DCB), for all GNSS satellites and ground stations are estimated as constant values for each day simultaneously with parameters used to represent the global VTEC distribution.

The resolution of the CODE GIMs was changed from 2 h to 1 h on October 19, 2014. The longitudinal and latitudinal resolutions are 5^o and 2.5^o, respectively.

Data archive: www.aiub.unibe.ch/download/CODE/

THANK YOU