

Empirical model of electron density obtained by Hinotori satellite

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We constructed an empirical model of electron density to understand characteristic structures in equatorial F layer. The Hinotori satellite data were separated for solar activity and longitude. Each data sets were analyzed for seasons, which were equinox, northern summer and northern winter. The data sets are modeled as functions of magnetic latitude from -25 to 25 degree with the latitude resolution of 5 degrees and local time from 0 to 24 hour with the time resolution of 30 minutes. We have compared the empirical model with Hinotori satellite observations and International Reference Ionosphere (IRI) model to make sure the validity of the empirical model.