Recent Activities of WDC for Ionosphere and Space Weather (WDC-ISW)
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Introduction
When the solar activity is high and the magnetic field in the solar wind is suitable to the Earth’s magnetic field, the solar wind pass through the magnetic field and effect to near-Earth space, satellite, space station, or radio infrastructures. We monitor the condition of sun, solar wind and near-Earth space. This is the space weather. For example of space weather application, ICAO, International Civil Aviation organization, UN is now planning to use space weather information in civil aviation to keep stable use of the communications and satellite positioning and avoid hard radiation exposure.

National Institute of Information and Communications Technology (NICT), Japan, operated WDC for Ionosphere and Space Weather (WDC-ISW). Our organization collects and archives data and information on ionosphere and space weather, and makes them available to the public. Published data are used by a wide range of users including public organizations, research institutions, and universities.

Recent Activities

Current Status of WDC-ISW
- Observation Network
- Simulation Models

We have developed observation technologies and networks to monitor space weather phenomena through international collaboration.

We have developed simulation technologies using super computers to forecast space weather phenomena.

Data archive

Data Distributions

We archive the digital data and available on the web.

We publish monthly and annual report of ionospheric data in Japan and the Antarctica, respectively.

Digitization of Ionogram Film

Digitization project was completed on FY2007-2008 and FY2014-2015 for domestic/Antarctic observatories.

Because the films digitized into binarization were too difficult to scale manually, these films were rescanned into 256 gradation images during FY2013-2014.

Digitization by Ribbon Scanning

Ionogram film roles of foreign countries were digitized by ribbon scanning during FY2013-2014. Not each frame but each film role is recorded as one image. These ribbon scanning images will be available on the website during FY2016-2017.

International Collaborations

ISES: International Space Environment Service
(18 countries and ESA as a Collaborative Expert Center)

WMO Data Collection or Production Centers

We have submitted to be WMO/DCPC (Data Collection or Production Center) which will be responsible for the collection or generation of sets of data, forecast products, processed or value-added information, and/or forecast archiving services.

NICT was approved as a DCPC at WMO plenary on 2015.

Digital file as original

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