GR2 Reprocessing from CNES/CLS IGS Analysis Center: specificities and results

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Introduction

We present in this contribution the main aspects of the reprocessing efforts done at the CNES/CLS Analysis Center. We processed 15 years of GPS and 5 years of GLONASS data together on a daily basis with a network of up to 230 stations.

In these solutions we gave a particular attention to the standards and we followed the IGS REP02 recommendations. An exception concerns the use of a time variable gravity field. We show the statistical results of our GR2 processing such as ambiguities fixing success rate, orbit residuals, orbit comparisons and one example of station position time series. We focus on the main specificities of our processing and its implementation (zero ambiguity resolution). The main events or discontinuities in the solutions results are discussed.

Station position time series for a collocated site

GRS is implementing on its web site (http://www.gns.csiro.au) new tools to browse station coordinates time series provided by the GRS Analysis Centers. The objective is to provide users with the most recent position time series of DORIS, GPS, SLR and VUB sites. The tools provided by this web site are:

- a network viewer called Mapmap (http://www.gns.csiro.au/) to select sites,
- a plot tool based on the Highcharts/HighGraph Libraries (http://www.highcharts.com/) to display time series.

They have been developed by CLS on behalf of GNS for the International DORIS Service (IDS) (http://www.gns.csiro.au/). The tool plot container options for selecting charts to plot, displaying time series, adding data, changing plot parameters, loading data, and saving data to disk. The user can load data from several sources. It is equipped with static and interactive geographic and 2D plots. The tool plot container options for selecting charts to plot, displaying time series, adding data, changing plot parameters, loading data, and saving data to disk. The user can load data from several sources. It is equipped with static and interactive geographic and 2D plots. The tool plot container options for selecting charts to plot, displaying time series, adding data, changing plot parameters, loading data, and saving data to disk. The user can load data from several sources. It is equipped with static and interactive geographic and 2D plots. The tool plot container options for selecting charts to plot, displaying time series, adding data, changing plot parameters, loading data, and saving data to disk. The user can load data from several sources. It is equipped with static and interactive geographic and 2D plots. The tool plot container options for selecting charts to plot, displaying time series, adding data, changing plot parameters, loading data, and saving data to disk. The user can load data from several sources. It is equipped with static and interactive geographic and 2D plots. The tool plot container options for selecting charts to plot, displaying time series, adding data, changing plot parameters, loading data, and saving data to disk.

Additional empirical acceleration terms

Unidirectional free line observations ($\Delta v$) in the zetametric case

The zetametric case is the one where we have a single station with a set of four different antennas, each of which is a combination of three different types. This setup is used to determine the orientation of the site with respect to the Earth's rotation axis. The zetametric case is particularly useful for monitoring the Earth's rotation and its variations. It combines the orientation of the station with respect to the Earth's rotation axis. The zetametric case is particularly useful for monitoring the Earth's rotation and its variations.

Orbit residuals

We also show the results of our orbit comparison between the IGS/CLS DORIS service and the IERS C04 series. We can see a slight increase of the RMS3D comparison before 2008. However, when we compare GR2 orbit to the IERS/IGS DORIS orbit, it is in line with the IERS/IGS DORIS orbit. This is consistent with the IGS orbit which is more consistent with the IGRF orbit than the IERS C04 series.

GRS Products:

The main products delivered to the IGS coordinators are the solutions for the EOP (Earth Orientation Parameters) and the station coordinates parameters. They are computed on a 24hr basis. We also provide to the international services the orbits (IGS) and the clocks parameters (10 sec) that will allow users to perform homogeneous GR200 processes. These products are delivered to the IGS REP02 products under the name GR2. The following plots represent the GR2 and IGS pole rate and the EOP differences between GR2 and the IERS C04 series.

References: