

To: IVS Analysis Centers
From: John Gipson, IVS Analysis Coordinator
Re: Submission of solutions for ITRF2013
Date: 2013-Jan-24

This memo describes how to submit VLBI solutions for use in ITRF2013. A separate memo "ITRF2013 Checklist" describes the characteristics of the solutions.

Submission Instructions

1. IVS Analysis Centers that wish to submit a solution for ITRF2013 will submit them to the IVS Data Centers which will archive them.
2. The solutions will be in the form of Sinex files for 24 hour VLBI sessions.
 - a. The names of the individual 24-hour sessions when submitted will be of the form dddddddd_aaasssss.sn_x_itrf2013 where dddddddd is the 9-character database name, aaa is the 3-character analysis center code, and sssss is the 5-character solution ID. The solution IDs will be of the form 2013a, 2013b, etc. As a concrete example:
10JAN04XA_gsf2013a.sn_x_itrf2013
 - b. Don't forget to put on the complete suffix 'sn_x_itrf2013'. Otherwise the IVS Data Centers' processing script will either reject the files, or put them someplace else.
3. All solutions must have an associated text-file which describes the solution. The name of the text file will be something like: gsf2013a.dsn_x_itrf2013.txt. Here 'gsf' indicates the analysis center, '2013a' indicates the solution, and 'dsn_x_itrf2013.txt' indicates that this is a solution description. A description of the required contents of the description is given below.
4. Prior to submitting a solution indicate your desire to do so to Dirk Behrend. (dirk.behrend-1@nasa.gov) Dirk will assign a solution code of the form 2013a, 2013b, etc.
5. Once you have submitted a solution please notify Sabine Bachmann Sabine.Bachmann@bkg.bund.de and John Gipson (john.m.gipson@nasa.gov).

If you have any questions, please send an email to myself (john.m.gipson@nasa.gov) or Dirk Behrend (dirk.behrend-1@nasa.gov)

Description File

All solutions should have an associated description file. At a minimum the description file must include the following information.

1. Purpose of the solution.
2. Analysis Center submitting the solution.
3. Contact person. Include contact information, e.g., email.
4. Short narrative description. General description about the solution.
5. Modeling of troposphere.
 - a. If modeled as piece-wise-linear function, what is the length of the segments?
 - b. What are the constraints?
6. Modeling of gradients.
 - a. If modeled as piece-wise-linear function, what is the length of the segments?
 - b. What are the constraints?
7. Modeling of clocks.
 - a. If modeled as piece-wise-linear function, what is the length of the segments?
 - b. What are the constraints?

8. Sources.
 - a. What a priori source positions were used? Recommended is ICRF2.
 - b. How are non-ICRF2 defining and non Special Handling sources handled?
9. Stations
 - a. A priori station positions
 - b. A priori velocities
 - c. Epoch
10. Geophysical models
 - a. Confirm that you are using VMF1 mapping function.
 - b. Confirm that you are using IERS conventions for Solid Earth tide.
 - c. Tidal ocean loading: What model are you using?
 - d. Loading corrections. Confirm that you are not using any other loading corrections.
11. Data editing.
12. Data weighting.
 - a. Do you use observation errors as reported in the database /NGS cards?
 - b. Do you add a constant value to all observations?
 - c. Is the solution reweighted to get $\text{Chi-sq}=1$? If so, is this session, station or baseline dependent.
13. Standard errors. How were the errors reported in the solution derived?
14. Software Version.
15. Miscellaneous. Is there anything special about the solution?