

Minutes of the virtual ILRS Analysis Standing Committee Meeting No. 1/2024

Monday, 2024-01-22, online via Zoom, 14:00–15:50 (UTC)

Attendees:

Z. Altamimi, G. Appleby, A. Basoni, M. Bloßfeld, C. Carabajal, R. Dach, F. Deleflie, P. Dunnair, K. Evans, C. Flohrer, L. Geisser, V. Husson, A. Kehm, D. König, M. Kuzmich-Cieslak, F. Lemoine, C. Luceri, U. Meyer, J. Najder, M. Pearlman, A. Reinhold, F. Reinquin, R. Ricklefs, J. Rodríguez, S. Rudenko, D. Sarrocco, P. Schreiner, C. Schwatke, M. Seitz, K. Sośnica, T. Springer, D. Strugarek, A. Susnik, D. Thaller, M. Vei

0) Last meeting + open Action Items (AIs)

NEW ACTIONS		
# AI	Description	AC/person
1_oct2023	Review of weighting model of observations/stations/satellites in the analysis	M. Bloßfeld
2_oct2023	Benchmark tests of CNES AC	ASI CC
3_oct2023	Update DSC files at ILRS website	M. Bloßfeld
4_oct2023	Discontinuation of v170, v70 and v230 products and operational submission of v180, v80, v280 and v320 products	All ACs

OLD OPEN ACTIONS		
# AI	Description	AC
1_apr2023	Large scatter of LOD w.r.t. USNO	GFZ
3_apr2023	Publication on ILRS contribution to ITRF2020	Erricos Pavlis
5_apr2023	New strategy for the processing of arcs before 1993	Cinzia Luceri, Mathis Bloßfeld
6_apr2023	Differences in the WRMS time series between the CCs for BKG, DGFI and GFZ	ASI/JCET/DGFI
1_nov2022	Daily&Weekly products from 07-08/2022 to be investigated (3D wrms too high)	DGFI/BKG/GFZ
4_nov2022	daily&weekly Scale from 09/2022 to be investigated	NGSF
9_nov2022	Complete Re-Analysis 1993-2022 (SLRF2020, new DHF & IERSEOPC04 20), v85 series	ALL ACs

Updates on AIs:

1_oct2023: partly done

cf. 5)

2_oct2023: done

→ Congratulations to CNES AC, all benchmark tests passed for v80, v180, and v280. The benchmark tests for orbit products are still pending. C. Luceri, M. Bloßfeld and C. Carabajal discussed how to proceed in order to announce CNES as an official AC of the ILRS. C. Carabajal will check which changes are necessary at the ILRS side (website, contact information, etc.) and will help CNES with the official things. Not yet clear is if CNES will contribute to the v85 (ITRF2020 update reprocessing) in the very near future.

→ Regarding GRGS: C. Schwatke stated that the solutions GRGS uploaded up to now (v170, v170) are stored in a hidden folder at <https://edc.dgfi.tum.de/pub/slr/products/test/grgs>. M. Bloßfeld will contact F. Deleflie to clarify next steps (e.g., switch of GRGS submissions to new products v80 and v180; **new AI for F. Deleflie and M. Bloßfeld**).

3_oct2023: ongoing but shifted to 5_jan2024

After a discussion the ASC agreed on the switch from the AC-based DSC files to product-based DSC files. M. Bloßfeld will contact the ILRs CB to define next steps (new form, website, CDDIS, etc.; **updated AI for M. Bloßfeld**)

4_oct2023: done

1_apr2023: ongoing

M. Vei (GFZ) hopes this effect will disappear in the new operational products (v180, v80). GFZ is currently waiting for the combination results of the v85 reprocessed series. M. Vei has a general idea where to look to in the next time...

3_apr2023: ongoing

E. Pavlis is still working on a draft version of the manuscript, but he will share it with the o-authors as soon as possible.

5_apr2023: pending

6_apr2023/1_nov2023: ongoing but shifted to 6_jan2024

M. Bloßfeld presents the results of the weighting survey of the ACs. Different test solutions had been computed (i.e., different combinations of a satellite- and station-dependent weighting). ASI CC will evaluate them and provide feedback to DGFI/ASC. For details, cf. 5)

4_nov2023: done

NSGF investigated the issue and found that the main reason for the scale problem was in outdated models that were used for v70/v170. This is confirmed by ASI CC since the scale offset is not visible any more in the v180/v80 products (which are based on updated models).

9_nov2023: partly done

cf. 1)

1) ITRF2020 update (status reprocessing, DHF update needed?, etc.)

ASI CC reported on the current status of the new operational products v180, v80, v280, v320, and v85. Nearly all ACs submitted their solutions (except ESA, BKG; cf. ASI CC slides); up to now, the results are very promising and indicate a very good quality of the new operational products.

→ ESA will provide v85 next week (end of January)

→ M. Bloßfeld emphasized the importance that all v85 solutions must be submitted to EDC as soon as possible; the ILRS ASC has to meet deadlines for the submission of the official contribution to the IERS CB.

→ M. Bloßfeld and C. Luceri will discuss if the CNES v85 solution, if submitted in time, will be included in the official ITRF2020 update reprocessing.

→ DHF update?: after release of new DHF in 01/2024, repro 2021–2023 within 2–3 weeks (by mid of February).

→ Z. Altamimi: question on criteria for RB determination → RB estimates are absolute estimates with no reference since they are co-estimated with TRF and EOP.

→ J. Rodríguez: automatic step detection already used for current version of DHF? N, it is an additional algorithm which will be further tested and developed.

→ M. Bloßfeld asked if ILRS-B is also willing to combine the v85 series; F. Lemoine agreed to try!

→ after a discussion the following strategy: ACs should provide notice when re-processed data is uploaded, DCs should remove the last 3 years to avoid mixed time series.

→ expected changes caused by differences of v85 compared to ILRS contribution to ITRF2020? Since no major model changes were done only a minor difference is expected; changes in ILRS DHF as well as the inclusion of an 8th AC might impact the ITRF2020 update contribution (to be checked by ASI CC).

→ Z. Altamimi: please also check for additional station position discontinuities after end of ITRF2020.

2) Bias handling in operational products

cf. slides by M. Bloßfeld; discussion on the correct handling of biases in the combination.

→ it was agreed that the ACs estimate the RBs in any operational products at the mid-arc epoch; thereby, the Etalon biases should be combined and named 'EC'; if only observations to one Etalon satellite are available in a NEQ, also the name/label 'EC' should be used.

→ C. Luceri stated that the Etalon biases are not considered in the combination but "removed" from parameters and variance-covariance matrices. M. Bloßfeld clarified that there are some biases to be estimated in the operational v180 and v80 products according to the ILRS DHF. If they are pre-eliminated, consistency must be ensured which means that the separate Etalon biases must be combined before their pre-elimination. A better solution would be if BKG and GFZ combine the Etalon biases in their analysis. The discussion was not finished but will be contributed with both CCs via email.

3) Orbit reprocessing consistent to v85?

→ after a discussion the ASC agreed that it would be good to have a consistent combined orbit product covering 1993 until now based on the v85 reprocessing. This reprocessing will be started after the official submission of the ILRS contribution to the ITRF2020 update is finished (**new AI for all**).

→ A. Susnik pointed out that NSGF still needs to investigate the reason behind large differences of LA-1/2 orbits w.r.t. the other AC orbits (in particular in cross-track) in v80 (**new AI for NSGF**).

4) ASC recommendations for SINEX format updates

cf. slides.

→ D. Thaller explained why the IERS DB asked the services for their input on potential SINEX format updates (better information about quality of the parameter estimation, etc.). M. Bloßfeld asked ASC in an e-mail in November 2023 on the topic of recommendation. Goal is final discussion at EGU (**new AI for all**).

5) Survey on satellite-/station-weighting strategies at ACs

cf. slides.

→ GFZ reported on their used station weights.

→ M. Bloßfeld stated that DGFI computed some test solutions which will be evaluated by ASI CC. Results will be presented at the EGU ASC meeting in April and via email in advance to this meeting (**new AI for DGFI, ASI CC and JCET CC**).

6) DSC files at ILRS website

cf. slides.

→ after a discussion the ASC agreed to switch from AC-based DSC files to product-based DSC files. M. Bloßfeld will work out a new format for these files (**new AI for M. Bloßfeld**).

7) Any other business and next ASC meeting

→ M. Bloßfeld stated that the next ILRS ASC meeting will be during EGU 2024 (final decision after EGU program committee meeting).

→ G. Appleby reported on his recent steps forward regarding a “Stanford Counter issue” correction function. This function will allow for a range-dependent correction of the raw data stored at EDC and CDDIS and should be applied by any user of this data in the future. In total, 4 stations are affected by this event timer effect.

It should be also noted that this meeting was the 50th ASC meeting!

This was M. Vei’s final ILRS ASC Meeting! Thank you, Margarita, for your work and all the good discussions!

NEW ACTIONS		
# AI	Description	AC/person
1_jan2024	Clarify with GRGS which steps are necessary to get GRGS becoming an ILRS AC in 2024.	F. Deleflie, M. Bloßfeld
2_jan2024	New product-based DSC files (instead of old AC-based DSC files).	M. Bloßfeld
3_jan2024	Compute orbit product based on v85 reprocessed solutions.	all
4_jan2024	Compile report on SINEX format updates wanted by the ILRS for IERS DB.	all
5_jan2024	New format for AC-based DSC files.	M. Bloßfeld
6_jan2024	Investigation of test solutions based on different satellite- and station-weighting strategies.	DGFI/ASI CC/JCET CC
7_jan2024	Investigation of large cross-track orbit differences of NSGF w.r.t. other AC orbits	NSGF

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