

Minutes of the ILRS Analysis Standing Committee Meeting No. 2/2024

Wednesday, 2024-04-19, Vienna, Austria, 10:30–13:30 CEST

Attendees:

On-site: Bloßfeld M., Kehm A., Luceri C., Sarrocco D., Lemoine F., König D., Reinhold A., Desai A., Schreiner P., Rudenko S., Geisser L., Susnik A., Dach R., Thaller D., Meyer U., Zeitlhöfler J., Schwatke C., Sosnica K., Garcia A., Najder J., Strugarek D., Kur T., Dunn P., Rodriguez J., Cinelli M.,

Online: A. Belli, E. Schönemann, C. Flohrer, V. Husson, F. Reinquin, A. Basoni, G. Appleby, D. Lucchesi, M. Kuzmicz-Cieslak, M. Seitz

0) Last meeting + open Action Items (AIs)

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

OLD OPEN ACTIONS		
# AI	Description	AC
1_apr2023	Large scatter of GFZ LOD w.r.t. USNO.	GFZ
3_apr2023	Publication on ILRS contribution to ITRF2020.	E. Pavlis
5_apr2023	New strategy for the processing of arcs before 1993.	C. Luceri, m. Bloßfeld

Updates on AIs:

Recent AIs:

1_jan2024: M. Bloßfeld contacted F. Deleflie. Currently, the most recent version of the ILRS DHF is implemented into the GRGS s7w. This task will be finished soon (after June this year).

2_jan2024: no news.

3_jan2024: cf. Sect. 2)

4_jan2024: cf. Sect. 6)

5_jan2024: no news.

6_jan2024: cf. Sect. 7)

7_jan2024: no news.

Old AIs:

1_apr2023: no news.

3_apr2023: cf. Sect. 2)

5_apr2023: no news.

1) Status reports of SLR/LLR ACs/CCs

The ILRS ACs/CCs provided a report as usual to the ASC (cf. slides). Only highlights are mentioned here.

ASI

- cf. slides.
- good performance of most ACs in terms of in-time delivery of operational products.
- still issues with the DGFI-AC contribution and others (cf. AI 6_jan2024).
- GFZ LOD issue still present in time series.
- Y-pole jump of NSGF in Sept. 2023. Reason unclear! (**new AI for NSGF**).
- Still orbit issues for NSGF and BKG (cf. AI 7_jan2024; extended for BKG).
- TRF, EOP and orbit solutions improved with ITRF2020!

BKG

- no slides.
- v80 repro has been uploaded, epoch problem solved.
- v85 done 2000–2023, 1990s almost done (**[AI BKG]**: will be uploaded by end of April).

CNES

- cf. slides.
- **CNES is now (officially) the 8th ILRS Analysis Centre!**
- official announcement will be provided by ILRs CB soon.

DGFI

- cf. slides
- “old” operational series discontinued at the end of 2023.
- Alternative/refined handling of ocean tide models implemented in s/w; first tests show very good results.

ESA

- cf. slides (online presentation).

GFZ

- cf. slides (v280 is done but missing on the slides).
- Margarita finally retired; new staff: Ahmad Desai.

GRGS

- work in progress (cf. AI 1_jan2024).

JCET

- cf. slides.
- question by M. Bloßfeld: quarantine data evaluation (QCB) → required minimum number of passes (currently 20 passes per satellite)? Change to potentially 60 passes over all satellites? No final answer after discussion. Decision will be done by ILRS QCB/CB.
- question by S. Rudenko: Why is there a difference between the mean RB LAGEOS-1 vs. LAGEOS-2? C. Luceri: Perhaps LAGEOS-2 is “brighter” than LAGEOS-1 (ageing process).
- webpage update for history log files is in progress.

NSGF

- cf. slides.

No reports have been provided by the **LLR ACs**.

2) ITRF2020 update

- cf. slides.
- some ACs omitted applying RBs for some stations → ACs should check their implementation and always use not the latest ILRS DHF version but the version consistent to the TS model (cf. 4).
- check implementation of ILRS DHF (**new AI for JCET**).
- DGFI-TUM already resubmitted the corrected v85 (now v86 time series)

Question raised by Z. Altamimi: frequency of ITRF updates, e.g., annual or every two years?

- in principle no objections from the ASC had been raised which means the ILRS ASC can go for an annual update of the ITRF.
- The plan is to only reprocess the last year for the update.
- comment D. König: keep it as simple as possible, e.g., limit any changes in the solution setup to using an updated ILRS DHF and TS model only.

Publication on ITRF2020 contribution:

- all ASC members should be co-authors! Many co-authors are no problem at all! Journal should be decided soon...
- publication should primarily focus on the ITRF2020 update since the ITRF2020 ILRS contribution is quite old; C. Luceri will contact E. pavlis to get all written material he has and proceed with this ASC-wide paper (**updated AI 3_apr2023 for C. Luceri**).

Compute orbit product based on v85 reprocessed solutions:

- C. Luceri proposed to perform this orbit reprocessing to obtain a fully consistent orbit time series to the most recent TRF product of the ILRS. So this task will remain open and should be organized by the Analysis coordinators (C. Luceri, M. Bloßfeld; cf. AI 3_jan2024).

3) LARES-2: DHF and inclusion into operational products

- cf. slides.
- data basis is still very limited, more time needed!
- up to now, no changes in ILRS DHF are required.
- ongoing, will be discussed in detail in the next ILRS ASC meeting.

4) Consistency of observation corrections

- talk by V. Husson (no slides).

- LE (leading edge) filter application at some stations cause the current TS models to be outdated. If the NP generation algorithm changes, also the TS model must be adapted and, consequently, also the DHF must be changed.
- M. Bloßfeld pointed out that the DHF and the TS models must be consistent! Example. The most recent DHF file is not consistent with the most recent TS model. After a discussion, it is planned to discuss this issue again at the next ASC meeting (decision on sth. postponed).

Open questions:

- 7119 fits E. Pavlis' data (year 2019), 7110 has a known systematic error since 2018 (+5.7 mm) but the DHF entry no longer exists? Answer: RB entry shifted to the "to estimate" section of the DHF.
- How to move on with the consistency between ILRS DHF, TS models, RBs? How frequently should updates be provided?
 - C. Luceri does not expect too many changes in TS models.
 - make sure that TS models and DHF are consistent (**new AI for C. Luceri and M. Bloßfeld**). Also put information on these files onto the website (DHF and TS are connected).
- 7501: switch of calibration targets in 2012 (RB -66 mm)?
- new TS model for Yarragadee after switch 5 → 10 Hz?
- impact on the scale for early years (-1997) as barometric errors (elevation-dependent) impact the RBs?
- provide a list of problems related to the ILRS DHF (**new AI for V. Husson**).

5) ESA's GENESIS mission

- cf. slides.
- Genesis will change also the daily work of the ILRS ASC since its task is the ILRS contribution to the ITRF; from now on, this topic will be included in all future ASC meetings.

Questions:

- How does the mission affect the ILRS ASC?
- Do the ACs have plans for GENESIS analysis? → C. Luceri: There is no commitment with ESA, so ESA should contact the ILRS GB.

6) ASC recommendations for SINEX format updates

- SINEX: recommend the proposed changes (comment J. Rodríguez: include the new info first as a comment into SINEX, then approach the IERS)
- Proposals for new SINEX blocks **confirmed** by the ASC:
MODEL/TARGET_SIGNATURE_GEOMETRY, MODEL/RANGE_BIAS, MODEL/TIME_BIAS
- Proposals for new SINEX blocks to be included as comments in the SINEX files of each AC first.
NUMBER_OF_OBSERVATIONS/SATELLITE, NUMBER_OF_OBSERVATIONS/SITE
- M. Bloßfeld will compile a final report on the ILRS ASC recommendations to the IERS and forward this to the IERS (after the test phase of the commented new SINEX blocks finished); the test phase will be organized by M. Bloßfeld (**extended old AI for all and M. Bloßfeld**).

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

- cf. slides; no news.

8) DSC files at ILRS website

- no news.

9) Any other business and next ASC meeting

- cf. slides.
- SLRF2020 update for site 7306 Tsukuba? The ASC agreed o update the most recent SLRF2020 version (**new AI for M. Bloßfeld and F. Lemoine**).
- Next virtual and presence ILRS ASC Meetings:
 - July 2024 (virtual)
 - October 2024, IWLR Kunming (hybrid)

NEW ACTIONS		
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1_apr2024	Clarify origin of γ -pole jump in Sept. 2023	NSGF
2_apr2024	Provide complete v85 time series to ASI/JCET	BKG
3_apr2024	Check implementation of ILRS DHF	JCET
4_apr2024	Make sure that TS models and DHF are consistent	C. Luceri, M. Bloßfeld
5_apr2024	Provide a list of problems related to the ILRS DHF	V. Husson
5_apr2024	Update most recent DLRF2020 version for new Tsukuba station coordinates	M. Bloßfeld, F. Lemoine

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