

Time & location:

1st part: Wednesday, May 04, 2022, 1300 – 1500 CEST

2nd part: Wednesday, May 11, 2022, 1300 – 1500 CEST

MINUTES**1. Opening (Söhne)****2. Approval of minutes of 88th GB meeting (Kollo, Söhne)**

CB sends her amendments to the minutes.

3. Review of Action Items from previous GB meetings (Söhne, Kollo)

Information of the Symposia

Review the MoU between EUREF and EUMETNET

Station guidelines update

Letter to the NMAs

Contact with UN-GGIM

4. EUREF Symposium 2022 (Đapo, Pavasovic – invited guests)

Today is the last day for submission of the abstracts. Currently we have 25 abstracts, 4 national reports and 51 registered participants (update on 11th of May). Symposium will be held on ZOOM platform. Links will be sent after registration deadline. Three options for the presentations: First and preferred option is that everyone should talk live. The second one is a video presentation. Third one, that organisers will show the presentation. The form for the abstract submission will become presentation submission form afterwards. So we expect that through that form everyone should give their presentation in the PDF format and which later will be available to download. The presentation should be a bit less than 15 minutes slots, if possible, then as well couple of questions can be taken.

ZA asks the possibility to extend the abstract submission deadline by one week. Everyone agrees. WS mentions that we usually expect approx. 25 national reports, what shall be counted for, although few abstracts for national reports. Maybe there is a possibility to include the splinter meetings to the final program. AD asks for the invited talks. Currently three talks are proposed: machine learning by Prof. Miller from Croatia, European Ground Motion Service, SI units by Jan Johansson from Sweden. Another meeting with the session chairs concerning EUREF Symposia is proposed for 18th of May. JS raises the question on participation in a splinter meeting only – is it needed to register to the symposium? ML replies that the EUREF symposium is a full package including the splinters. JZ reminds that last year the registration was compulsory. MP asks for information who's talks shall be given in the opening session. EB mentions that the upload of the presentations which is planned until May 20 is too early. AD replies that the schedule is short of flexible, so the link will be open beyond that date.

5. EUREF Governance (Lidberg)**a. Protected GB section for exchange and archiving (Völksen, Söhne)**

There are two options for exchange information for GB materials: 1) dedicated (protected) section at EUREF web-page; 2) BKG external wiki for exchange information. JS states that BKG wiki is not expected to be activated for external persons in near future. GB recommends to continue with option 1).

Action item for CV and WS: continue contact with EUREF webmaster concerning dedicated and protected section at the EUREF web page

b. EUREF MoUs (Lidberg, Söhne)

(1) EUMETNET – after discussion between EB, RP and WS prior to the meeting RP

recommends to continue with this MoU as it is unless there is a need from EUMETNET for a revision.

(2) BEV – finalised, waiting for the answer about the signature process. Could be used in future as a template.

(3) EPOS – in progress, ML hopes to have an answer by next week. In general, EPOS ERIC is very much interested about this MoU to continue the cooperation. Only small corrections still needed in the text.

Action Item to ML: together with EPOS colleagues finalize the text and proceed towards the signatures

AK informs about a possible EPN Densification processing centre from Serbia, they asked for a cooperation agreement, i.e. a supporting letter.

Action Item to AK, CB, ML, WS: write a supporting letter for the EPN Densification processing centre from Serbia

6. EPN

a. BKG DC outage – consequences and conclusions for the EPN (Söhne)

WS informs on the EPN Data Centre (DC) outage at BKG. There was a very short notice before shut down, it was due to the technical reasons. For now, operational data are again available, archived data needs to be restored. Not all data fully available from the other EPN DC. Discussion on the necessity of uploading EPN products in parallel to both EPN DCs. BKG also changed the upload/download mechanism by change in the ftp/https name, which was announced by EUREF mail. RP notes that some data are still missing, an email shall be sent to the analysis centres to start uploading again solutions in order to do the recombination. Encourage ACs to upload data both to BKG and BEV. JL asks how long it will take to have all data back. WS says that BKG will inform when it is complete as possible.

CB mentions the data monitoring problems. It is not possible to start it yet. She also highlighted problems with the historical data dates: will it be the day submitted to BKG (originally) or a new date? The link between IGS and Europe is managed by BKG, there is no link between IGS and BEV.

EPN CB, BEV and BKG will have a meeting mid of May to discuss the strategies of each DC and to improve the consistency.

b. IGS discussion on ITRF2020 introduction (Dach)

RD reports from last week's IGS meeting on this topic. The intention was to extend the current representation of station time series with coordinate linear velocities plus post-seismic deformations, as we had it in 2014, by seasonal terms that shall compensate for the station positions in time, mainly containing loading effects. We have identified three potential options how to implement the ITRF 2020 corrections: (1) classical, i.e. coordinates with linear velocities plus seismic deformations; (2) seasonal corrections with respect to the center of figure; (3) seasonal corrections with respect to center of mass, which may be interesting choice in particular for the light techniques. Discussion was finalised last week and it was decided to stay in the center of figure because this is just what is given in the IERS conventions. It also means that station coordinate cannot just change because the origin of the frame changes. A discussion on the seasonal terms, whether they should be applied or not. The consensus was in favour for seasonal terms because they better represent the instantaneous station position. The question is, how other space techniques intend to implement the ITRF2020 (seasonal terms). We want to convince the other techniques that it is a good idea

to apply seasonal terms. The Unified Analysis Workshop, scheduled for October this year, is a ideal place to discuss this. By the end of June the Bernese team will implement the new antenna corrections and get the offsets for the affected stations. This allows us then also to establish the antenna offsets with respect to the modified antenna corrections and also to the scale. Beginning of October switch IGB14 -> IGS20. Potential antenna misorientation/misalignment issues have to be dealt with. All conventional models will change as well.

ZA comments that he was pretty sure that that the IGS will favour using the seasonal terms, which reflect what the stations see in terms of seasonal variations, mainly because of the loading effect. We did a tremendous effort in the ITRF 2020 to monitor or to determine accurate seasonal terms. For ILRS, by definition, they are following and compatible with the center of mass, so they don't need to do anything there, otherwise they will double or count twice the seasonal terms. It would be better for mathematical reasons, to use the seasonal terms in a way that is representing the physical earth itself.

AC asks for the continuity of the time series. If understood correctly, we will have a continuous time series in the new IGS20. Only after complete reprocessing with the new antenna model and the new orbits is that correct. Otherwise, before the reprocessing is completed, we will not have a continuous timeseries. In particular for those stations which have been using individual calibration. So we expect the discontinuities, but probably they are small.

RD: We do get the discontinuity if we change the antenna calibration values.

JL asks some clarification of the impact concerning the change of reference frame.

RD: You're have a new realization of the reference frame, translation parameters are some millimetres, scale is about half of a centimetre. The change comes from changing the antenna corrections.

TL: An email was sent to AC-s about antenna calibration, in general AC-s are in favour of adopting exclusively the IGS antenna model, but for two Austrian stations would prefer to use individual calibration values.

CV: repro3 is dependent on these two decisions: antenna calibration and station processing coverage. Every station shall be computed by 3 AC-s. Another question is about the operational processing, so the repro3 results should be consistent with operational.

BM: For the repro we have two to run some test solutions to be fully compliant with the EUREF guidelines and it would be also possible to run then operational solutions.

CV: I do not see inconsistency between the reprocessing and our operational solution, but there might be persons who are concerned about it. The other point is the new Bernese version what is going to be introduced in the Symposia. RD: we have new version, not just the regular update.

WS: We should have an analysis workshop dates, possibly in the October. CV: It should be as well decided, will it be physical or online meeting.

RD: Bernese introductory course is planned 5-9 September in Bern. There will be as well one online meeting will be scheduled.

CB: New Bernese version is mandatory for reprocessing, so one can switch to the new version as soon as it is released. So we might expect a couple of delays because some AC-s are not capable of switching.

RP: Is the new Bernese version supporting the new SINEX troposphere format? RD

confirms, including slant delays.

7. Coordinators

a. EPN ACC update on combined coordinate products (Liwosz)

Email to the ACs to upload the products to BEV. Update the guidelines (minor changes). EPN ACC website have been updated. WS: Small changes in guidelines are accepted.

b. EPN Troposphere combinations (Pacione)

New cumulative solution released, covering the period 1996-2021.

8. Working Groups

a. WG on Deformation Models (Lidberg)

Mostly done by Rebecca Steffen. Dataset by Ambrus Kenyeres from January 2022. Publication is out. Final model will be published soon. Some things to discuss. AK says that it is very good work done by RS, well modelled velocity field.

b. WG on EPN Densification (Kenyeres)

AK: EPN densification, next combination cycle, WK2200 is started, should be ready sometime in the summer. New contributions from Catalonia, Greece and Serbia. We considering to include the Nevada solution.

c. REPRO3 and ITRF2020

Decision of participation of GFZ. BM: no obstacles to process these stations for REPRO, operational processing would also be possible.

d. Height reference surface

JS and MS prepared and distributed a questionnaire about the official national geoid models and height reference frames, the deadline was 30th of April. 44 countries we have returned 24 questionnaires. From Malta there is no questionnaire because they don't have a geoid model, they just use height offset. Belgium will provide the answer by the end of May. Bosnia and Italy had announced that they are in preparation of new height reference frame realization so that they would provide the information later. Some countries have confirmed that they would like to return their information but haven't done yet (Czech Republic, Spain, Faroe Islands, Iceland, Slovenia). From 8 countries no information received so far (Hungary, Cyprus, Ireland, Moldova, Kosovo Ukraine, Belarus and Russia). We have already received some new levelling data (Estonia, France and Poland). During the next year, we will have to process all the information and add to the database.

PARTICIPANTS

Z. Altamimi
 E. Brockmann excused for 1st part
 C. Bruyninx
 A. Caporali
 R. Dach until 1400 CEST each
 A. Kenyeres excused for 2nd part
 K. Kollo
 J. Legrand
 M. Lidberg

T. Liwosz
B. Männel
R. Pacione
M. Poutanen
M. Sacher excused for 1st part
J. Schwabe
W. Söhne
J. Torres
C. Völksen excused for 1st part
J. Zurutuza

A. Araszkievicz excused for 1st part
A. Đapo
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