

Draft Minutes: Comité Consultatif de Photométrie et Radiométrie (CCPR)

Working Group on Key Comparisons (WG-KC) Meeting

Virtual Meeting on WebEx; 12:00 - 14:30 CET (UTC +1), 29 November 2022

Version 2, 03 March 2023

Attended by the following members (M) and observers (O):

Dong-Hoon Lee, WG-KC Chair
Joële Viallon, CCPR Executive Secretary
Maria Nadal, WG-SP Chair
Marek Smid, WG-CMC Chair

Joaquin Campos Acosta, EURAMET TC-PR Chair
Thiago Menegotto, SIM TC-PR Chair
Mohammad Al Fohaid, GULFMET TC-PR Chair

KRISS (M)
LNE (M)
MIKES (M)
NIM (M)
NIST (M)
NMIA (M)
NMIJ/AIST (M)
NPL (M)
NRC (M)
PTB (M)
VNIIOFI (M)

The following members were absent:

MSL
CCPR President
AFRIMETS TC-PR Chair
APMP TC-PR Chair
COOMET TC-PR Chair

1. Opening and introductions, appointment of recording secretary

WG chair Dong-Hoon Lee welcomed everyone to the meeting and confirmed attendance of participants according to the member list.

No recording secretary was appointed and WG chair will prepare the minutes based on the notes shared in the meeting and the recording file.

WG chair informed that the WebEx meeting will be recorded for archiving. There was no objection.

2. Approval of the agenda

The draft agenda V.1 (WGKC-22-01) was presented and approved.

3. Documents presented to the meeting

The working documents will be made available on the BIPM website after the meeting.

4. Approval of the minutes of the 2021 meeting

The draft minutes of the last meeting, version 3 (part 1+Part 2) of 15 April 2022, were distributed on 29 April 2022 and no further comment was received.

The draft minutes of the last meeting version 3 (WGKC-22-02) were approved.

4.1. Review of action items from the 2021 meeting

The list of action items from last meeting with status of 18 April 2022 (WGKC-22-03) was reviewed. AP2021-02 on revision of G2 was not completed as there exist more revision issues for G2. This issue will be discussed in agenda 8.3.

AP2021-07 on action of NPL for CCPR-K2.a-2016 was not completed and this will be discussed in agenda 5.4.

5. Reports by pilots of on-going CCPR Key Comparisons

5.1. Updates of the CCPR comparison summary (Exec. Secretary)

The final report and results of CCPR-K3.2014 was published on 17 June 2022. WG chair acknowledged the efforts of NRC as the pilot lab.

5.2. K4.2017 Luminous flux (NMIJ)

Hiroshi Shitomi reported (WGKC-22-04) that measurement reports of all the participants were collected and the pre-draft A1 process has started on 25 November 2022. The uncertainty budget review is planned in January 2023.

He also reported that NMISA withdrew the comparison due to the problem of their calibration facilities thus the second-round measurement cannot be performed. Armin Sperling raised a question how to handle with participants who cannot do the second-round measurement for verifying the artefact stability. There was an opinion that a general rule for such a case can be discussed when a proposal is submitted. A few members expressed that no general rule is required and just the technical protocol should be kept. For the case of K4.2017, it was agreed that the results of NMISA cannot be included in calculation of KCRV but the first-round results can be published in the comparison report instead of a complete withdraw. This option needs to be informed to NMISA.

AP-2022-01: The pilot of CCPR-K4.2017 contacts NMISA to inform an option to publish the first-round measurement results although they are not included in calculation of KCRV.

5.3. K2.b.2016 (2nd) Spectral Responsivity 300 – 1000 nm (KRISS)

Dong Hoon Lee informed that the review of relative data and uncertainty budgets was closed on 4 November 2022. Anonymous results of DoE are shared on 28 November 2022 for identification of outliers and consistency check. He raised an issue how the obvious outliers should be identified according to the revised MRA G11 recommending that there should be no exclusion of data in comparison analysis for statistical reasons. He suggested to discuss this issue later in agenda 8.3.

5.4. K2.a.2016 (2nd) Spectral Responsivity 900 – 1600 nm (NPL)

Martin Dury informed that the pilot will send the detector evaluation and characterisation report to the participants by January 2023, which was the remaining action (AP2021-02) from the previous meeting. The pre-draft A process will start in February 2023.

5.5. K1.a.2017 (2nd) Spectral Irradiance 250 – 2500 nm (VNIIOFI)

Boris Khlevnoy informed that draft A report was distributed in August 2022 and comments were collected by November 2022. A summary of comments is in preparation and most of them are minor issues. The final version of draft A is expected within two months.

Howard Yoon commented that some results of Mandel-Paule seem unphysical without excluding any outlier and suggested that discussion is required to setup a new procedure in data analysis.

5.6. K5.2019 Spectral diffuse reflectance (MIKES)

Farshid Manoocheri reported (WGKC-22-05) that the pilot is still waiting for samples from the first-round measurements. The second-round measurements of the pilot will start in January 2023.

MIKES informed the situation that the pilot is forced to change the technical protocol related with participation of Russia.

5.7. K1.b Spectral irradiance 200 nm to 400 nm

Howard Yoon reported (WGKC-22-08) the progress of the preparation of the technical protocol. Start of measurement is targeted for June 2023.

6. Second-round CCPR KCs

6.1. Review of schedule and status

Meas. Start	Id	Quantity	Pilot	Status
2013	K6.2010	Regular spectral transmittance	MSL	Published
2014	K3.2014	Luminous intensity	NRC	Published
2016	K4.2017	Luminous flux	NMIJ	Pre-draft A process
2016	K2.b.2016	Spectral responsivity 300 nm to 1000 nm	KRISS	Pre-draft A process
2016	K2.a.2016	Spectral responsivity 900 nm to 1600 nm	NPL	Measurement in progress
2017	K1.a.2017	Spectral irradiance 250 nm to 2500 nm	VNIIOFI	Draft A in review
2019	K5.2019	Diffuse spectral reflectance	MIKES	Measurement in progress
2020	K1.b	Spectral irradiance 200 nm to 400 nm	NIST	Technical protocol in review
2023(?)	K2.c	Spectral responsivity 200 nm to 400 nm	PTB	Wait for draft B of K2.b
2023(?)	K2.d	Spectral responsivity 10 nm to 200 nm	PTB	Process stopped

7. Reports from RMOs

7.1. Final reports published since the last meeting

No comparison report was published since the last meeting.

7.2. Reports from RMO representatives

Reports from AFRIMETS and APMP were skipped as the TC chairs were not present.

EURAMET: Joaquin Campos reported (WGKC-22-09) the comparison progress. EURAMET.PR-K3.2020 on luminous intensity is now running.

SIM: Thiago Menegotto reported (WGKC-22-07) the comparison progress.

GULFMET: Mohammad Al Fohaid informed that GULFMET.PR-K4 on luminous flux is in progress.

7.3. Updates from WG-CMC

Marek Smid informed that CCPR-G8 impact of comparison results on CMC is revised, and impact of dark uncertainties is in discussion in a TG chaired by Annette Koo.

8. Reports from Task Groups

Agenda items 8.1 and 8.2 related with reports from TG1 and TG2 were skipped as the TG chairs were not present.

8.3. TG3 Comparison Analysis (MSL)

Dong-Hoon Lee showed the report (WGKC-22-06) submitted by Annette Koo, which summarizes the revision issues and directions of the CCPR-G2 guidelines to allow the visibility of results in incremental stages during the analysis process to resolve issues and minimise the addition of Mandel-Paule components.

As the CCPR-G2 is not revised yet but the MRA G11 recommends that there should be no exclusion of data in comparison analysis for statistical reasons, he asked how to proceed the identification of the obvious outliers in CCPR-K2.b-2016. After some discussion, it was agreed that identification of obvious outliers based on agreement of participants with the shared anonymous DoEs is in accordance with MRA G11. It was also recommended that a relative change of KCRV by an outlier can be shared to show the overall impact of the outlier.

The meeting was terminated at this agenda item due to the time limit.

The chair informed that the next CCPR WG-KC meeting is proposed as a face-to-face meeting at NPL, Teddington, UK, from 7 to 8 September 2023 (connected to the NEWRAD conference from 11 to 15 September 2023 at NPL).

Summary of Action Points and Decision Points

AP-2022-01: The pilot of CCPR-K4.2017 contacts NMISA to inform an option to publish the first-round measurement results although they are not included in calculation of KCRV.