

Draft Minutes: Comité Consultatif de Photométrie et Radiométrie (CCPR) Working Group on Key Comparisons (WG-KC) Meeting

Virtual Meeting on WebEx; 22:00 - 24:00 CET (UTC +1), 24 November 2020

Version 2, 10 April 2021

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

Dong-Hoon Lee, KRISS (M), WG-KC Chair
Joële Viallon, BIPM, CCPR Executive Secretary
Maria Luisa Rastello, CIPM/INRIM, CCPR President

Uwe Arp, NIST (M)
Robin Aschan, MIKES (M)
Mohammad Z. AlFohaid, SASO-NMCC (O), GULFMET TC-PR Chair
Ana Paula Alvarenga, INMETRO (O)
Errol Atkinson, NMIA (M)
Juan Pablo Babaro, INTI Argentina (O)
Anatolii Bescupschii, NMI MD (O), COOMET TC-PR Chair
Lakya Borrakuens Couceiro, INMETRO (O)
Nigel Fox, NPL (M)
Angela Gamouras, NRC (M)
Arnold Gaertner, NRC (M)
Teresa Goodman, NPL (M)
Erkki Ikonen, MIKES (M)
Boris Khlevnoy, VNIIOFI (M)
Annette Koo, MSL (M)
Stefan Kück, PTB (M), EURAMET TC-PR Chair
Yandong Lin, NIM (M)
Thiago Menegotto, INMETRO (O), SIM TC-PR Chair
Maria Nadal, NIST (M), CCPR-WG-SP Chair
Gaël Obein, LNE-CNAM (M)
Yoshihoro Ohno, NIST (M)
Luk Sandilands, NRC (M)
Hiroshi Shitomi, NMIJ/AIST (M)
Reinhardt Sieberhagen, NMISA (O), AFRIMETS TC-PR Chair
Emma Woolliams, NPL (M)
Howard Yoon, NIST (M)

**Attendance was checked based on the WebEx registration.*

1. Opening and introductions, appointment of recording secretary

Dong-Hoon Lee welcomed everyone to the meeting and confirmed all members, RMO TC chairs, and all TG chairs were present.

As this was an online meeting under a special condition, WG chair suggested that no decision is made in the meeting. He also suggested that no recording secretary is appointed and the minutes are replaced by sharing the chair's meeting records. All agreed.

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

**Added after meeting: WG chair drafted the minutes based on the meeting records as all other CCPR WG produced the minutes for virtual meetings.*

2. Approval of the agenda

The draft agenda V.2 (CCPR-WG-KC20_01) was approved.

3. Documents presented to the meeting

There were 11 working documents (CCPR-WG-KC20_01 to 11) presented to the meeting as well as five working documents (CCPR-WG-KC20_12 to 16) added during the meeting.

4. Approval of the minutes of the 2019 meeting

The draft minutes of the last meeting version 2, revised on 31 October 2019, were distributed on 15 November 2019 and no further comment was received.

The draft minutes of the last meeting version 2 (CCPR-WG-KC20_02) were approved.

4.1. Review of action items from the 2019 meeting

The list of action items from last meeting with status of 23 November 2020 (CCPR-WG-KC20_03) was reviewed:

AP-2019-01, 02: Complete

AP-2019-03: Not complete. CCPR-S3 draft B report was not submitted yet. NPL confirmed to complete this by January 2021.

AP-2020-01 NPL submits the Draft B report of CCPR-S3 (bilateral NPL-NMIJ) to the WG-KC by the end of January 2021.

AP-2019-04 Complete

AP-2019-05 Postponed until CCPR-G7 is revised.

AP-2019-06 Complete

AP-2018-07 Completed in the meeting. Teresa Goodman was assigned as the contact person of NPL for TG1 pilot comparison, and the list for TG1 was revised accordingly.

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

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

The updated list of the CCPR comparisons was posted at "CCPR summary" menu of the BIPM website.

WG chair proposed to remove this list as the new KCDB provides a better platform to find the up-to-date information on comparisons. There was a general agreement but the decision was postponed to the next meeting.

5.2. K3.2014 (2nd) Luminous intensity (NRC)

Arnold Gaertner presented the report (CCPR-WG-KC20_04). Draft B report was under review of CCPR WG-KC with a deadline of 13 November 2020. Only a few comments are received so far. WG chair proposed to extend the deadline and encouraged all the WG-KC members to review this.

AP-2020-02 The WG-KC chairperson sends an email to extend the review time for the draft B report of CCPR-K3.2014 by two more weeks.

5.3. K4.2017 (2nd) Luminous flux (NMIJ)

Hiroshi Shitomi reported (CCPR-WG-KC20_12) that the lamp burning records were distributed to all the participants on 23 November 2020. The pilot asked eight participants to complete the second-round measurements and submit the results by the end of March 2021.

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

Dong-Hoon Lee reported (CCPR-WG-KC20_05) that detector drift issues are raised during the pre-draft-A process. A strange common drift exceeding 0.2 % was observed for most of the single-element detectors and the pilot is currently investigating to find the origins of this. Howard Yoon commented that this could belong to a “failure” of piloting and WG-KC should setup a procedure to handle. Nigel Fox suggested that this issue should be first discussed among participants based on the analysis data. Dong-Hoon Lee promised to discuss this issue with the participants as soon as he finishes the investigation.

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

Teresa Goodman informed that measurements are in progress and the reporting template is in preparation.

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

Boris Khlevnoy informed that the pilot will start the pre-draft A soon, and this will run independently from the submission of the second-round measurement results from NPL, which was delayed a lot. Teresa Goodman shared the information on the nano-particle emission from the high-temperature blackbody at NPL, which caused a significant delay of experiment.

5.7. K5.2019 (2nd) Spectral Diffuse Reflectance (MIKES)

Robin Aschan reported (CCPR-WG-KC20_06) that the second-round measurement will start in January 2021. The pilot identified that the ceramic tile samples have a larger fluorescence component than estimated in the beginning of the characterization.

There were some questions on the fluorescent effects and their impact on the comparison. It was suggested to share this issue with all the participants.

AP-2020-03 The pilot of CCPR-K5.2019 (MIKES) organizes a participant meeting to discuss the fluorescence issue of the samples.

5.8. K1.b (2nd) Spectral irradiance 200 nm to 400 nm (NIST)

Uwe Arp (NIST) informed that the technical protocol is in preparation and expected to be complete in January 2021.

6. 2nd-round CCPR KCs

6.1. Review of time schedule for 2nd round KCs

Meas. Start	Id	Quantity	Pilot	Status
2013	K6.2010	Regular spectral transmittance	MSL	Published
2014	K3.2014	Luminous intensity	NRC	Draft B in review by WG-KC
2016	K4.2017	Luminous flux	NMIJ	Measurement in progress
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	Pre-draft A process
2019	K5.2019	Diffuse spectral reflectance	MIKES	Measurement in progress
2020	K1.b	Spectral irradiance 200 nm to 400 nm	NIST	Technical protocol in preparation
2022(?)	K2.c	Spectral responsivity 200 nm to 400 nm	PTB	Wait for draft B of K2.b
2022(?)	K2.d	Spectral responsivity 10 nm to 200 nm	PTB	Call for participants

6.2. Preparing K2.c and K2.d (PTB)

Stefan Kück informed the proposals of the pilot lab PTB.

For K2.c, call for participants is postponed until draft B of K2.b is issued and WG-CMC publishes the CMC review strategy. There was a question why K2.c should wait for the results of K2.b. Stefan replied that it is due to the limited resource of the pilot, not due to any technical reason. There were also comments that there exists urgent interest on the range from 200 nm to 300 nm due to COVID-19. More discussions in WG-SP and WG-CMC are also suggested.

For K2.d, call for participants was sent out on 22 June 2020 with deadline of 31 October 2020. So far, only one application from NIST was received. It was suggested that the pilot extends the deadline. In case that the number of this comparison remains 2 even after this extension, WG-KC will discuss in the next meeting whether this should be accepted as a CCPR KC.

AP-2020-04 The pilot of CCPR-K2.d (PTB) sends an email to extend the deadline for call for participants.

7. Reports from the RMOs on comparison activities

7.1. Final reports published since last meeting

The updated list of the CCPR comparisons was posted at “CCPR summary” menu of the BIPM website.

7.2. Reports from RMO representatives (AFRIMETS, APMP, COOMET, EURAMET, SIM, GULFMET)

AFRIMETS: Reinhardt Sieberhagen informed that there was no activity in 2019/2020. The document CCPR-WG-KC20_07 provides information on an APMP comparison in which a AFRIMETS member participated.

APMP: On behalf of Haiyong Gan, Annette reported (CCPR-WG-KC20_08) on progress of comparison activity.

COOMET: Anatolii Bescupschii reported (CCPR-WG-KC20_16) on progress of comparison activity.

EURAMET: Stefan Kück reported (CCPR-WG-KC20_09) on progress of comparison activity.

SIM: Thiago Menegotto reported (CCPR-WG-KC20_10) on progress of comparison activity.

GULFMET: Mohammand AlFohaid informed that there was no activity in 2019/2020.

8. Reports from Task Groups

8.1. TG1 Pilot comparison for spectral regular transmittance in the UV (N. Nel-Sakharova)

On behalf of Natasha Nel-Sakharova, Reinhart Sieberhagen reported (CCPR-WG-KC20_13) on the preparations for this comparison. The preparation of the custom-made filters was interrupted due to the COVID-19 lockdown. Its resume is expected after January 2021. The updated participants list includes seven NMIs: NMISA, NPL, MSL, NRC, PTB, NIST, LNE-CNAM.

8.2. TG2 RMO linkage (E. Wooliams)

Emma Wooliams reported (CCPR-WG-KC20_14) that a step-by-step approach based on the matrix calculation for the appendices of CCPR-G5 and CCPR-G6 guideline documents is still under review.

8.3. TG3 Comparison analysis (A. Koo)

Annette Koo reported (CCPR-WG-KC20_15) that statistical testing of NIST Consensus Builder methods for comparison analysis is being performed in Nov 2020 – Feb 2021. The results will be submitted to Metrologia.

8.4. TG4 Pilot study for the use of alternative standards for photometric comparisons (E. Ikonen)

Erkki Ikonen reported (CCPR-WG-KC20_11) on the testing status of the candidate lamps in NIM, PTB, and VNIIOFI. He also notified that TG4 is not listed in the BIPM website. Joële Viallon informed that the website is currently under revision.

AP-2020-05 The WG-KC chairperson checks and corrects the information of TGs on the BIPM website.

The meeting was terminated at this agenda point as the meeting exceeded the time limit already by 20 minutes.

Summary of Action Points

AP-2020-01 NPL submits the Draft B report of CCPR-S3 (bilateral NPL-NMIJ) to the WG-KC by the end of January 2021.

AP-2020-02 The WG-KC chairperson sends an email to extend the review time for the draft B report of CCPR-K3.2014 by two more weeks.

AP-2020-03 The pilot of CCPR-K5.2019 (MIKES) organizes a participant meeting to discuss the fluorescence issue of the samples.

AP-2020-04 The pilot of CCPR-K2.d (PTB) sends an email to extend the deadline for call for participants.

AP-2020-05 The WG-KC chairperson checks and corrects the information of TGs on the BIPM website.