Minutes: Comité Consultatif de Photométrie et Radiométrie (CCPR)

Working Group on Strategic Planning (WG-SP) Meeting

Virtual Meeting on WebEx; 11:30 - 13:30 CET (UTC +1), 09 December 2021

**Version 1.1, 1 January 2022**

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

Maria Nadal, NIST (M), WG-SP Chair

Joële Viallon, BIPM, CCPR Executive Secretary

Maria-Luisa Rastello, CCPR President

Mohammed AlFohaid, SASO (O), GULFMET TC-PR Chair

Errol Atkinson, NMIA (O)

Juan P. Babaro, INTI Argentina (O)

Peter Blattner, METAS (M)

Giorgio Brida, INRIM (M)

Joaquin Campos, IO-CSIC (M), EURAMET TC-PR Chair

Paul Dekker, VSL (M)

Jimmy Dubard, LNE (M), TG6 Chair

Nigel Fox, NPL (M)

Angela Gamouras, NRC (M)

Teresa Goodman, NPL (M)

Valin Mai Huong, LNE-CNAM (M)

Erkki Ikonen, MIKES (O)

Annette Koo, MSL (M), APMP TC-PR Chair

Stefan Kück, PTB (M), TG11 Chair

Brenda Lam, SCL (O)

Dong-Hoon Lee, KRISS (M), TG7 Chair, WG-KC Chair

John Lehman, NIST (M), TG13 Chair, TG14 Chair

Yandong Lin, NIM (O)

Thiago Menegotto, INMETRO (O), SIM TC-PR Chair

Yoshi Ohno, NIST (M)

Rheinhardt Sieberhagen, NMISA (M), AFRIMETS TC-PR Chair

Hiroshi Shitomi, NMIJ (M), TG12 Chair

Marek Smid, CMI (O), WG-CMC Chair

Armin Sperling, PTB (M)

Andreas Steiger, PTB (M), TG8 chair

Li-Lin Tay, NRC (M)

CM Tsui, SCL (O)

Emma Woolliams, NPL (M)

Kuei-Neng Wu, ITRI (O)

Joanne Zwinkels, ex-NRC (retired)

Regrets received from:

Gael Obein (LNE-CNAM)

Jacques Morel (METAS)

1. Opening of the meeting

WG Chair Maria Nadal opened the meeting by welcoming all the participants.

1. Appointment of the recording secretary

Dong-Hoon Lee was appointed as the recording secretary.

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

1. Introductions

The attendance of the WG members was checked. All the member NMIs were present.

Observers from MIKES (Finland) and SCL (Hong Kong, China) were noticed. There were also other observers joined during the meeting, see participants list.

All the CCPR officials were present.

1. Documents presented to the meeting

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

1. Approval of the agenda

The draft agenda version 3 (SPWG-21-02), which was distributed per email on 2 Dec 2021, was approved without change.

1. Approval of the minutes of the 2020 CCPR WG-SP meeting

The draft minutes (SPWG-21-01), which was distributed per email on 27 Feb 2021, was approved without change. The action points from the 2020 meeting will be reviewed and discussed in the progress reports of the TGs.

1. Reports of WG and TG Chairs and matters arising

TG6: Discussion Forum on Fibre Optics (Jimmy Dubard)

Jimmy Dubard reported that no TG progress was made except the joint activities with TG9 on CMC entries in fibre optics. He has a plan to organize a workshop together with IEC TC 86 to invite experts from accreditation bodies and industries.

Marek Smid: how works the communication between TG6 and TG9? Jimmy replied that two TGs have common members.

**AP-2021-01: TG6 Jimmy Dubard to organize a workshop together with IEC TC 86 and invite experts from accreditation bodies and industries.**

TG7: Discussion Forum on Few Photon Metrology (Dong-Hoon Lee)

Dong-Hoon Lee presented a written progress report (SPWG-21-03). No progress was made on 2020 action points. The technical note of CIE DR 2-87 “Terminology in single/few photon metrology” will be drafted by the end of 2021 and reviewed among TG experts in Jan-March 2022 and submitted as a working draft by April 2022. The member survey will be made in April-May 2022 together with sharing the working draft of the technical note. The result of the survey will be discussed in a face-to-face TG meeting planned in Single Photon Workshop 2022 in Seoul from 31 Oct to 4 Nov 2022.

**AP-2021-02: TG7 Chair Dong-Hoon Lee to distribute the working draft of technical note “Terminology on single/few photon metrology” to the TG members by the end of April 2022.**

**AP-2021-03: TG7 Chair Dong-Hoon Lee to prepare and distribute survey among TG7 members.**

**AP-2021-04: TG7 Chair Dong-Hoon Lee will discuss results of survey at the 2022 Single Photon Workshop in Seoul.**

TG8: Discussion Forum on THz Metrology (Andreas Steiger)

Andreas Steiger presented a written progress report (SPWG-21-04). No new information was added on the member survey from a year ago. A bilateral comparison between PTB and VNIIOFI on THz power meter is in progress. He informed that PTB participates in the VDI/VDE (German society of engineers) TC 8.17 Terahertz Systems and a publication on the issue of THz absolute power measurement is in preparation under collaboration with a guest scientist from Mexico.

Maria Nadal: Any new activity from the present TG members reported? Andreas replied that he got no new information.

Angela Gamouras commented that NRC has a collaboration with University of Ottawa in the related topics. Jimmy Dubard also commented that LNE has the related activities in the electricity department and ensured that he will report activities from the LNE. WG Chair suggested that more members need to be invited to TG8.

**AP-2021-05: TG8 Chair Andreas Steiger to revise (if needed) the Term of Reference and to send an invitation to the CCPR membership to join TG8.**

TG9: OTDR Length Comparison (Jacques Morel)

Peter Blattner presented a written progress report (SPWG-21-05) on behalf of Jacques Morel. TG9 and TG6 jointly prepared a revision proposal of the CMC entries in fibre optics and submitted to CCPR WG-CMC. One comparison conducted by APMP on fibre length is still in progress and another comparison on OTDR calibration is in preparation within AFRIMETS.

WG-CMC chair Marek Smid reported that the proposal from TG9 was approved in the last CCPR WG-CMC meeting.

TG11: Single Photon Radiometry (Stefan Kück)

Stefan Kück presented a written progress report (SPWG-21-07). Measurement of the pilot study for Si SPAD is in progress with a large delay from the plan. From the scheduled measurement plan, he confirmed that KRISS requested a repeat of measurement and this will be added to the end of the schedule. Additional participants are also encouraged to contact him. He also reported that the detector used in the comparison showed a good stability so far.

TG12: Discussion Forum on the Use of White LED Sources for Photometry (Hiroshi Shitomi)

Hiroshi Shitomi presented a written progress report (SPWG-21-08). An updated summary report of the TG survey will be distributed after the meeting where candidate topics of TG12 are proposed. A TG meeting to discuss the topics is planned.

Teresa Goodman: Will the UVC region be included in the scope of TG? If it is in the case, the title of TG should be changed. Hiroshi replied that it was still a proposal for discussion. As the Term of Reference (ToR) of TG12 is not fixed yet, this will be discussed in the planned TG meeting. Teresa Goodman and Marek Smid expressed their interest to join to the TG and Hiroshi will include them in the TG member list.

**AP-2021-06: TG12 Chair Hiroshi Shitomi to distribute after the WG-SP meeting TG survey on proposed candidate topics.**

**AP-2021-07: TG12 Chair Hiroshi Shitomi to organize 2022 TG12 meeting and finalize ToR perhaps to include UV LED and/or radiometry**

**AP-2021-08: TG12 Chair Hiroshi Shitomi to send an invitation to all WG-SP members to join TG12.**

TG13: Optical Fibre Power Responsivity (John Lehman)

John Lehman presented a written progress report (SPWG-21-09). The participants of the planned comparison, CENAM, CMI and NIST, exchanged information that the fibre connector challenges should not be under-estimated. Marek Smid commented that CMI and PTB are thinking about transferring the low-photon flux scale from this comparison to Europe.

TG14: Discussion Forum on Radiometry to Support Gravitational Wave Detection (John Lehman)

John Lehman presented a written progress report (SPWG-21-10). The results of a bilateral comparison between PTB and NIST was published in Metrologia 2021. A calibration scheme for four gravitational wave observatories in the world was proposed.

TG10: Ad hoc TG on CCPR Strategy Document (Maria Nadal)

Maria Nadal presented a written progress report (SPWG-21-06). There were three virtual TG meetings in 2021. The new one-page summary of CCPR strategy document was published in BIPM website, where new vision and mission statements were formulated. Revision of the current strategy document is in progress: second draft expected in April 2022, and the final version aimed by August 2022.

Stefan Kück and Emma Woolliams pointed out that the table of contents presented in the meeting was not the up-to-date version available in SharePoint. To avoid any confusion, Joële Viallon will send the link of the SharePoint to the TG10 members immediately after the meeting.

Regarding to the strategy document, an online survey is in preparation. Maria showed the current version of the survey template.

Emma Woolliams: Will multiple answers from a NMI be allowed? Maria replied that only one answer should be submitted from one NMI. Emma asked whether any method to avoid conflicts within an NMI is possible. Joële said that she can modify the logic of the survey so that all the questions can be reviewed before answers are entered.

Stefan Kück suggested that a printed version of the questionnaire is also made available.

Joële Viallon asked all TG chairs to check and update the membership information available on the BIPM website.

**AP-2021-09: Joële Viallon will send the link of the SharePoint to the TG10 members immediately after the meeting.**

**AP-2021-10: All TG Chairs to check the membership information of each TG on the BIPM website and to send the updates to the CCPR Executive Secretary.**

1. Report from BIPM/CIPM (Maria Luisa Rastello)

CCPR President Maria-Luisa Rastello reported activities and issues from CIPM.

A survey on digitalization has started in CCEM and CCL as pilot. A full survey will be then be distribute to all CCs.

A joint CCQM/CCU workshop on counting quantity is in plan. Stefan Kück will be the speaker representing CCPR.

A presentation from CCPR to CCU will be circulated to the members.

The next CCPR meeting is scheduled for 9-13 May 2022.

**AP-2021-11: Joële Viallon will distribute to all members the 2021 CCPR presentation presented by Maria Luisa to the CCU**

1. New WG-SP Business

The future of digitalization on matters of the CCPR was presented by Stefan Kück. In EURAMET, a TC-IM Project 1448 was launched for development of digital calibration certificates. A related EMPIR project SmartCom has started in June 2018.

WG Chair asked if any other NMIs have activities regarding digitalization. Peter Blattner said that many fields already have fixed specific data formats and raised a question if the proposed XLM format from EURAMET could be accepted by the stakeholders of CCPR.

Thiago Menegotto reported that SIM has formed a working group for digital transformation including digital certificate, artificial intelligence, and automation of laboratories. Emma Woolliams commented that spectral data and how their uncertainties will be reported would be the specific issues in CCPR and some communities having already the digital data should be also considered. Marek Smid reported that WG-CMC has a TG (TG2) dealing with CMC aspects of the digital SI.

Nigel Fox asked whether the issue is limited to DCC (digital calibration certificates) or extendable to the general digitalization issue. Stefan Kück replied that digital SI is currently focused on DCC. Maria-Luisa agreed that the digitalization issue will have bigger impacts in CCPR beyond DCC and propose to create a TG and also a DF, separately, to deal with these two issues. Emma suggests that TG2 of WG-CMC can deal with the DCC issue while WG-SP can create a DF dealing with impact of digitalization. WG Chair proposed to organize a short tutorial workshop in the next meeting on the digitalization issue.

**AP-2021-12: Stefan Kück will send his presentation “The Future of Digitalization on Matters of the CCPR” to Maria for distribution to all WG-SP members.**

**AP-2021-13: WG-SP Chair Maria Nadal to organize a short tutorial workshop on the digitalization issue in the next meeting and to create a discussion forum within WG-SP on that issue.**

**AP-2021-14: Marek Smid will expand the ToR of CMC TG2 to include digitalization of certificates**

**AP-2021-15: Maria Nadal to seek chair and members for a proposed new TG on “Discussion on the Impact of Digitalization on the CCPR Field”**

1. Next meeting date

WG Chair said that the next meeting will be together with the CCPR meeting planned for 9-13 May 2022, and asked whether any deadline for decision on virtual or face-to-face is available. Joële Viallon replied that it will be decided in February 2022 at the latest.

1. Adjournments

Meeting was closed at 13:32 (CET) with a screenshot photograph.

Summary of Action Points

**AP-2021-01: TG6 Jimmy Dubard to organize a workshop together with IEC TC 86 and invite experts from accreditation bodies and industries.**

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