**2019 List of action points:**

AP-2019-01: WGC to upload presentation from Yoshi Ohno to the meeting documents.

* Completed

CCPR-WG-SP/19-18: “Yoshi Ohno Presentation to the CGPM”

AP-2019-02: Dong-Hoon Lee to report on the Single-Photon Workshop and on the TG7 meeting, both taking place in Milano, at the next WG-SP meeting.

* Completed

Dong-Hoon Lee, TG7 Chair, provided reports on the TG7 meetings in Boulder (2017-08-04) and in Milano (2019-10-22). Both reports are part of the documents presented at this meeting. In addition, the TG7 Chair proposed a reportership in CIE Division 2 for the publication of a technical note on terminology on single/few photon metrology. TG7 chair will provide more details at our next CCPR WG-SP meeting.

AP-2019-03: WGC to contact Andreas to comment on the outcome of the survey.

* Completed

WGC emailed Andreas Steiger a series of questions as a follow up from the TG8 (Discussion Forum on THz metrology) survey results. Andreas Steiger’s responses are in black:

1. Could you infer any further interest on THz laser power?

*Not from the survey results but from contacts as described below:*

* 1. *VNIIOFI visited PTB as they also want to set up a THz radiometry measuring station analogous to the one in PTB. When the VNIIOFI completes their setup, a bilateral THz power comparison is planned.*
  2. *Furthermore, I only know from a recent publication that the 41st Institute of China Electronics Technology Group Corporation in Qingdao has established a THz calibration system with a THz laser and a Chinese standard detector from NIM.*[*https://link.springer.com/chapter/10.1007%2F978-981-13-8595-7\_28*](https://link.springer.com/chapter/10.1007%2F978-981-13-8595-7_28)
  3. *Also, colleagues from the National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology (AIST) have improved their THz calorimeter.*[*https://link.springer.com/content/pdf/10.1007/s10762-018-0477-3.pdf*](https://link.springer.com/content/pdf/10.1007/s10762-018-0477-3.pdf)

1. Suggest any prioritization for future activities?

*No*

1. Any interest in a second pilot study on laser power or on other measurands in the THz spectral region?

*In my view, a comparison of how accurately THz time-domain-spectrometers (TDS) can measure the reflectivity of a sample could be useful.*

1. Need for more frequent comparisons?

*No further THz comparison is necessary in the next two years.*

1. Responses from the survey are purely from NMIs or also contain responses from industry via the NMIs?

*Only the three participants of the first pilot comparison (NIST, NIM and PTB) responded positively to the survey*

1. Need for another survey?

*A second THz metrology survey may make sense because novel THz time-domain-spectrometers (TDS) are close to being applied in the industry for non-destructive testing, at least in Germany.*

AP-2019-04: Jimmy Dubard to clarify whether single mode comparison will be a SC or a pilot study.

* Completed

As discussed with Jacques Morel, it is decided that the comparison should be a supplementary comparison SC. Some NMIs need to have CMCs for this quantity that will be supported by this comparison.

AP-2019-05: WGC to work on updating CCPR strategy document.

* WGC is investigating the best way to update the strategy document. First virtual meeting on 1/2021.

AP-2019-06: Hiroshi (new TG12 chair) to submit an overview about the outcome of the survey and distribute it to the TG members, 12/2019.

* Completed
* On 2017-2018 a questionnaire was sent to the NMIs with four questions:
  1. Research activity using LED sources for photometry in each member NMIs
  2. LED specification required
  3. Current status of collaboration with LED industry and manufacturers
  4. Current status of collaboration with universities and other communities for LED research.
* Dr. Hiroshi collected all information from previous TG chair, Dr. Tatsuya, and will present a report at the 2020 CCPR WG-SP meeting.

AP-2019-07: John to submit presentation to WGC.

* Completed

CCPR-WG-SP/19-21: “Optical Fiber Power Presentation” By John Lehman

AP-2019-08: WGC to list TG 14 on the CCPR WG-SP website.

* Completed

TG14: Discussion Forum on Radiometry to Support Gravitational Wave Detection"

AP-2019-09: John to draft the terms of reference for the task group CCPR WG-SP TG14. 12/2019.

* Completed

As defined by John Lehman, the objectives of the CCPR-WG-SP Task Group 14 are:

* to discuss measurement issues and report on progress of the work performed in NMIs
* to identify new measurements needs of the community undertaking detection of gravitational waves
* to define priorities in terms of research activities
* to facilitate coordinated research work between country-specific NMIs and the respective gravitational wave observatories.

AP-2019-10: WGC to contact the NIST conference services concerning the possibilities to have WG-meetings on Sunday, 21st and Monday, 22nd, 2019 at the University of Colorado.

* Meetings cancelled due to the pandemic.

**List of decision points:**

DP-2019-01: WG-SP decides TG 4 to be dissolved.

* WGC informed all members of TG4 about its dissolution. The text of the corresponding webpage will be modified as “this TG completed its task and was dissolved in September 2019”. After one year (11/21), TG4 will be fully removed from the list of SP tasks groups.

DP-2019-02: WG-SP decides JTC-2 to be dissolved.

* WGC informed all members of JTC-2 about its dissolution. The text of the corresponding webpage will be modified as “this TG completed its task and was dissolved in September 2019”. After one year (11/21), JTC-2 will be fully removed from the list of SP tasks groups.

DP-2019-03: The CCPR WG-SP decided to change the name of CCPR WG-SP TG14 to “CCPR WG-SP TG14 Discussion Forum on Radiometry to support Gravitational Wave Detection”

* Completed

DP-2019-04: Ad-hoc group formed on Support for NMI director´s meeting: Maria Luisa (chair), Nigel Fox, John Lehman, Stefan Kück, Marek Smid, Peter Blattner, Erkki Ikonen, Gael Obein, Joanne Zwinkels, Yoshi Ohno, Maria Nadal

* Completed