TC Chair Annual Report 2016 – 2017

TC for Photometry and Radiometry (PR)
TC Chair: Jarle Gran
2017-04-24

1. General Aspects

TC-PR had the annual meeting in Borås 1. and 2. February 2017 with a Workshop on EMPIR projects prior to the meeting the 31st of January.

All activities on projects, comparisons and traceability are updated and can be found on the Euramet project website http://www.euramet.org/technical-committees/search-tc-projects/.

2. Projects

Consultancy project PR1101 "Strategic planning in Photometry and Radiometry" is led by the TCC. The ongoing work in collaboration and coordination among NMIs is regarded as an important part of this project. In the annual meeting 2017, we arranged a session where the TCs target point convenors had a presentation each about the foreseen needs within each target point. In addition, European technology platform Photonics21, WG5 leader Peter Seitz, was invited to present the future needs of European research and Industry. In addition, John Lehman and Paul Williams from NIST presented current aspects of the research interests of NIST. Euramet BoD member Maria Luisa Rastello presented EURAMETs expectations on coordination in metrology. (More details below in section 10.) The whole session had as purpose to highlight the large variety of present and future needs and that we will need to collaborate to cover all needs. At the same time, the session helps individual members to decide what they want to prioritize (or not to cover). The first step towards coordination is to highlight the need. It is likely that we will follow up next year with activity report / priority areas from each country – the second step towards coordination. Third step might be approaches and agreements between different individual countries to collaborate on research and/or services on a voluntarily basis because they see the benefit to do so.

The research project PR1048 Cryogenic Solar Absolute Radiometer (CSAR) aim to develop an instrument that will be able to serve as a future primary standard for the ground-based measurement of Solar Irradiance. Following the International Pyrheliometer Comparison (IPC) in 2015 (see last project report), CSAR has continued to take measurements alongside the World Standard Group (WSG), thus building a solid record of comparison between CSAR and the current primary standard.

3. Comparisons

The following comparisons are ongoing / are proposed and details can be found on the Euramet project website.

SUBJECT	REG. NO.	STARTING	TITLE	PILOT	STATUS	KCDB
PR	1412	2016-04-01	EURAMET.PR-K6.2015 Key Comparison on spectral regular transmittance	LNE-INM	agreed/started	
PR	1359	2015-03-15	Bilateral comparison of spectral transmittance using a set of filters as transfer standards	LNE	agreed/started	

SUBJECT	REG. NO.	STARTING	TITLE	PILOT	STATUS	KCDB
PR	1339	2015-09-28	Comparison on Total Solar Irradiance	PMOD/WRC	agreed/started	EURAMET.PR-S6
PR	1226	2012-09-01	Comparison of Reference Solar Cells	PTB	agreed/started	EURAMET.PR-S5
PR	1116	2009-09-15	Spectral responsivity in the range from 900 nm to 1600 nm	VSL	agreed/started	EURAMET.PR-K2.a
PR	1073	2008-09-01	Bilateral comparison on Spectral regular transmittance	BIM	agreed/started	EURAMET.PR-K6.2
PR	619	2001-03-21	Key-Comparison of Spectral Diffuse Reflectance	MKEH	agreed/started	EURAMET.PR-K5
PR	443	1997-09-01	Comparison of Ultraviolet Power Meters	LNE	agreed/started	EURAMET.PR-S4
PR	1344	2014-01-15	Bilateral comparison of luminous flux using lamps as transfer standards	LNE	proposed	EURAMET.PR-K4.2
PR	1307	2013-10-01	Bilateral comparisons on transmittance and luminous flux	IO-CSIC	proposed	EURAMET.PR-K6.3 EURAMET.PR-K4.3

As a summary following issues are highlighted:
Project PR 1103 is Completed and final report given.
Project PR 1073 is approved by the CCPR 14.04.2017. Final report to be written to complete the project and comparison.
Project PR 619 Draft B-2 report is in CCPR WG-KC review since 16th Sept. 2016. (Reminders sent).
Projects PR 443, 1226, 1339 is expected to be completed in 2017.
Projects PR 1116 and 1359 is in the Pre Draft A Stage and PR 1344 at Pre Draft A stage with issues about registration in KCDB.

As a concluding remark, it can be noted that we expect to have very few ongoing comparisons at the beginning of 2018.

4. CMCs

A big batch of CMCs has been under review as EURAMET.PR.12.2016. 10 laboratories has updated their CMCs. The review process has taken a long time, but the whole batch is now accepted (20.04.2017).

Marek Smid has been our convenor for CMCs and is now elected as the CCPR WG-CMC chairperson.

There is raised an issue of guidelines on how to review CMCs for units and claims outside the KC range. With current practice, acceptance of CMC claims depends to a large extent on the reviewers and the work load for the reviewers is rather high. A TCPR group of reviewers is looking into how to harmonize the application of existing CMC review rules.

5. Activities of the Subcommittees

TC-PR has no Subcommittees.

6. Participation in EMRP/ EMPIR

In 2016, the project PV-Enerate succeeded to be funded within the Energy Call. MetEOC-3 succeeded in the Environment Call. Within the Normative Call both SURFACE and BRDF got funding. SmartLighting in the Energy Call and MetAQ in Environment Call were not funded.

The TC is currently involved in the following projects:

EMRP call 2013 Energy:	ENG55 PhotoClass
EMRP call 2013 Energy:	ENG62 MESaiL
EMRP call 2013 Environment:	ENV53 MetEOC2
EMRP call 2013 Environment:	ENV59 atmoz
EMPIR call 2014 Industry:	14IND05 MIQC2
EMPIR call 2014 Industry:	14IND13 PhotInd (partly)
EMPIR call 2015 SI:	15SIB07 FuturePhotometry

7. Capacity Building: Activities of the last year and future needs

There has not been initiated any specific capacity building activities within the TC last year.

8. Meetings

The annual TC-PR meeting was held in Borås 1. – 2. February 2017. Next meeting will take place in Bratislava from January 30th to February 1st, 2018.

9. Issues

CMC review dependent to a large extend on reviewers. Currently, there is a lot of work load for the reviewers.

10. Strategic Planning

In the annual EURAMET TC-PR meeting 31st of January to 2nd of February the TC chair organized a session about strategic planning within Photometry and Radiometry. TC-PR Target Point (TP) convenors presented the needed research within their TP, from their perspective in a 15 min presentation each. Stefan Kück presented energy research need, Giorgio Brida fundamental research need, Nigel Fox environment related research need. In addition, Jarle Gran presented his view on SI research need, Gael Obein presented innovation and industrial need and Florian Stuker presented Normative research need on behalf of Peter Blattner.

In addition, John Lehman and Paul Williams from NIST were invited and gave a talk on new research activities at NIST. Further, the Key Enabling Technology platform Photonics21 WG 5 leader Peter Seitz gave a talk about their activities and development plans. Finally, Euramet BoD

member Maria Luisa Rastello had a presentation about EURAMETs expectations on coordination in metrology.

The presentations are available as documents for the annual meeting in Borås 2017.

The main purpose of the session was to update existing roadmaps and enable individual countries to develop their own strategy within Photometry and Radiometry. The individual country strategies could then at a later stage be used as one potential basis for who to collaborate with. The outcome of the presentations showed that there is a lot of work to do and triggered new ideas. It was highlighted that certain technological areas will be more important in the near future and that it is necessary to start working on them now.

It would be beneficial for the TCC to have resources available to cover travel expenses for interacting activities with other organisations (within and outside EURAMET) as a part of the Strategic Planning activities.

11. Outlook for 2017/2018

In the next period, more focus on strategic planning and collaboration among NMIs will be on the agenda. It is foreseen that this work will need to go over several years. The collaboration is expected to take different forms depending on the type of collaboration under discussion. It is likely that present and future needs will continue to be the driver for the collaboration amongst NMIs.

EURAMET has agreed to collaborate with ESA. One identified area of collaboration is measurements for Solar Cells. The TP convenor for Energy and incoming TC chair, Stefan Kück (PTB) is the contact point to ESA.

As many of the comparisons are ending 2017, new comparisons will be identified as follow ups from the CC-level. To share the workload and as a follow up from previous decisions in TC-PR meetings, every laboratory has to be ready to (co-) pilot comparisons. Preparations for that have started.