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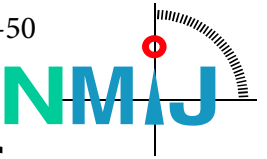

Report from the CCT Task Group for Non-Contact Thermometry CMCs (CCT TG-NCTh-CMC)

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1 June, 2017
BIPM, Sevres

Objective of the Task Group:

In the field of radiation thermometry:

- To propose a revised CLASSIFICATION OF SERVICES IN THERMOMETRY in order to include *T*, and ITS-90 disseminated by HTFPs
- To create assessment rules and procedures to review CMCs of thermodynamic temperature realization and dissemination through three routes:

1) absolute primary thermometry
2) relative primary thermometry by HTFPs
3) conversion from ITS-90 to thermodynamic temperature applying CCT authorized correction function

- To modify the existing assessment rules and procedures for reviewing ITS-90 CMCs, in order to include realization and dissemination by HTFPs.

Summary of activities

- A new Task Group for revising Radiation Thermometry CMC Review Protocol was proposed in July 2016
- ToR was approved by CCT in Oct. 2016
- A draft revised CLASSIFICATION OF SERVICES IN THERMOMETRY was circulated for discussion. After a few revisions, a final draft was agreed within the TG in March 2017.
- A draft revised PROTOCOL was circulated for discussion. After several iterations, the structure of the protocol was agreed and a tentative draft was produced in May 2017.
- The drafts for both are reported to the WG-NCTh in May 2017 for discussion. It was agreed to utilize existing comparisons until future KC takes place, and to adopt new WG uncertainty documents on HTFP and primary absolute radiometry for table values.

CLASSIFICATION OF SERVICES IN THERMOMETRY (Revision Draft v1.3)

??? 2017

METROLOGY AREA: THERMOMETRY

BRANCH: TEMPERATURE

7. Temperature – Items used for disseminating thermodynamic temperature

7.1 Radiation thermometry

7.1.1 Fixed-point blackbody cells and apparatus

7.1.2 Radiation thermometers

7.1.3 Variable temperature blackbody radiation sources

1. Temperature – Items used for defining ITS-90

1.1 Primary fixed-point cells

1.1.1 Cells for contact thermometry

1.1.2 Cells for radiation thermometry

1.2 Complete apparatus realizing fixed-points

1.2.1 Apparatus for contact thermometry

1.2.2 Apparatus for radiation thermometry

1.3 Standard platinum resistance thermometers (SPRTs)

1.3.1 Capsule-type SPRTs

1.3.2 Long-stem SPRTs including HTSPRTs

1.4 Standard radiation thermometers

1.4.1 Standard radiation thermometers

2. Temperature – Items used for disseminating ITS-90 and PLTS 2000

2. Temperature – Items used for disseminating ITS-90 and PLTS 2000

2.1 Secondary fixed-point cells and apparatus for contact thermometry

2.2 Resistance thermometers

2.3 Thermocouples

2.4 Liquid-in-glass thermometers

2.5 Radiation thermometry

2.5.1 Secondary fixed-point blackbody cells and apparatus

2.5.2 Variable temperature blackbody radiation sources

2.5.3 Strip lamps

2.5.4 Radiation thermometers and visual optical pyrometers

Include HTFPs

Include HTFP traceable radiation thermometers

2.6 Other thermometers

2.7 Temperature sensors with display unit

2.8 Other measurement services

Basic policy for radiation thermometry CMC review (*Unchanged from the current CMC review protocol*)

- All primary realizations must be supported by comparisons
- Reference standard for non-primary realizations must have its CMC entry registered
- When a comparison does not directly support the CMC entry, then a table value is applied for automatic approval. CMCs smaller than the table value requires scrutiny.

Status of preparation of Revised PROTOCOL (draft)

Covers all new service categories.
Application of the basic policy complete.

Remaining work

- Adapt the draft PROTOCOL to the prospect of future KCs and to other provisional supporting comparisons

- Adopt tables values from WG-NCTh documents on Primary Absolute Radiometry Uncertainty and HTFP Uncertainty when these become available.

- To be reported to the WG-NCTh at the next WG meeting in 2018(?) for approval.