Activity Report

Work Achieved at IPQ Since the Last CCT Meeting (2024)

1. Introduction

Since the last Consultative Committee for Thermometry (CCT) meeting held in 2024, the Laboratory of Metrology at IPQ has continued its work in maintaining, improving, and disseminating temperature measurement standards. This report summarizes the main technical, scientific, and collaborative activities carried out during this period.

2. Maintenance and Improvement of Standards

Significant efforts have been dedicated to ensuring the reliability and traceability of temperature standards: continued maintenance and monitoring of national primary and secondary temperature standards, periodic calibration and validation of Standard Platinum Resistance Thermometers and fixed-point cells. Improvements in uncertainty budgets through refined measurement procedures and updated evaluation methods and upgrades to laboratory infrastructure, including environmental control and measurement equipment where applicable.

3. Calibration Services and Traceability Dissemination

IPQ has maintained and expanded its calibration services to support accredited laboratories and industry, as well as research and development activities in this field.

4. Participation in International Comparisons

To ensure international equivalence of measurement standards IPQ carried out the following activities:

- Participation in EURAMET.T-K9 Regional Key Comparison: ITS-90 SPRT calibration from the Ar TP to the Zn FP.
- Participation in EURAMET.T-K7.20XX: Coordinating group, preparing draft.

5. Quality Management and Accreditation

Maintaining compliance with international standards remains a priority: continued operation under ISO/IEC 17025 accreditation framework, internal audits and peer review under the EURAMET project #1123.

6. Collaboration and Representation

IPQ has remained active in the international metrology community: participation in EURAMET Technical Committee for Thermometry (TC-T) activities, collaboration with other National Metrology Institutes (NMIs) and Designated Institutes (DIs), engagement in knowledge-sharing activities, workshops, and technical meetings.

7. Training and Capacity Building

MSA CABuCo between CEM and IPQ on radiation thermometry.

8. Future Work and Outlook

Looking ahead, IPQ will continue to: strengthen its capabilities in temperature metrology, expand participation in international comparisons and research projects, enhance calibration services and reduce uncertainties and support national and international metrology needs in emerging application areas.

9. Conclusion

Since the 2024 CCT meeting, IPQ has maintained a strong commitment to ensuring the accuracy, traceability, and international recognition of temperature measurements. Through continued technical work, international collaboration, and quality assurance, the Institute remains aligned with the objectives of the CCT and the broader metrology community.

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