

## CCT member and observer Activity Report

**Period:** 2021

**Institute:** TUBITAK UME

**State economy:**

**Number of persons involved in thermometry of the institute:** 13 permanent staff and 6 PhD scholarship student

### Short summary of research and development:

- Studies on the CO<sub>2</sub> triple point and eutectic fixed point cells within the scope of EMPIR Real K Project
- Studies on the trace water in ultra-pure process gases within the scope of PROMETH2O Project
- Studies on the development of performances of thermocouples within the scope of EMPIR MetForTC Project
- Development of Acoustic Gas thermometry as primary thermometry at TUBITAK UME

### Short summary of recent comparison activity:

- Involvement in CCT.K7-2021 , the measurements with TPW cell was completed at UME and the cell was sent to NRC (pilot lab)
- The final report of GULFMET.T-K.7 was prepared and submitted to CCT WG-KC.
- Draft B report of GULFMET. T-K.9 was prepared and sent to participants
- Draft A report of GULFMET.T-S1 comparison was send to the participants
- A bilateral comparison of radiation temperature measurements between TUBITAK-UME (Turkey) and SASO-NMCC (Kingdom of Saudi Arabia)) was completed

### Short summary of other activities:

- Two participants ( Henok Kebede, from Ethiopia Metrology Institute and Iska Kolaveri from DPM of Albania ) were involved in BIPM Capacity Building & Knowledge Transfer Programme 2021 BIPM - TÜBİTAK UME Project Placement
- Two proficiency tests related with Thermophysical Properties Laboratory were completed
  - Differential Scanning Calorimetry (DSC) - Glass transition temperature ISO 11357-2 and ASTM D3418
  - Differential Scanning Calorimetry (DSC) - Specific heat capacity ISO 11357-4
- Test services with Thermal Conductivity Measurement systems were initiated:
  - Guarded Hot Plate Method from 0.0015 W/m.K to 0.35 W/m.K (from 25 °C to 250 °C)
  - Heat Flow Method from 0.004 W/m.K to 2 W/m.K (from -20 °C to 90 °C)

- A system for the Body Temperature Measurements, traceable to the ITS-90 has been developed. The corresponding Calibration and Training services were started in the country.
- **Link to bibliography or list of bibliography (last 5 years):**

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