AFRIMETS TECHNICAL COMITTEE FOR THERMOMETRY (TC-T) REPORT

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AFRIMETS.T-S2

- Supplementary comparison of Industrial PRT calibration capability
- Range: -50 °C to 450 °C
- Started: May 2012
- Participating NMIs: South Africa, Morocco, Ghana, Burkinafaso
- Status: Draft B report under review by the CCT-WG-KC
AFRIMETS.T-S3

- Supplementary comparison of Industrial PRT calibration capability
- Range: -50 °C to 450 °C
- Started: May 2012
- Status: Currently can’t proceed due to lack of fund (busy looking for a solution)
- Participating NMIs:
  South Africa, Zambia, Zimbabwe, Botswana, Namibia, Mozambique, Uganda, Rwanda, Democratic Republic of the Congo

AFRIMETS.T-S7

- Supplementary comparison of noble metal thermocouple
- Range: 0 °C to 1200 °C
- Status: measurement started (to be shipped to NIS)
- Participating NMIs:
  South Africa, Egypt, Zambia, Botswana, Kenya, Zimbabwe, Ghana, Morocco, Ethiopia
FUTURE INTER-COMPARISONS

- **SPRT, AFRIMETS TS-6 (Hg - Zn)**
  - Pilot: NIS
  - Reference: South Africa
  - Participants: South Africa, Egypt, Zambia, Zimbabwe, Kenya
    South Africa, Egypt, Morocco, Ghana, Ethiopia
  - Status: Protocol under review
  - Fund: PTB

- **Radiation Thermometer (600 °C to 1100 °C)**
  - Pilot: NIS
  - Reference: South Africa
  - Participants: South Africa, Egypt, Zambia
  - Status: Protocol to be prepared,
  - Fund: to be secured

- **Humidity: Dew point (-20 °C – 30 °C)**
  - Pilot: NIS
  - Reference: South Africa
  - Participants: South Africa, Egypt, Morocco, Kenya
  - Status: Protocol to be prepared
  - Fund: to be secured
AFRIMETS PARTICIPATION IN APMP TC-T
INTER-COMPARISONS

• APMP.T-K4.2
  • Key comparison of local realizations of aluminium (Al) freezing-point temperature
  • Range: Al fixed point
  • Started: 2018
  • Status: Measurement completed, Report writing (pilot)
  • Participating AFRIMETS NMIs: South Africa

• APMP.T-S11/S12
  • Local realization of radiation thermometer scale from Indium point to 2800 °C
  • Range: 156 °C to 2800 °C
  • Started: 2013
  • Status: Measurement completed, Report writing (pilot)
  • Participating AFRIMETS NMIs: South Africa
• APMP.T-S16
  • Supplementary comparison of noble metal thermocouple
  • Range: 1000 °C to 1560 °C
  • Started: 2017
  • Status: second leg measurement
  • Participating AFRIMETS NMIs: South Africa

• APMP.T-S13
  • Supplementary comparison of humidity
  • Range: -60 °C, -70 °C, -80 °C, (-90 °C)
  • Started: 2014
  • Status: Measurement
  • Participating AFRIMETS NMIs: South Africa
• APMP.T-S17
  • Supplementary comparison of Air Thermometers
  • Range: -70 °C to 90 °C
  • Status: Protocol approved
  • Participating AFRIMETS NMIs: South Africa
CMC submission

- **Botswana Bureau of Standards (BOBS) (Thermometry Service classification 2.4.1)**
  - Liquid in glass thermometer (0 °C – 200 °C)
  
  Status: Review process completed, CMC published

- **Zambia Metrology Agency (ZMA) (Thermometry Service classification 2.2, 2.3, 2.4 & 2.7)**
  - Platinum resistance thermometer (-40 °C – 450 °C)
  - Base metal thermocouple (220 °C – 450 °C)
  - Digital thermometer (0 °C – 450 °C)
  - Liquid in glass thermometer (-40 °C – 200 °C)
  
  Status: Review process completed, CMC published
Zimbabwe (SIRDIC) (Thermometry Service classification 2.2, 2.3, 2.4, 2.7 & 2.8)
- Platinum resistance thermometer (-40 °C – 280 °C)
- Base metal thermocouple (-40 °C – 280 °C)
- Digital thermometer (-40 °C – 280 °C)
- Ice point (0 °C)
- Electrical simulation (-200 °C – 1200 °C)
- Liquid in glass thermometer (-40 °C – 280 °C)

Status: Review process completed, CMC published

Kenya Bureau of standards (KEBS), (Thermometry service classification 2.2)
- Platinum resistance thermometer

Status: Quality system peer-review
WORKSHOP/TRAINING

- NMISA provided training workshop to BOBS and Ghana in 2019 and 2020 respectively funded by PTB
  - SADCMET temperature S-RMO comparison participants (LIG, TC & Temp Data loggers)
  - ILC protocol, report, and CMC preparation
  - CMC submission & review

- NIS provided training to SON and SSMO temperature staff, training to SON was both at NIS lab and SON lab (2018)
Thank you