ANNUAL REPORT
of Chairperson of TC 1.6 "Mass and Related Quantities"

1. General characteristic in the cooperation in the field of measurements of mass and related quantities

Activities on 8 projects were carried out the field of mass and related quantities measurements in 2009-2010.

COOMET M.M.K2 No. 258/RU/02 "Key comparisons in the field of kilogram multiples and submultiples"

Coordinator: VNIIM

Draft B was prepared and approved on the 14th meeting of TC 1.6. The degrees of equivalence of the national measurement standards of participants will be calculated after Draft B on CCM-K5 is published.

COOMET M.F-K1 No. 259/RU/02 "Key comparisons in the field of force measurements in the range 20 – 1000 kN"

Coordinator: VNIIM

The comparisons were registered in the JCRB data base.

COOMET M.H-K1; COOMET M.H-K2 No. 341/RU/05 "Key comparison of Brinell and Vickers hardness scales"

Coordinator: VNIIFTRI

The measurements have been completed. Draft B is under preparation.

COOMET M.H No. 371/KZ/06 "Bilateral key comparison in the field of hardness measurement in the Rockwell and Super-Rockwell scales"

Coordinator: KazInMetr

Draft B was approved at the 14th meeting TC 1.6.

COOMET M.P-K2 No. 331/LT/05 "Bilateral key comparisons in the field of measuring pressure in liquid in the range of (1-100) MPa"

Coordinator: VMC

The comparisons are still underway.

COOMET.M.H-K1a No. 303/DE/04 "Bilateral key comparisons in the field of Vickers hardness measurement"

Coordinator: PTB

Draft B was sent for approval.

COOMET M.P-K14 No. 444/DE/08 "Key comparisons national standards in the range 100 Pa to 5 kPa of gauge pressure"

Coordinator: PTB

The measurements are in progress.

COOMET 397/RU/07 "Comparison of the national measurement standards in the range 1 MPa of gas absolute pressure"

Coordinator: VNIIMS

The experts in the field of pressure measurements decided after the discussions of the Technical Project at the 14th meeting of TC 1.6 to exclude it from COOMET Key Comparison Programme because the pilot laboratory has no national measurement standard for absolute pressure, which gives no opportunity to check the stability of the transfer standard.

The Draft B of project 257/SK-a/02 “Key comparisons of 1 kg mass standards of stainless steel” was published in the JCRB data base in January 2010.

2. State of CMC in mass and related quantities measurements of COOMET NMIs

The following COOMET tables are published in KCDB:

- COOMET.M.1.2001 – Mass, Pressure, Force, Viscosity – Russia;
- COOMET.M.5.2005 – Pressure – Cuba;
- COOMET.M.4.2005 – Hardness – Russia;
- CMC.M.11.2009 – Hardness – Kazakhstan is under interregional review;
- CMC.M.12.2009 –Mass–Ukraine is under interregional review;
- CMC.M.13.2009 – Viscosity – Belarus is under interregional review.

3. TC activity on the review of CMC tables of NMIs

The state and results of TC 1.6 activity on the expertise of CMC tables are characterized in the following way:

- APMP.M.20.2009
- APMP.M.21.2009
- APMP.M.22.2009
- APMP.M.23.2009
- SIM.M.11.2009
- EUROMET.M.11.2009
- EUROMET.M.16.2009
- EUROMET.M.17.2009

4. Collaboration with international regional organizations

As it has already been mentioned one of the main tasks of TC 1.6 was and still is the promotion of cooperation between NMIs in the field “Mass and related quantities” for the purpose of implementing the Arrangement on Mutual Recognition of national standards in COOMET member countries. For the purpose of operative solution of these tasks the experts of TC 1.6 will take part in the 12^{th} meeting of the Consultative Committee in France on 24–26 March 2010 concerning the redefinition of the kilogram. The TC members regularly organize the activity of NMIs on the comparisons of national standards; take part in different international conferences and seminars related with measurements, calibration, estimation of measurement result uncertainty, quality control.

The members of TC 1.6 take part in the CCM Key Comparisons:

CCM.H-K2 Key Comparison in Brinell Hardness;

CCM.H.S1 Key Comparison of Rockwell Hardness;

CCM.D.K3 Key Comparison of Solid Density;

CCM.P-K3 Key Comparison Pressure Measurement in Gas;

CCM.F-K3 Key Comparison Force 0,5- 1 MH;

CCM.M-K5 Key Comparison in Mass Standards 200 mg, 1g, 50g, 2 kg.

Dr Natalya Domostroeva
TC 1.6 Chairperson