

SUMMARY REPORT ON ACTIVITY OF TECHNICAL COMMITTEE COOMET TC1.10

A.I.Pokhodun
*D.I.Mendeleyev Institute for Metrology,
St.Petersburg, Russia*

The COOMET organization includes metrological institutes of 19 countries. Among them 4 countries are the associated members of COOMET.

The technical committee COOMET TC1.10 was created in 2001. The first meeting of COOMET TC1.10 took place in October, 2001. Specialists of national metrological institutes of Russia, Ukraine, Germany and Slovakia took part in meeting.

Activity of COOMET TC1.10 was concentrated in the following directions:

- 1) Involvement of COOMET NMIs in process of implementation of MRA
- 2) The organization and carrying out key comparisons for an assessment of equivalence of national standards and support of measuring capabilities of COOMET NMIs.
- 3) Achievement of the international recognition of measuring capabilities of NMIs of the countries of participants of the COOMET.
- 4) Organization of the reviewing of measuring and calibration capabilities of the COOMET national metrological institutes and interregional reviewing of institutes of other regional metrological organizations

RESULTS OF ACTIVITY OF COOMET TC1.10

1. Involvement of national metrological institutes of the countries - participants of COOMET in process of realization of MRA

Years	Quantity of participants	The COOMET national metrological institutes participating in meetings and the TK1.10 projects
2001	4	VNIIM (Russia), NSC IM (Ukraine), PTB (Germania), SMU (Slovakia) Only four participants and among them two are the associated members of COOMET.
2003	5	VNIIM (Russia), NSC IM (Ukraine), PTB (Germania), SMU (Slovakia), BelGIM (Belarus)
2006	7	VNIIM (Russia), NSC IM (Ukraine), PTB (Germania), SMU (Slovakia), BelGIM (Belarus), INSM (Moldova), KazInMetr (Kazakhstan).
2009	9	VNIIM (Russia), NSC IM (Ukraine), PTB (Germania), SMU (Slovakia), BelGIM (Belarus), INSM (Moldova), KazInMetr (Kazakhstan), INIMET (Cuba), CSM (Kyrgyz Republic).
2013	11	VNIIM (Russia), NSC IM (Ukraine), PTB (Germania), SMU (Slovakia), BelGIM (Belarus), INSM (Moldova), KazInMetr (Kazakhstan), INIMET (Cuba), CSM (Kyrgyz Republic), AzGSM (Azerbaijan), SRISMC (Uzbekistan).
2014	12	VNIIM (Russia), NSC IM (Ukraine), PTB (Germania), SMU (Slovakia), BelGIM (Belarus), INSM (Moldova), KazInMetr (Kazakhstan), INIMET (Cuba), CSM (Kyrgyz Republic), AzGSM (Azerbaijan), SRISMC (Uzbekistan), IMBIH (Bosnia and Herzegovina)

**Involvement of COOMET NMIs in process of implementation of MRA,
2014**

№	Country	NMIs	Participation in the COOMET TC1.10 projects	Remark
1	Armenia.	National Institute of Metrology	No	
2	Azerbaijan	State Committee for Standardization, Metrology and Patents of the Republic of Azerbaijan	Yes	
3	Belarus	Belarussian State Institute of Metrology	Yes	
4	Bosnia and Herzegovina	Institute of Metrology of Bosnia and Herzegovina	Yes	
5	Bulgaria	Bulgarian Institute of Metrology	No	Participation in the projects of EURAMET
6	Cuba	National Research Institute on Metrolog	Yes	Associate Member of COOMET
7	Germany	Physikalisch-Technische Bundesanstalt (PTB).	Yes	Associate Member of COOMET
8	Georgia	Georgian National Agency for Standards, Technical Regulations and Metrology	Yes	
9	DPR Korea	Central Institute of Metrology (CIM).	No	Associate Member of COOMET
10	Kazakhstan	Kazakhstan Institute of Metrology” (“KazInMetr”	Yes	
11	Kyrgyzstan	Center for Standardization and Metrology	Yes	
12	Lithuania	National Metrology Institute	No	Participation in the projects of EURAMET
13	Moldova	National Institute of Metrology	Yes	
14	Romania	National Institute of Metrology (INM)	No	Participation in the projects of EURAMET
15	Russia	All-Russian Scientific Research Institute of Metrology named after D.I. Mendeleev (VNIIM); National Research Institute of Physicotechnical and Radio Engineering Measurements (VNIIFTRI)	Yes	
16	Slovakia	Slovak Institute of Metrology (SMU)	Yes	
17	Tajikistan	Agency on Standardization, Metrology, Certification and Trade Inspection	No	
18	Ukraine	National Scientific Centre “Institute of Metrology” (NSC “IM”)	Yes	
19	Uzbekistan	State Institution “Centre of National Standards of Republic Uzbekistan”	Yes	

2. The organization and carrying out comparisons

2.1 Reported COOMET key comparisons

№	Comparison name	Participants	Carrying out time
1	COOMET.T-K3 Realizations of the ITS-90 from 302.9 K to 692.7K	VNIIM (Russia), BelGIM (Belarus), SMU (Slovakia)	2005 – 2007
2	COOMET.T-K3.1 Realizations of the ITS-90 from 302.9 K to 692.7 K	VNIIM (Russia), NSC IM (Ukraine)	2008 – 2009
3	COOMET.T-K3.2 Realizations of the ITS-90 from 302.9 K to 692.7 K	VNIIM (Russia), GEOSTM (Georgia), INSM (Moldova)	2010 – 2012
4	COOMET.T-K7 Comparison of water triple point cells	VNIIM (Russia), BelGIM (Belarus), NSC IM (Ukraine), GEOSTM (Georgia), INSM (Moldova), INIMET (Cuba), KazInMetr (Kazakhstan)	2008 – 2011

2.2 COOMET key and supplementary comparisons in progress

№	Comparison name	Participants	Carrying out time
1	COOMET.T-K5 Realizations of the ITS-90 at 1084.62 °C	VNIIM (Russia), NSC IM (Ukraine),	2014 – 2015
2	COOMET.T-K3.3 Realizations of the ITS-90 from 273.16 K to 933.47 K	VNIIM (Russian Federation), BelGIM (Belarus), KazInMetr (Kazakhstan), NSC IM (Ukraine), GEOSTM (Georgia)	2014 – 2015
3	COOMET.T-S1 Comparison of type S thermocouples	VNIIM (Russia), KazInMetr (Kazakhstan), NSC IM (Ukraine)	2014 – 2015
4	COOMET 544/RU-a/11 “Regional Key Comparison Humidity Standards of Gases. Dew/frost Point Temperature from - 50 °C to +20 °C”	VNIIFTRI (Russia), BelGIM (Belarus), KazInMetr (Kazakhstan), NSC IM (Ukraine), INM (Romania), BIM (Bulgaria), NISM (Moldova)	2013 - 2015

2.3 Reported pilot comparisons of COOMET

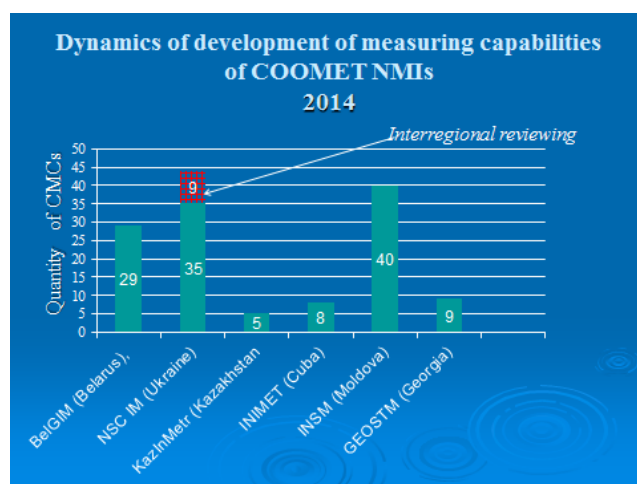
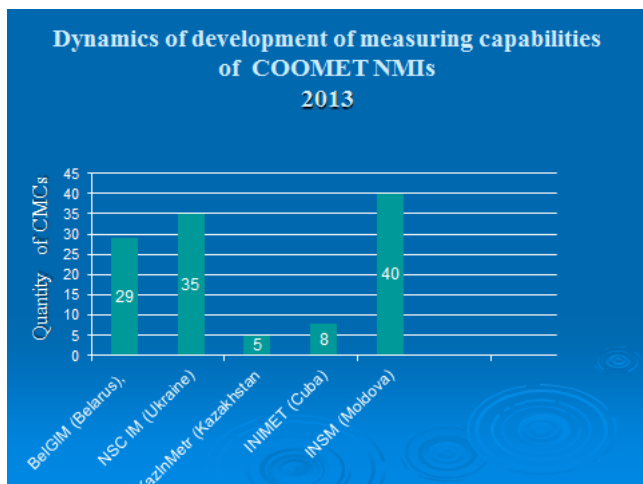
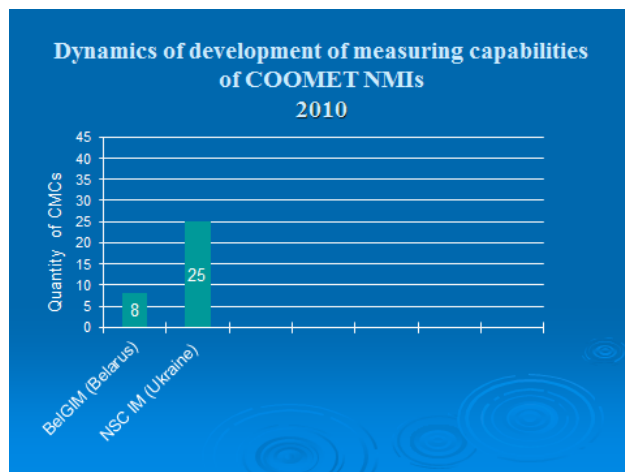
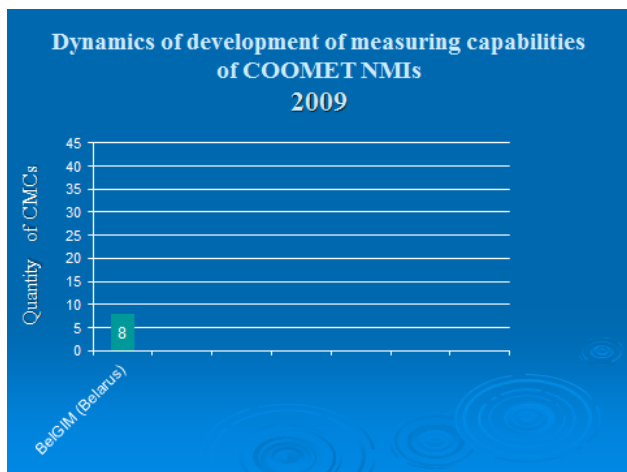
№	Comparison name	Participants	Carrying out time
1	COOMET 495/RU-a/10 «Measurement of thermal conductivity in the range from 0,03 to 0,05 W / (m·K) in the temperature range from 10 °C to 40 °C»	VNIIM (Russia), KazInMetr (Kazakhstan)	2010 – 2011
2	COOMET 549/RU-a/12 «Measurement of thermal conductivity in the range from 0,03 to 0,2 W / (m·K) in the temperature range from 10 °C to 40 °C»	VNIIM (Russia), BelGIM (Belarus), KazInMetr (Kazakhstan)	2012 – 2013
3	COOMET 228/UA-a/01 "Comparisons of national standards of the unit of the energy of combustion using the benzoic acid”.	VNIIM (Russia), INM (Romania), NSC “IM” (Ukraine), NIM (Chine),	2001-2010
4	COOMET 489/RU-a/10 “Regional comparisons of national standards of the unit of the energy of combustion using the high-purity graphite”.	VNIIM (Russia), BelGIM (Belarus), NSC “IM” (Ukraine), NIM (Chine).	2010-2013

2.4 COOMET pilot comparisons in progress

№	Comparison name	Participants	Carrying out time
1	COOMET 488/RU-a/10 “Comparisons of standard methods of measuring of the heat of combustion of natural gas”.	VNIIM (Russia), BelGIM (Belarus), NSC “IM” (Ukraine).	2010-2014
2	COOMET623/Ru-a/13 “Comparisons of national standards of the unit of the energy of combustion using the solid and liquid fuels”	VNIIM (Russia), BelGIM (Belarus).	2013-2015

3. Achievement of the international recognition of measuring capabilities of NMIs of the countries of participants of the COOMET

Dynamics of development of measuring capabilities of COOMET NMIs



4. Organization of the reviewing of measuring and calibration capabilities of the COOMET national metrological institutes and interregional reviewing of institutes of other regional metrological organizations

The reviewing procedure of measuring and calibration capabilities of the COOMET national metrological institutes and interregional reviewing of institutes of other regional metrological organizations it is regulated by the document COOMET R/GM/7:2006. COOMET SMS reviewing. According to this document COOMET group of experts in the field of thermometry and measurements of thermophysical quantities is created.

Metrology area:	Thermometry and thermophysics		
Subarea	Information on technical experts		
	Surname and name of the expert	NMIs	Country
1	2	3	4
Humidity measurements	Vinge A.F.	VNIIFTRI	Russia
Humidity measurements	Khairova N.V.	BelGIM	Belarus
Humidity measurements	Savina T.I.	CSM	Kyrgyz Republic
Humidity measurements	Melnikov A.A.	UkrMetrTest	Ukraine
Humidity measurements	Bordianu K.	INSM	Moldova
Humidity measurements	Muchamedzhanov B.	KazInMetr	Kazakhstan
Thermometry	Dikun T.I.	BelGIM	Belarus
Thermometry	Denisova M.G.	CSM	Kyrgyz Republic
Thermometry	Ivanova E.P.	NSC IM	Ukraine
Thermometry	Ivanova A.G.	VNIIM	Russia
Thermometry	Bordianu K.	INSM	Moldova
Thermometry	Muchamedzhanov B.	KazInMetr	Kazakhstan

5. The new COOMET TC1.10 activity for MRA support

Development of COOMET recommendations, concerning techniques of calibrations of measuring instruments of thermophysical quantities is new activity of TC1.10

№	COOMET project name	Participants	Carrying out time
1	COOMET 594/RU/13 "The training workshop "Calibration of platinum resistance thermometers by the direct comparison method using thermostats"	VNIIM (Russia), BelGIM (Belarus), NSC "IM" (Ukraine), INSM (Moldova), AzGSM (Azerbaijan), PTB (Germany), KazInMetr (Kazakhstan), CSM (Kyrgyzstan),	2013
2	COOMET 633/KG/14 "Development of COOMET's recommendation "Calibration of resistance thermometers by comparison method"	CSM (Kyrgyzstan), VNIIM (Russia), BelGIM (Belarus). NSC "IM" (Ukraine), AzGSM (Azerbaijan), INIMET (Cuba), IMBIH (Bosnia and Herzegovina),	2014-2015

	INSM (Moldova)	
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