
**The annual report
of the chair of TC 1.2
„Acoustics. Ultrasound. Vibration”
on work accomplished from May 2011**

1 General features of cooperation in the area

Currently, the NMIs from 15 COOMET member countries are represented in TC 1.2 “Acoustics. Ultrasound. Vibration”. Nine of them, i.e. Azerbaijan, Armenia, Belarus, Georgia, Cuba, Moldova, Russia, Uzbekistan and Ukraine submit their AUV CMCs via COOMET, while other six: Bulgaria, Germany, Lithuania, Slovakia, Romania and KDPR do this through other RMOs. Only three countries have published their CMCs in AUV by now, they are Belarus, Russia and Ukraine.

As usual, NMIs from Belarus (BelGIM), Russia (VNIIM, VNIIFTRI) and Ukraine (DP NDI “Systema”) are actively involved in the TC work. „Ukrmetrtestandart“ and “Dneprstandartmetrologiya” as well as respective NMIs of Slovakia and Romania are participants of some projects of TC 1.2.

2 TC meetings

Meeting of TC 1.2	Lineup	Main issues discussed
2001 BelGIM, Belarus	Belarus, Russia, Slovakia, Ukraine	<ul style="list-style-type: none"> - Establishment of a working group for COOMET participation in the AUV CMCs review: project No. 234/BY/01 - State of measurements and prospective developments in AUV in the member countries - Preparation of CMC data - Trends of development and cooperation within TC 1.2
2003 VNIIFTRI, Russia	Belarus, Germany, Denmark, Russia, Ukraine	<ul style="list-style-type: none"> - Discussion of TC 1.2 and CCAUV cooperation in the light of the JCRB recommendation on establishing a working group for coordination of CMC-related activities. - Discussion of projects proposed within COOMET - Preparation of CMC data - Reports and presentations on the development and research work in the AUV field in the member countries
2004 “Systema”, Ukraine	Belarus, Great Britain, Germany, Denmark, Russia, Ukraine	<ul style="list-style-type: none"> - COOMET projects - proposals for the meeting agenda of the RMO CCAUV Working Group - comparison arrangement issues - EUROMET cooperation discussion - Reports and presentations on the development and research in AUV in the member countries

Meeting of TC 1.2	Lineup	Main issues discussed
2006 BelGUM, Belarus	Belarus, Russia, Ukraine	<ul style="list-style-type: none"> - Discussion of the state of work on the following projects: COOMET.AUV.A-K1, COOMET.AUV.A-K1.1 and COOMET.AUV.A-K3, COOMET.AUV.V-K1 - Proposals for COOMET Comparison Program - Proposals for the agenda of the Working Group of RMO CCAUV meeting - Reports and presentations on the development and research in AUV in the member countries
2008 VNIIM, Russia	Belarus, Denmark, Cuba, Russia, Ukraine	<ul style="list-style-type: none"> - Discussion of the state of work on issues of 405/RU/07, 392/UA/07, 308/RU/04 - Proposals for COOMET Comparison Program - Information about the results of Technical Committee meeting TC 87 and TC 29 IEC - Proposals for the agenda of the Working Group of RMO CCAUV meeting and for the Classification of Services - Reports and presentations on the development and research in AUV in the member countries
2010 DP NDI “Systema”, Ukraine	Belarus, Denmark, Poland, Russia, Slovakia, Ukraine	<ul style="list-style-type: none"> - Draft B Reports on the key comparisons COOMET.AUV.A-K2 and COOMET.AUV.V-K1 - CCAUV Services Classification (version 2.0, October 2002, updated in October 2004) in Russian - providing methodological aid to the COOMET member countries, that have not yet submitted their AUV CMC data; - establishing the post of deputy chairmen of TC in accordance to the decision of the 8th meeting of JCS - Proposals for COOMET Comparison Program
<p>It is planned to hold the 7th regular meeting of TC 1.2 within the period from May to June 2012 in Denmark on the premises of DPLA and “Brüel & Kjaer Sound & Vibration Measurement A/S”</p>		

3 Status of COOMET projects in AUV

Project No	Description	KCDB code	Pilot of project	Status
234/BY-/01	Establishment of a working group for COOMET participation in the AUV CMCs review		V. Pozdeeva, BelGIM, Belarus	Working Group of experts from COOMET NMIs has been active in this field since January 2002

Project No	Description	KCDB code	Pilot of project	Status
323/UA/04	Comparison for primary method of pressure calibration of laboratory standard microphones over the frequency range from 20 Hz to 20 kHz	COOMET. AUV.A-K3	Dr. K. Rasmussen, DPLA, Denmark	Results published in <i>Metrologia</i>, 2007, 44, <i>Tech. Suppl.</i>, 09002 Participants of comparison: Denmark, Ukraine, Russia, Poland, Romania
226/DE-/01	Comparison of calibrations of laboratory standard microphones (63 Hz – 10 kHz)	COOMET. AUV.A-K1	Dr. T. Fedtke, PTB, Germany	Results published in <i>Metrologia</i>, 2009, 46, <i>Tech. Suppl.</i>, 09004 Participants of comparison: Ukraine, Russia, Germany, Poland, Turkey
316/UA/04	Bilateral comparison by calibration of type LS1P microphones	COOMET. AUV.A-K1.1	Dr. T. Fedtke, PTB, Germany	Results published in <i>Metrologia</i>, 2009, 46, <i>Tech. Suppl.</i>, 09005 Participants of comparison: Ukraine – Germany
308/UA/04	Key comparison of national standards for vibration parameters (in regard to sinusoidal acceleration) over the frequency range from 20 Hz to 5000 Hz	COOMET. AUV.V-K1	Dr. V. Smirnov, VNIIM, Russia	Draft B available Participants of comparison: Russia, Belarus, Poland, Ukraine, Romania, Turkey
337/BY/05	Bilateral comparison of national standards by pressure calibration of microphones type WS1 and WS2 using electrostatic actuator technique	pilot	V. Pozdeeva, BelGIM, Belarus	Comparison finished in 2006 Participants of comparison: Russia – Belarus Research report is available
369/BY/06	Bilateral comparison of the national sound pressure standards	pilot	V. Pozdeeva, BelGIM, Belarus	Comparison finished in 2007 Participants of comparison: Russia – Belarus Research report is available
434/BY/08	Comparison of national standards for sound pressure in air (Pa) using calibrations of working standard microphones	COOMET. AUV.A-S1	V. Pozdeeva, BelGIM, Belarus	Draft B available BelGIM, Belarus “VNIIFTRI”, Russia CMU, Slovakia DP NDI “Systema”, Ukraine
392/UA/07	Comparison of the national standards for sound pressure in air over the low frequency range from 2 Hz to 125 Hz	pilot	Dr. V. Chaly DP NDI “Systema”, Ukraine	Comparison finished in 2008 Report is available Participants of comparison: Ukraine – Russia

431/UA/08	Comparison of national standards for sound pressure in air over a low-frequency range	COOMET. AUV.A-K2	Dr. V. Chaly DP NDI “Systema”, Ukraine	Results published in <i>Metrologia</i>, 2011, 48, <i>Tech. Suppl.</i>, 09002 Participants of comparison: DP NDI “Systema”, Ukraine “VNIIFTRI”, Russia
405/RU/07	Comparison of the national standards for sound pressure in water over infrasonic and low audio frequency range (2 Hz to 4 kHz)	pilot	Dr. A.Isaev VNIIFTRI, Russia	Comparison finished in 2008 Report available Participants of comparison: Ukraine - Russia
448/RU/08	Comparison of measurements of the velocity of longitudinal ultrasonic wave propagation in solid media	pilot	V.A.Lugovoi. Far East office of “VNIIFTRI”, Russia	Comparison finished in 2010 Report submitted to the Secretariat of COOMET Far East office of “VNIIFTRI”, Russia, BelGIM, Belarus
482/BY/09	Comparison of measurements of the velocity of longitudinal ultrasonic wave propagation in solid media by pulse method	pilot	V.V.Pozdeeva , A.A. Dobrov BelGIM, Belarus	Measurements are finished Draft B available BelGIM, Belarus “Ukrmetrtestandart”, Ukraine, “Dneprstandartmetrologiya”, Ukraine
473/RU-a/09	Pilot comparison of the national standards for sound pressure in water (in regard to hydrophone calibration in free field) over the frequency range from 250 Hz to 200 kHz	pilot	A.E.Isaev VNIIFTRI, Russia	Comparison finished in 2010 http://www.bipm.org/cc/CCAUV/Restricted/7/CCAUV-10-20.pdf VNIIFTR, Russia HAARI, China
531/RU/11	Comparison of hydrophone calibrations in free field over the low frequency range (250 Hz to 8 kHz) under the conditions of a laboratory tank		Proposed by A.E.Isaev VNIIFTRI, Russia	VNIIFTR, Russia HAARI, China
535/UA/11	Comparison of the national standards of ultrasound power over the frequency range from 2 to 15 MHz		Proposed by V. Chaly DP NDI “Systema”, Ukraine	VNIIFTR, Russia DP NDI “Systema”, Ukraine

Currently, there are 14 completed projects: 275/RU/03, 309/UA/04, 485/UA/10 (meetings of TK1.2), 300/BY/04, 323/UA/04, 337/BY/05, 369/BY/06; 226/DE/01; 316/UA/04; 392/UA/075; 405/RU/07; 448/RU/08; 431/UA/08; 473/RU-a/09;
3 – on-going projects: 308/UA/04; 434/BY/08; 482/BY/09;
2 – planned;
1 – permanent project 234/BY/01 established at the 1st meeting of TC.

4 Work on implementation of the Mutual Recognition Arrangement for national standards

4.1 Status of the AUV CMCs of COOMET NMIs

In 2011, CMCs of Ukraine COOMET.AUV.6.2011 based on the results of comparisons in the field of low frequency acoustics (pilot comparison No. 392/UA/07 and key comparison COOMET.AUV.A-K2) were published.

Status of the CMCs in AUV published in the KCDB

COOMET	APMP	EURAMET	SADCMET	SIM
COOMET.AUV.1.2001 COOMET.AUV.2.2003 COOMET.AUV.3.2005 COOMET.AUV.4.2007 COOMET.AUV.5.2009 COOMET.AUV.6.2011	APMP.AUV.1.2003 APMP.AUV.2.2006 APMP.AUV.3.2006 APMP.AUV.4.2008 APMP.AUV.5.2009 APMP.AUV.6.2009	EUROMET.AUV.1.2001 EUROMET.AUV.2.2001 EUROMET.AUV.3.2003 EUROMET.AUV.4.2004 EUROMET.AUV.5.2004 EUROMET.AUV.6.2005 EUROMET.AUV.7.2007 EUROMET.AUV.8.2008 EUROMET.AUV.9.2010 EUROMET.AUV.10.2011	SADCMET.AUV.1.2005 AFRIMETS.AUV.2.2010	SIM. AUV.1.2003

4.2 COOMET participation in the interregional review of CMCs

In 2011, interregional review of the following CMCs was performed:

CMC	Target date	Date of publication of review results
APMP.AUV.8.2011	Not set	2011-09-13
APMP.AUV.9.2011	2011-11-14	2011-11-11
AFRIMETS.AUV.3.2011	2011-12-29	2011-12-29
EUROMET.AUV.10.2011	2011-03-21	2011-03-03

5. Cooperation in AUV with the relevant international and regional organizations

TC 1.2 continues to cooperate in AUV both with the international and regional organizations.

Since 2004, members of TC 1.2 have attended the meetings of CIPM Consultative Committee for AUV and its Working Groups: RMO Working Group for CMC (CCAUV RMO WG) and Strategic Planning Working Group (CCAUV SPWG). Joint comparisons between COOMET and EURAMET or COOMET and APMP are conducted; representatives of COOMET participate in the meetings of TC AUV EURAMET. In turn, representatives of TC AUV EURAMET have taken part in 4 of 6 meetings of TC 1.2.

Additionally, members of TC 1.2 participate in the meetings of IEC/TC and IEC/TC 87 on the continuous basis. For instance, in 2011 the representatives of the TC took part in the activities of the Working Groups WG5 and WG17 of IEC/TC 29, which met at the British Standards Institute in London and WG6, WG8, WG9 and WG14 IEC/TC 87, which met on the premises of VNIIFTRI in Moscow.

Valentina Pozdeeva
Chair of TC 1.2.