

COOMET TC 1.2 -AUV

Report for the 11th meeting of CCAUV

1 General features of cooperation in this subject area

Currently, the NMIs from 15 countries are represented in TC 1.2 “Acoustics. Ultrasound. Vibration”.

Information of NMI initiative for COOMET comparisons arrangement and carrying out

NMI - Comparison initiators	NMI - Pilot laboratory						
	BY	DE	DN	RU	UA	HAARI	GUM
BY	234/BY/13 300/BY/04 337/BY/05 369/BY/06 434/BY/08 482/BY/09			626/BY/13			
DE		226/DE-/01					
RU				308/RU/04 405/RU/07 448/RU/08 473/RU-a/09 531/RU/11 561/RU/12 706/RU/16		646/RU/14	
UA		316/UA/04	323/UA/04	609/UA/13	392/UA/07 431/UA/08 535/UA/11		666/UA/15

Due to an active interest in relation to the development of underwater acoustic measurements, COOMET NMIs increased cooperation in underwater acoustics with NMIs from India, China and Germany.

2 COOMET/TC 1.2 meetings

The 11th meeting of TC 1.2 was held in BelGIM 20-21 September 2016, Minsk, Belarus (15 participants from Belarus, Lithuania, Russia and Ukraine).

The 12th meeting of TC 1.2 was held in Vilnius, Lithuania, 5-6 September 2017 (17 participants from Belarus, China, Georgia, Lithuania, Russia, Turkey and Ukraine).

Main discussed questions were:

- status of comparisons (COOMET and CC AUV);
- perspectives as for preparation of CMC according to the results of completed and published comparisons (taking into account of the recommendations of the TC of COOMET Quality Forum) and arrangement of new comparisons;

- candidatures of TC 1.2 experts, who perform external inspections within the framework of COOMET Quality Forum as well as within the framework of CCAUV (selection criteria according to CIPM/2007-25);

- information on last ISO TC43 and IEC TC87 meetings and on the standards under development and proposed for development, on IMEKO/TC22 (Vibration Measurement) meeting;

- reports and presentations of the participants.

3 Status of COOMET projects in the field "AUV"

Comparisons completed in 2016-2017

Subject №	Subject name	Subject code in KCDB	Subject coordinator	Status
535/UA/11	Comparison of national standards of the unit of ultrasound power within the frequency range from 2 to 15 MHz	(COOMET. AUV.U-K3) pilot COOMET. AUV.U -P1	V. Chaly DP NDI «Sistema», Ukraine	Completed in 2017 Currently Report B under consideration in KCWG Comparison participants: VNIIFTRI, Russia, DP NDI «Sistema», Ukraine
609/UA/13	Comparisons of national standards of the sound pressure unit in the air within the frequency range from 2 Hz to 10 kHz	pilot	A. Nikolaenko VNIIFTRI, Russia	Completed in 2017 Comparison participants: VNIIFTRI, Russia, DP NDI «Sistema», Ukraine
666/UA/15	Comparison of national standards for sound pressure unit in air using pressure calibration of standard laboratory microphones, type LS1P, by primary reciprocity method according to IEC 61094-2:2009	COOMET. AUV.A-K5	D. Dobrovolska GUM, Poland	<u><i>Metrologia</i>, 2016, 53, Tech. Suppl., 09003</u> Comparison participants: DP NDI «Sistema», Ukraine GUM, Poland
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 (2008-2009)	A. Yankovsky VNIIM, Russia	Completed in 2017. Currently Report B under consideration in KCWG. Comparison participants: Russia, Belarus, Poland, Ukraine, Romania, Turkey
626/BY/13	Comparison of national standards for sound pressure unit in air	COOMET. AUV.A-S2	A. Nikolaenko VNIIFTRI, Russia	Completed in 2017. Currently Report B under consideration in KCWG. Comparison participants: BelGIM, Belarus VNIIFTRI, Russia DP NDI «Sistema», Ukraine

Comparisons in progress

Subject №	Subject name	Subject code in KCDB	Subject coordinator	Status
646/RU/14	Comparison of national standards of sound particle velocity unit in water	pilot	A. Isaev VNIIFTRI, Russia	Measurements are in progress Comparison participants: VNIIFTRI, Russia HAARI, China

Planned comparisons

Subject №	Subject name	Subject code in KCDB	Subject coordinator	Status
706/RU/16	Comparison of national standards of velocity of propagation of longitudinal ultrasound waves in solid mediums	pilot	V. Lugovoy Far East branch of VNIIFTRI	Comparison participants are specified. Agreement of technical protocol is in progress.

4 Status of the AUV CMCs of COOMET NMIs

Information on CMC AUV of national metrological institutes COOMET published in KCDB

CMC AUV	NMI
COOMET.AUV.1.2001 COOMET.AUV.5.2009	VNIIFTRI, Russia
COOMET.AUV.2.2003 COOMET.AUV.7.2014 COOMET.AUV.9.2017**	BelGIM, Belarus
COOMET.AUV.3.2005 COOMET.AUV.4.2007 COOMET.AUV.6.2011 COOMET.AUV.7.2014 COOMET.AUV.8.2017*	DP NDI «Sistema», Ukraine

* COOMET.AUV.8.2017 approved by the results of the interregional review (under publication)

** COOMET.AUV.9.2017 passed in the examination within COOMET, preparing for posting on the JCRB website)

5 COOMET participation in the interregional review of CMCs

During reported period COOMET reviewed APMP.AUV.12.2016 (NMI, China), APMP.AUV.13.2016 (KRIS, Korea), SIM.AUV.3.2016 (NRC, Canada), AFRIMETS.AUV.5.2017

6 Cooperation in AUV with the relevant international and regional organizations

6.1 From Dec. 2015 to Aug. 2017 TC representatives attended the following meetings:

1. IEC/TC87 interim meeting of WG's (Arlington, USA, December 2015);
2. EURAMET-AUV meeting (Copenhagen, Denmark, February 2016);
3. 5rd Plenary Meeting of ISO/TC 43/SC3 and WG15 of IEC/TC87, London, UK (June 2016);
4. IEC/TC87 «Ultrasound» meeting, Sendai, Japan (September 2016);
5. External assessment of underwater acoustic calibration laboratory of the Institute of materials of Research Center on Marmara sea, TÜBİTAK – MAM, Turkey (November 2016).
6. IEC/TC87 interim meeting of WG's (Austria, Vienna, June 2017).
7. Meeting of the International Measurement Confederation IMEKO/TC3, TC5 and TC22, Helsinki, Finland, from 30.05 to 01.06.2017

6.2 Work on expanding of service classifier in the AUV field

During 2016 TC 1.2 participated actively in the work on updating service classifier CC AUV. TC proposals on expanding service classifier in the field of ultrasound power (VNIIFTRI) were approved by the RMOWG of the Consultative Committee. Proposals in the field of air acoustics (BelGIM) were accepted as one of possible realization, and decision will be taken at the next CC AUV meeting in September 2017. Furthermore, TC participated in discussions concerning proposals in the field of vibration, that were approved at 11th TC meeting in Minsk in September 2016.

6.3 Participation in international and national conferences

1. 45th International congress and exhibition in the field of noise suppression «InterNoise 2016», Hamburg, Germany (August 2016);

2. Scientific and technical workshop in honour of 25th anniversary of cooperation between VNIIFTRI and Hangzhou Applied Acoustics Research Institute, Hangzhou, China (October 2016);
3. 6th International scientific and technical conference «Sudometrika 2016. Measurements and tests in shipbuilding and related fields», St.-Petersburg, Russia (October 2016);
4. 10th International scientific and technical conference «Metrology - 2016», Kharkov, Ukraine;
5. 6th All-Russian scientific and practical conference with international participation «Protection from elevated noise and vibration», St.-Petersburg, Russia (March 2017);
6. All-Russian scientific and practical conference with international participation “Environmental, industrial and energy security-2017”, Sevastopol, Russia (September 2017).

7 Perspectives

1 Arrangement of comparisons

At the meetings of TC 1.2 (September 2016, Minsk and September 2017, Vilnius) it was decided to organize an additional comparison in the field of infra-sound in air. Agreement on technical matters between potential participants is under progress. Belarus, China, Russia and Turkey expressed an interest in carrying out these comparisons. VNIIFTRI has agreed to be the pilot laboratory.

Proposals in the field of underwater acoustics are possible, because this field is actively growing due to the need to reduce noise pollution of the global ocean.

NIM of China expressed a desire to join the planned pilot comparison in the field of velocity of longitudinal ultrasound waves propagation in solid mediums.

2 CMC preparation

At the 11th meeting of TC 1.2 it was recommended to Russian NMI - VNIIFTRI - to prepare updated CMC on the results of key comparisons CCAUV and COOMET comparisons in the field of air acoustics. (Same recommendations were submitted by the TC Commission of COOMET Quality Forum within the framework of audit carried out in 2015).

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