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# The annual report of the chair of TC 1.2 „Acoustics. Ultrasound. Vibration” on work accomplished from May 2007 to April 2008

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## 1. General features of cooperation in this area

Currently, the NMIs from 15 COOMET member-countries are represented in TC 1.2 "Acoustics. Ultrasound. Vibration".

The TC 1.2 members and RMOs through which COOMET member-countries submit CMCs of their NMIs are shown on fig. 1 below.

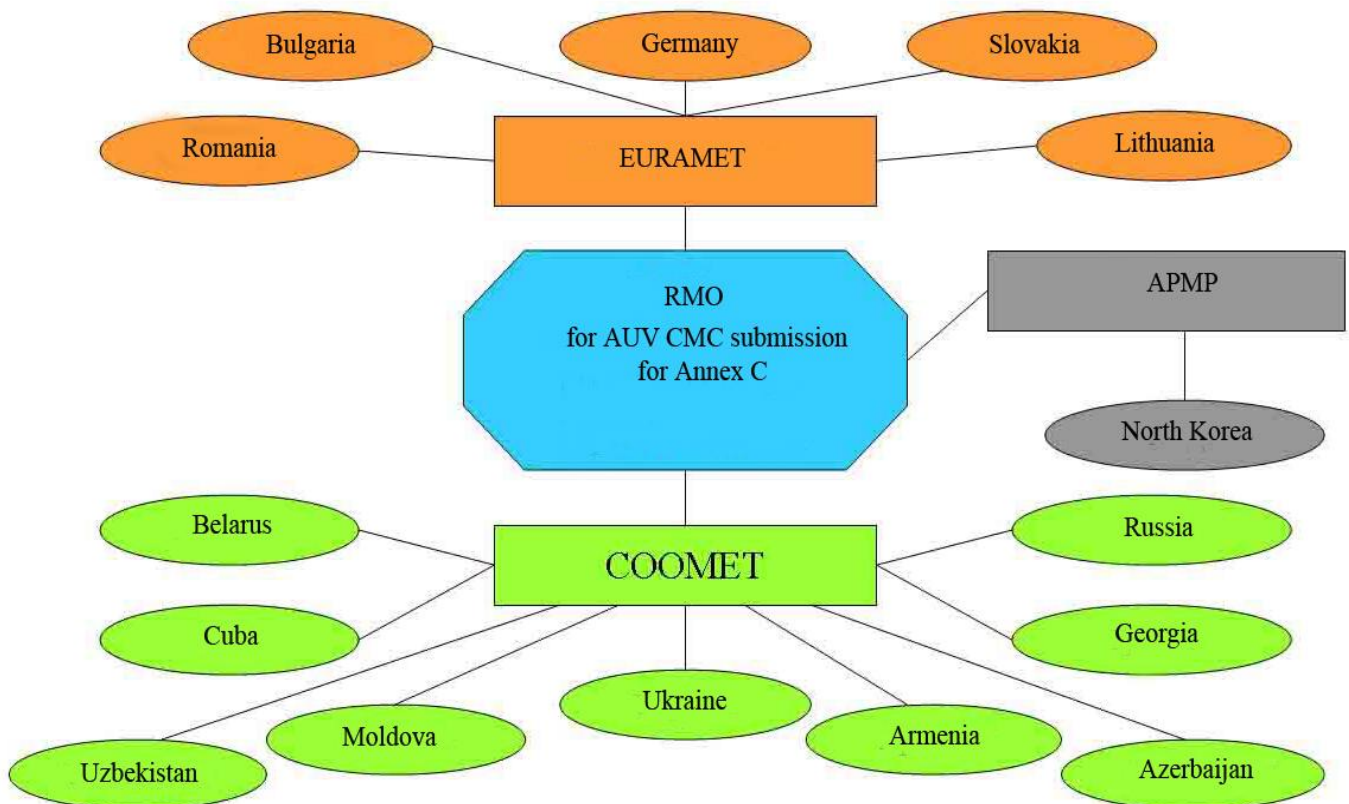


Fig. 1.

As usual, the experts from Belarusian, Russian and Ukrainian NMIs took active part in the TC work. TC 1.2 collaborates with EURAMET TC AUV, the representatives of which took part in TC 1.2 meetings and key comparisons organized by TC.

## 2. TC meetings

The last 4<sup>th</sup> TC meeting took place at BelGIM, Minsk, Belarus, 29-30, August, 2006.

This meeting decided to consider adding comparisons of low frequency air acoustics and underwater acoustics to the COOMET comparison program. The comparisons were agreed via e-mail and are in progress now.

Since the discussions during the meeting covered practically all aspects of cooperation including the needs for comparisons it was unanimously decided to hold the next meeting of TC 1.2 in 2008.

The next 5th TC meeting is scheduled for 29-30 May 2008 at VNIIM, St.-Petersburg, Russia. For the time being four following members confirmed their participation in this meeting: Belarus, Denmark, Russia and Ukraine.

## 3. Status of COOMET projects in AUV

The status of COOMET AUV projects is given in table 1 below:

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 is active in this field since January 2002.
323/UA/04	Comparison for primary method of pressure calibration of laboratory standard microphones in the frequency range from 20 Hz to 20 kHz	COOMET. AUV.A-K3	Dr. K. Rasmussen, DPLA, Denmark	<b>Results published</b> Participants of comparison: Denmark, Ukraine, Russia, Poland, Romania
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	<b>Measurements finished</b> Participants of comparison: Russia - Belarus
369/BY/06	Bilateral comparison of the national sound pressure standards	Pilot	V. Pozdeeva, BelGIM, Belarus	<b>Measurements finished</b> Participants of comparison: Russia - Belarus
226/DE-/01	Comparison of calibrations of laboratory standard microphones (63 Hz – 10 kHz)	COOMET. AUV.A-K1	Dr. T. Fedtke, PTB, Germany	<b>Draft B available</b> Participants of comparison: Ukraine, Russia, Germany, Poland, Turkey
316/UA/04	Bilateral comparison by calibration of microphones type LS1P	COOMET. AUV.A-K1.1	Dr. T. Fedtke, PTB, Germany	<b>Draft A available</b> Participants of comparison: Ukraine – Germany
308/UA/04	Key comparison of national standards for vibration parameters (in regard to sinusoidal acceleration) in the frequency range from 20 Hz to 5000 Hz	COOMET. AUV.V-K1	Dr. V. Smirnov, VNIIM, Russia	<b>On-going</b> Participants of comparison: Russia, Belarus, Poland, Ukraine, Romania, Turkey

Project No	Description	KCDB code	Pilot of project	Status
392/UA/07	Comparison of the national standards for sound pressure in air in the low frequency range from 2 Hz to 125 Hz	Pilot	Dr. V. Chaly DP „NDI "Systema", Ukraine	<b>Draft A available</b>  Participants of comparison: Ukraine – Russia
405/RU/07	Comparison of the national standards for sound pressure in water in the infra-sonic and low audio frequency range (2 Hz to 4 kHz)	Pilot	Dr. A. Isaev, VNIIFTRI, Russia	<b>Draft A under preparation</b>  Participants of comparison: Ukraine – Russia
	Comparison of measurements of longitudinal ultrasonic wave propagation velocity in solid media	Pilot	Dr. V. Lugovoi, Far East office of VNIIFTRI, Khabarovsk	<b>Preparation for comparison</b>  Participants of comparison: Russia - Belarus

The pilot comparisons 337/BY/05 and 369/BY/06, respectively, will be followed by COOMET supplementary comparisons for secondary calibration methods based on IEC 61094-4 and IEC 61094-5. This project will be discussed this May at the 5th meeting of TC. It is suggested that the comparisons 392/UA/07 and 405/RU/07, respectively, should be followed by COOMET key comparisons. These projects will be also discussed at the TC meeting.

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

##### **4.1 Status of the CMCs in AUV of COOMET NMIs**

The AUV CMCs of Russia (COOMET.AUV.1.2001), Belarus (COOMET.AUV.2.2003) and Ukraine (COOMET.AUV.3.2005 and COOMET.AUV.4.2007) are published in BIPM KCDB.

According to the time-schedule of the COOMET Quality Forum, the following institutes were subject to peer-review of Quality Management System: National Metrological Institute of Belarus (BelGIM), November 2006 and National Metrological Institute of Ukraine, DP "NDI" System, February 2007. The Quality Forum gave confidence in the Quality Management Systems of BelGIM (Certificate QSF-R05) and DP "NDI" Systema" (Certificate QSF-R09)

The Belarusian and Ukrainian CMCs in vibration passed intra-RMO review. The conduction of COOMET key comparison in vibration registered in KCDB as COOMET.AUV.V-K1 will help to meet one of the basic conditions for publication of these CMCs in Appendix C.

The preparation of new Ukrainian CMCs in air acoustics (COOMET.AUV.5.2008) is completed. At present, these CMCs are under intra-RMO review.

The rest members of TC 1.2 which shall submit their CMCs through COOMET made no report regarding preparation of their CMCs over the period in question.

##### **4.2 COOMET participation in interregional review of CMCs**

Over the period in question COOMET performed interregional review of CMCs from EUROMET.AUV.7 (Denmark, Germany, Italy, Poland and Portugal).

## **5. Liaisons with the relevant international and regional organizations**

As mentioned above, COOMET TC maintains rather close cooperation with the EUROMET TC, which was represented at the meetings of our TC and international seminar, organized in collaboration with our TC. EUROMET experts participated in COOMET key comparisons in air acoustics and vibration. Our TC members attended the meetings of CIPM Consultative Committee for AUV and its Working Group “CCAUV RMO WG” as well as meetings of IEC/TC 87 and IEC/TC 29. It is planned that this May our TC coordinator in air acoustics will participate in the meeting of IEC/TC 29

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