Primary national standards of Ukraine in the field of acoustic and ultrasound

ALEXANDER KOSTEROV

SCIENTIFIC-RESEARCH INSTITUTE FOR METROLOGY OF MEASUREMENT AND CONTROL SYSTEMS

NDI «SYSTEMA», LVIV, UKRAINE

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NDI «Systema», Lviv, Ukraine

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NDI “Systema” is the designated Institute of Ukraine in the field of acoustic and ultrasound.

Our Institute maintains three national primary standards:

- standard of the unit of the sound pressure in the air (NDETU AUV-03-2019);
- standard of the unit of the ultrasound power in the water (NDETU AUV-01-2018);
- standard of the unit of the ultrasound pressure in the water (NDETU AUV-02-2018).

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Frequency range: 2 Hz – 25 kHz
Expanded uncertainty: 0,03 dB – 0,2 dB

Figure 1 - National primary standard of Ukraine of the unit of the sound pressure in air.
Set-up for the pressure calibration of microphones

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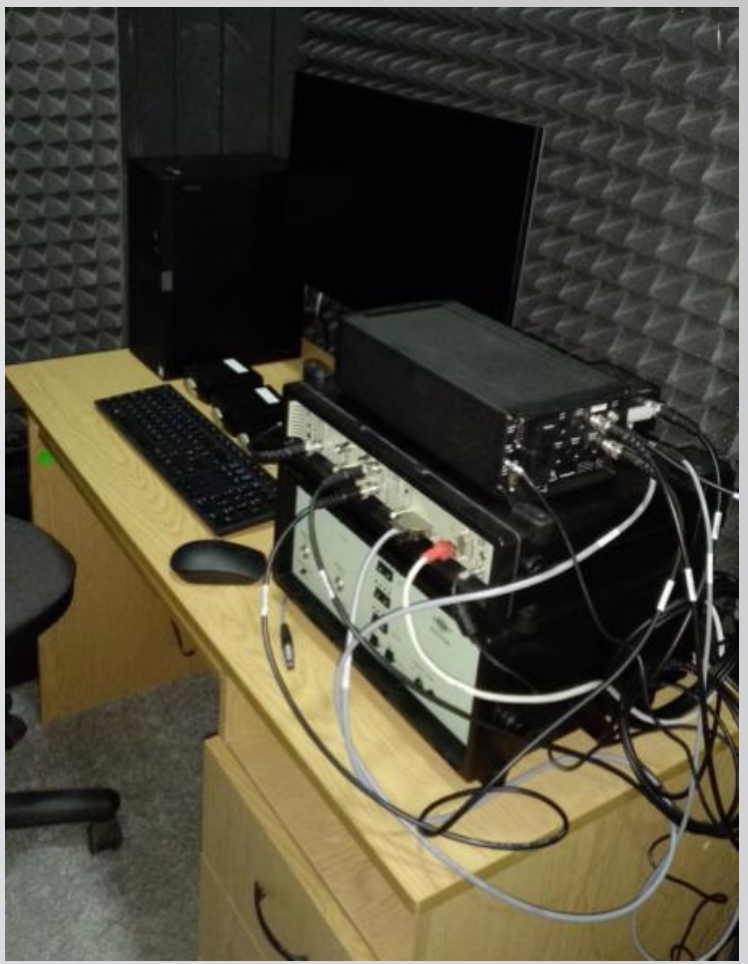
anechoic room



measurement unit

Frequency range: 1 kHz – 40 kHz
Expanded uncertainty: 0,1 dB – 0,2 dB

Figure 2 - National primary standard of Ukraine of the unit of the sound pressure in air.
Set-up for the free field calibration of microphones

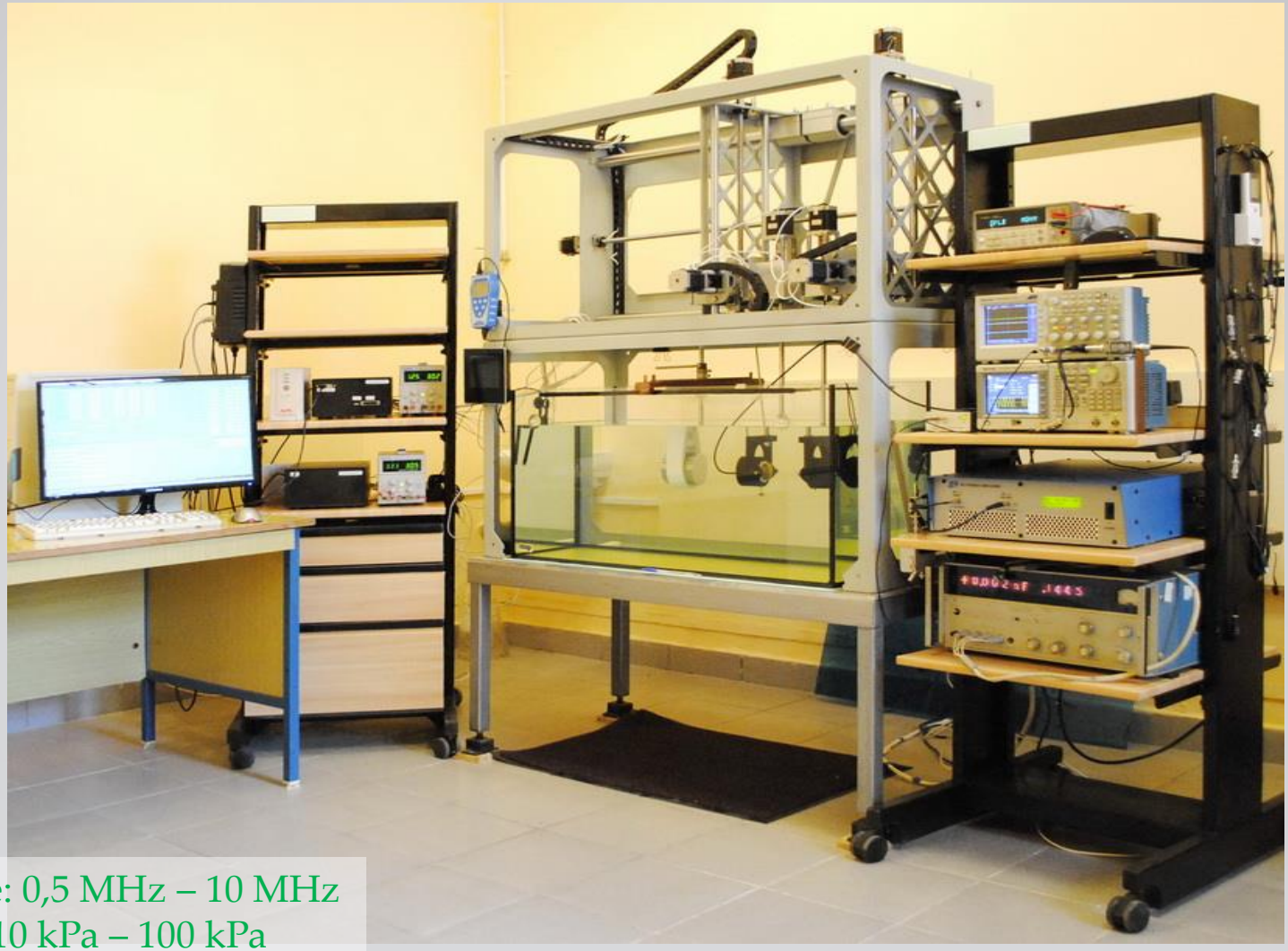
pressure chamber measurement unit

Frequency range: 2(0,1) Hz – 100 Hz
Estimated expanded uncertainty: < 0,1 dB

Figure 3 - National primary standard of Ukraine of the unit of the sound pressure in air.
Model of the set-up for the infrasonic calibration of microphones

Frequency range: 0,5 MHz – 15 MHz
Power range: 5mW – 10 W
Expanded uncertainty: < 12 %

Figure 4 - National primary standard of Ukraine of the unit of ultrasound power in water.



Frequency range: 0,5 MHz – 10 MHz
Pressure range: 10 kPa – 100 kPa
Expanded uncertainty: < 18 %

Figure 5 - National primary standard of Ukraine of the unit of ultrasound pressure in water

THANK YOU