

List of publications.

Monographs:

Isaev A.E. Metrology of underwater sound measurements. Precise free field calibration of underwater sound receivers: monograph in 2 volumes. - Mendeleevo: FSUE "VNIIFTRI", 2023. - 376 p. (vol. 1), 376 p. (vol. 2), (in Russ.).

Collection of scientific papers:

Enyakov A. M. Hydrophones and Their Applications: Collection of Scientific Articles / A. M. Enyakov, O. A. Panin // - Mendeleevo: Federal State Unitary Enterprise "All-Russian Research Institute of Physical, Technical and Radio Engineering Measurements", 2025. - 244 p, (in Russ.).

Publications:

1. Isaev A.E., Kuznetsov S.I., Lomovatskiy Yu.A., Matveev A.N. VNIIFTRI reference base in the field of underwater acoustic measurements: metrological characteristics, functional capabilities, innovations and prospects for improving standards. Measurement Techniques, 2025, Vol. 67, No. 12, pp. 930-939.
2. Isaev A.E., Polikarpov A.M. Examples of solving metrological problems using the Hilbert transform for data processing. A.E. Isaev, A.M. Polikarpov. Almanac of Modern Metrology. 2025, No. 2 (42), pp. 133-157, (in Russ.).
3. Isaev A.E. Phase-pulse method for estimating the travel time of a sound wave under measuring the speed of sound in a water medium. Izmeritel'naya Tekhnika, 2025, Vol. 74, No 4, pp. 74-81 (In Russ.).
4. Isaev A.E. Determination of the hydrophone phase response during periodic calibrations. Izmeritel'naya tekhnika. 2025, № 3 (74), pp. 79-83.
5. Isaev A.E. Ensuring the unity of hydroacoustic measurements: directions and prospects of development. Almanac of Modern Metrology. 2024, № 4 (40), pp. 127-143 (in Russ.).
6. Isaev A.E., Matveev A.N., Strelov S.V., Shcherblyuk N.G. Key comparison CCAUV.W-K2: features of hydrophone calibration. Measurement Techniques, 2024, Vol. 67, pp. 79–86. DOI: 10.1007/s11018-024-02323-z.
7. Isaev A.E., Polikarpov A.M. Representation of the hydrophone frequency response by a formula as practical feasibility and expansion of the capabilities of metrology digital platform. Almanac of Modern Metrology. 2024, № 2 (38), pp. 89-105, (in Russ.).
8. Kuznetsov, S. I. Ultrasonic Field Measurement System / S. I. Kuznetsov, G. S. Lukin // Metrology in the XXI Century: Proceedings of the XII Scientific and Practical Conference of Young Scientists, Postgraduates and Specialists, Mendeleevo, March 22, 2024. – Mendeleevo: Federal State Unitary Enterprise "All-Russian Research Institute of Physical, Technical and Radio Engineering Measurements", 2025. – P. 36-38. – EDN IXTLFR, (in Russ.).
9. Isaev, A. E. Reference Base of VNIIFTRI in the Field of Hydroacoustic Measurements: Metrological Characteristics, Functional Capabilities, Innovations and Prospects for

- Improving Standards / A. E. Isaev, S. I. Kuznetsov, Yu. A. Lomovatsky, A. N. Matveev // Measurement Techniques. – 2024. – Vol. 73, No. 12. – P. 46-54. – DOI 10.32446/0368-1025it.2024-12-46-54. – EDN DKWBOV, (in Russ.).
10. Kuznetsov, S. I. Calibration of High-Frequency Hydrophones Using Optical Interferometry / S. I. Kuznetsov // The Future Is With Us: Abstracts of the 3rd International Scientific and Practical Conference of Young Scientists and Specialists and Texts of Works by Participants of the Pilot International Competition “Best Young Metrologist of the CIS Interstate Council on Standards – 2024”, Saint Petersburg, June 11–14, 2024. – Saint Petersburg: LLC “Printing House Litas+”, 2024. – P. 335-336. – EDN NCFVYL, (in Russ.).
 11. Lukin, G. S. Water Preparation for Ultrasonic Measurements / G. S. Lukin // The Future Is With Us: Abstracts of the III International Scientific and Practical Conference of Young Scientists and Specialists and Texts of Works by Participants of the Pilot International Competition “Best Young Metrologist of the CIS Interstate Council on Standards” 2024, Saint Petersburg, June 11–14, 2024. – Saint Petersburg: LLC “Printing House Litas+”, 2024. – P. 355-356. – EDN GOMHRS, (in Russ.).
 12. Isaev A.E., Khatamtaev B.I. Equivalent Size and Acoustic Center of Measuring Hydrophone. Measurement Techniques. 2023, Vol. 65, No. 4, pp. 929–935.
 13. Isaev A.E. and Khatamtaev B.I. The Acoustic Center of a Measuring Hydrophone. Acoustical Physics, 2023, Vol. 69, No. 1, pp. 93–101.
 14. A.E. Isaev, Chen Yi, A.N. Matveev, Jia Guanghui, B.I. Khatamtaev, Wang Shiquan, N.G. Shcherblyuk. Results of pilot comparisons of amplitude-phase calibrations of hydrophones in the frequency range 10–500 kHz COOMET 786/RU-a/19. Measurement Techniques, 2023, Vol 66, No 5, pp. 211–216.
 15. Lukin, G. S. Development of Methods and Means for Expanding the Dynamic Range of Ultrasound Power Measurement in Water / G. S. Lukin // “The Future Is With Us”. “Best Young Metrologist of COOMET (Euro-Asian Cooperation of National Metrological Institutions) – 2023”: Collection of Abstracts of the II International Scientific and Practical Conference of Young Scientists and Specialists and the X International Competition, Yekaterinburg, June 14–16, 2023. – Saint Petersburg: LLC “Publishing and Printing Company Kosta”, 2023. – P. 64-69. – EDN PGCBQF, (in Russ.).
 16. Kuznetsov, S. I. Calibration of High-Frequency Hydrophone Using Raster Scanning Method / S. I. Kuznetsov // “The Future is Ours”. “Best Young Metrologist of COOMET - 2023”: Abstracts of Reports of the 2nd International Scientific and Practical Conference of Young Scientists and Specialists and the 10th International Competition, Yekaterinburg, June 14–16, 2023. – Saint Petersburg: LLC “Kosta Publishing and Printing Company”, 2023. – P. 252-253. – EDN MZUJFP, (in Russ.).
 17. Isaev A.E. On the issue of measuring the sound reflection coefficient using a virtual low-element phased radiating array. Almanac of Modern Metrology. 2022, No. 1 (29), pp. 127–135, (in Russ.).
 18. Kuznetsov, S. I. Study of Acoustic Streaming Influence on Total Ultrasound Beam Power Measurement Results / S. I. Kuznetsov // Applied Technologies of Hydroacoustics and Hydrophysics: Proceedings of the All-Russian Conference, Saint Petersburg, September 14–16, 2022. – Saint Petersburg: LEMA Publishing, 2023. – P. 368-370. – EDN ORWJQA, (in Russ.).
 19. Kuznetsov, S. I. Study of Acoustic Properties of Thin Metallized Polymer Films Used in Optical Interferometry Methods for Ultrasound Fields / S. I. Kuznetsov // Metrology in the XXI Century: Proceedings of the 9th Scientific and Practical Conference of Young Scientists, Postgraduates and Specialists, Mendeleevo, March 25, 2021. – Mendeleevo: Federal State

- Unitary Enterprise “All-Russian Research Institute of Physical, Technical and Radio Engineering Measurements”, 2022. – P. 61-69. – EDN WGDMSF, (in Russ.).
20. Kuznetsov, S. I. Reference Ultrasound Power Meter in Water EIMU-3 / S. I. Kuznetsov // Almanac of Modern Metrology. – 2022. – No. 3(31). – P. 31-44. – EDN NHAWAN, (in Russ.).
 21. Kirillov, N. A. Application of Thermoelectric Converters for Measuring the Intensity of Focused Ultrasonic Fields / N. A. Kirillov, G. S. Lukin // Metrology in the XXI Century: Proceedings of the IX Scientific and Practical Conference of Young Scientists, Postgraduates and Specialists, Mendeleevo, March 25, 2021. – Mendeleevo: Federal State Unitary Enterprise “All-Russian Research Institute of Physical, Technical and Radio Engineering Measurements”, 2022. – P. 48-54. – EDN HGAVAT, (in Russ.).
 22. Isaev A.E., Khatamtaev B.I. Determination of the Hydrophone Phase-Frequency Response by its Amplitude-Frequency Response. Measurement Techniques, 2021, 64, No. 7, p.p. 580–585.
 23. Isaev, A.E., Khatamtaev, B.I. Analytical Representation of the Complex Frequency Response of a Hydrophone. Measurement Techniques, 2021, 64, No 8, pp. 622–627.
 24. Isaev A.E. Calibration of an underwater sound receiving device with a large ratio of the longitudinal size to the transverse one. Almanac of Modern Metrology. 2021, No. 2 (26), pp. 104–114, (in Russ.).
 25. Enyakov, A. M. Application of Sound-Conducting Polymeric Pellicle for Hydrophone Calibration by Means of Optical Interferometry / A. M. Enyakov, S. I. Kuznetsov, G. S. Lukin // Measurement Techniques. – 2021. – Vol. 64, No. 5. – P. 414-419. – DOI 10.1007/s11018-021-01947-9. – EDN XHLDRP.
 26. Kuznetsov, S. I. Measurement Uncertainty of Ultrasound Beam Power Using the Reference Measuring Device EIMU-3 / S. I. Kuznetsov // Metrology in the XXI Century: Proceedings of the 8th Scientific and Practical Conference of Young Scientists, Postgraduates and Specialists, Mendeleevo, February 6, 2020. – Mendeleevo: Federal State Unitary Enterprise “All-Russian Research Institute of Physical, Technical and Radio Engineering Measurements”, 2021. – P. 204-212. – EDN YVLCPJ, (in Russ.).
 27. Lukin, G. S. Uncertainty Evaluation of Total Ultrasound Power Measurements Using the Reference Ultrasound Power Meter EIMU-4 / G. S. Lukin // Metrology in the XXI Century: Proceedings of the 8th Scientific and Practical Conference of Young Scientists, Postgraduates and Specialists, Mendeleevo, February 6, 2020. – Mendeleevo: Federal State Unitary Enterprise “All-Russian Research Institute of Physical, Technical and Radio Engineering Measurements”, 2021. – P. 213-218. – EDN ADKEHA, (in Russ.).
 28. Isaev A.E., Aivazyan Yu.M., Polikarpov A.M. Problems of research of acoustic properties of materials by methods of near field. Almanac of Modern Metrology. 2020, No. 1 (21), pp. 163-196, (in Russ.).
 29. Enyakov, A. M. Experimental Evaluation of Uncertainty Sources in Total Ultrasound Beam Power Measurements in Water by Gravitational Balancing of Radiation Force / A. M. Enyakov, S. I. Kuznetsov, G. S. Lukin // Applied Technologies of Hydroacoustics and Hydrophysics: Proceedings of the 15th All-Russian Conference, Saint Petersburg, September 21–25, 2020. – Saint Petersburg: B.i., 2020. – P. 451-454. – EDN NAATXX, (in Russ.).
 30. Enyakov, A. M. State Primary Standard of Ultrasound Power Unit in Water GET 169-2019 / A. M. Enyakov, S. I. Kuznetsov, G. S. Lukin // Measurement Techniques. – 2020. – Vol. 63, No. 3. – P. 151-157. – DOI 10.1007/s11018-020-01765-5. – EDN KKNZJU.