

ON THE JUBILEE OF THE INSTITUTE

February 18, 2010, is the 55th anniversary of the Federal State Unitary Enterprise – All-Russia Research Institute of Physicotechnical and Radio Engineering Measurements (VNIIFTRI). It was created because of the need to ensure unity of measurements and because of the rapid development in the postwar years of such branches of science and technology as electronics, nuclear power, space exploration, low temperature physics and technology, materials science, etc.

The leading figures of science in this country played an important role in the establishment and development of the institute, and in choosing its configuration and major tasks: Academicians of the Soviet Academy of Sciences P. L. Kapitsa, A. N. Krylov, and A. A. Baikov, Corresponding Members of the Soviet Academy of Sciences B. M. Vul and M. A. Shatelen, and Professor M. F. Malikov.

At various times, prominent soviet scientists have worked at the institute, including S. A. Khristianovich, A. S. Borovik-Romanov, P. G. Strelkov, M. K. Zhokhovskii, M. P. Orlova, V. V. Sokolovskii, B. M. Isaev, L. M. Nemenov, B. I. Zaslavskii, L. M. Pyatigorskii, and P. N. Agaletskii, among others.

At present, VNIIFTRI is the leading national metrological institute of Russia. Since 1994 it has had the status of a State Scientific Center. A large staff of physicist metrologists and specialists with a high scientific potential work at the institute. It has a unique base of standards and testing equipment. It can thus undertake basic and applied research at a high level and ensure the unity of measurements in such areas as: time, frequency, and wavelength measurements and determinations of the parameters of the earth's rotation; measurement of electronic and magnetic quantities; acoustic and hydrophysical measurements; measuring the parameters of ionizing radiation; low temperatures; electrochemical measurements and measurements of the parameters of aerosols, hardness of materials, and high pressures; and measurements in acousto-optics, acoustoelectronics, and other high technology areas.

At the institute, work is under way on the development of new measurement techniques, and on the creation and improvement of state primary, secondary, and working standards, high precision instrumentation, measurement systems, and control and automation equipment.

The standards base of the Institute includes 38 state primary standards (a third of the primary standards of the Russian Federation), 19 secondary standards, 23 high precision apparatus, and more than 120 working standards of various classes, test, and measurement systems. The test instrument base includes a set of stands for studying, testing, and measuring the physical fields of ships under laboratory, field, and proving ground conditions to provide for the unity of hydroacoustic measurements, the analysis and processing of noise emission data, and a special marine proving ground at the White Sea.

VNIIFTRI is the main metrological center in the state service for measurements of time, frequency, and the earth's position. It participates in the Global Navigation System federal program as the head organization in the standards organization Rostekhnregulirovanie and is involved in the federal programs Development of the Nanoindustry Infrastructure of Russia in 2008–2010 and Ensuring Nuclear and Radiological Safety in 2008–2015.

Future work at VNIIFTRI involves improvements in the standards base for the most important and large scale metrological tasks for completion of federal programs, as well as work on basic research. Expanded work is planned on ensuring the unity of measurements in such areas as environmental monitoring and measuring the characteristics of biotechnical products and media, and on the creation and distribution of high precision measurement devices and techniques for minerals prospecting, leak detection in gas mains, accident prevention in nuclear reactors, and other applied problems.

We bring to the attention of our readers the beginning of a collection of jubilee articles by leading specialists from VNIIFTRI that reflect the major areas of activity of the Institute.

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