

OBITUARY

PACS numbers: 01.60 + q

DOI: 10.1070/QE2011v041n10ABEH014756

Valentin Georgievich Dmitriev



After a short, severe illness, Valentin Georgievich Dmitriev, professor, prominent Russian scientist and developer of new technology, Deputy Director of the M.F. Stel'makh 'Polyus' Research and Development Institute, passed away on 15 September 2011.

After graduating from the Department of Physics (1960) and post graduate studies at M.V. Lomonosov Moscow State University (1963), V.G. Dmitriev defended one of the world's first Ph.D. (and surely the first in the USSR) theses on nonlinear optical frequency conversion under the supervision of R.V. Khokhlov and S.A. Akhmanov. Together with R.V. Khokhlov and S.A. Akhmanov, Valentin Georgievich was at the forefront of nonlinear optics, and his whole life is associated with fundamental and applied research in this area. He developed the theory of frequency conversion for a variety of regimes (both extra- and intracavity) in homogeneous and inhomogeneous media, and taking into account the thermal self-action he solved the problem of frequency conversion upon generation of harmonics, sum frequencies and parametric generation, frequency conversion in crystals with a regular domain structure, frequency conversion in the regimes that are critical and noncritical with respect to the angles, wavelength and temperature. After post-graduate studies, he was assigned to the newly established 'Polyus' Research and Development Institute, where he worked for 48 years.

Under his leadership and direct participation, the world's first full-scale tests of the underwater laser-imaging system were held, fundamentally new laser series – with the frequency conversion in optical harmonics (LTI and PTI-PC series) – were developed. Valentin Georgievich was a member of the pioneering studies on the ASRS spectroscopy ('Polyus' Research and Development Institute together with M.V. Lomonosov Moscow State University), a developer of parametric and Raman

oscillators, a leader of priority research in other fields of laser physics and technology.

In 1983, Valentin G. Dmitriev was appointed a supervisor of works on laser gyroscopes, initiated at the 'Polyus'. For a long time, Valentin Georgievich was the chief designer of frequency conversion laser devices at the Ministry of Electronic Industry of the USSR, as well as the deputy chairman of the section of nonlinear optics of the Interagency Council on Quantum Electronics of the USSR, the member of the expert committee at the Ministry of Electronic Industry of the USSR.

Valentin Georgievich was a gifted teacher. Since 1969 he lectured at the chair of quantum electronics at the Moscow Institute of Physics and Technology and consistently supervised research works of graduate and post-graduate students at post-graduate schools of the Moscow Institute of Physics and Technology and 'Polyus'. He trained 30 candidates of science in quantum electronics, laser physics and nonlinear optics, including laser gyroscopes.

Over the years, Valentin Georgievich actively participated in scientific and organisational activities. He was a member of the Scientific Council of the Russian Academy of Sciences on laser physics and optics, a member of the Laser Association, a member of the editorial board of 'Quantum Electronics', an expert of the Russian Foundation for Basic Research, a member of the Expert Council on electronics and communications at the Higher Attestation Commission of the Russian Federation, a chairman of the Dissertation Council at the 'Polyus' in the field of 'Quantum Electronics' and 'Optical and Optoelectronic Devices and Systems', a member of the Dissertation Council on laser physics at the Department of Physics of the Moscow State University, a member of the Board of national experts of the CIS countries on lasers and laser technologies.

Valentin Georgievich is the author of eight books on quantum electronics and nonlinear optics, which became excellent training aids for many researchers and developers. He published over 200 scientific papers and the author of more than 20 inventions.

For his contribution to the development of national science and technology, V.G. Dmitriev was awarded the Lomonosov Prize (1964), became a USSR State Prize Laureate (1984), was decorated with a 'Badge of Honor' order, was awarded badges 'Honorable Radio Operator of the USSR', 'Honored Worker of Electronic Industry', and the M.V. Keldysh gold medal of the Russian Academy of Sciences.

Talent of Valentin Georgievich was many-sided. In his youth, he graduated from the Gnessin School of Music and for about 50 years played in a string quartet, which received numerous awards at music competitions. He well read poetry, wrote in prose.

Valentin Georgievich was kind, attentive and caring, tactful and endlessly optimistic. He generously shared his knowledge as well as the richness of his soul with others. We pay homage to the memory of this remarkable person whose spirit will remain in our hearts always.

O.N. Krokhin, A.A. Kazakov, G.M. Zverev, Yu.V. Gulyaev, I.B. Kovsh, I.A. Shcherbakov, V.A. Makarov, A.S. Bugaev, N.N. Kudryavtsev, A.A. Fomichev, S.G. Grechin, A.V. Priezhev, A.S. Semenov