admiringly of his work that "he gets the physics." Martin's refined sense of style and his profound understanding of physics and its history were evident in his enthralling, lucid, and enlightening lectures and writings. Those who knew him frequently, and aptly, described him as generous, gracious, and elegant.

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Vladilen Stepanovich Letokhov

Vladilen Stepanovich Letokhov

Vladilen Stepanovich Letokhov, an outstanding scientist in laser physics and laser spectroscopy, died of heart failure on 21 March 2009 in Troitsk near Moscow.

Vladilen—Vladik to his friends and coworkers—was born on 10 November 1939 in the small Siberian town of Taishet, not far from Lake Baikal. After graduating from the Moscow Institute of Physics and Technology (MIPT) in 1963, he attended the P. N. Lebedev Physical Institute of the USSR Academy of Sciences. He did his postgraduate studies under the supervision of Nobel laureate Nicolay Basov.

As a collaborator on Basov's laser-physics studies, Vladilen helped obtain a number of fundamental results: the features of the propagation of laser pulses with nonlinear amplification, including "superluminal" pulse propagation; the discovery of nonresonance feedback in random lasers; the generation of ultrashort pulses in passively mode-locked lasers; and lasers with highly stable frequency. Although Vladilen was a theoretical physicist, he understood well the significance of experiments and carefully analyzed all experimental details, which are often ignored by theoreticians. In 1969 he defended his PhD thesis in the theory of laser pulse generation and amplification, and a year later he received a second doctor of science degree in quantum radiophysics from the Lebedev Physical Institute.

In 1970 Vladilen went to the new Institute of Spectroscopy at the USSR Academy of Sciences in Troitsk. He became the deputy director for research and organized the department of laser spectroscopy, which he headed to his last days. Vladilen was also a faculty member at the MIPT, where he served as a professor of physics from 1972 to his death and as head of the chair of quantum optics from 1986 to 1998.

Vladilen's scientific interests included various areas of laser physics, spectroscopy, chemistry, and biomedicine. His most important contributions, however, were to the field of laser spectroscopy. He was the first to realize selective detection of atoms and molecules by multiphoton resonant ionization, which made it possible to develop methods of ultrasensitive analysis. Vladilen was also among the first to achieve laser spectroscopy with subwave spatial resolution. With his collaborators, he suggested and developed methods of laser control of atomic motion, resulting in creation of atom traps based on gradient forces. His group carried out the first experiments on cooling, collimation, and reflection of atom beams by laser radiation.

With his coworkers, Vladilen made decisive contributions to the development of methods of selective laser chemistry, including isotope-selective multiphoton dissociation (MPD) of molecules by IR laser radiation and vibrationally mediated photochemistry. He developed several effective schemes of laser isotope separation; for example, based on isotope-selective IR MPD, the first commercial plant for laser isotope separation was created in 1998. Vladilen and his coworkers performed groundbreaking experiments in laser mass spectroscopy of organic molecules, and they also developed methods of picosecond and femtosecond nonlinear laser spectroscopy for investigation and control of ultrafast processes in condensed medium. In recent years

Vladilen was engaged in research on nano-optics and laser effects in stellar atmospheres, which he predicted at the beginning of his career.

The results obtained by Vladilen and his coworkers were widely recognized. For his efforts, he was awarded the 1978 Lenin Prize, the 1998 Quantum Electronics Prize of the European Physical Society, the 2001 Rozhdestvensky Prize of the Russian Academy of Sciences, and the 2002 State Prize of the Russian Federation.

Possessed of exceptional organizing and administrative abilities, Vladilen not only drew together a remarkable group of like-minded people but also gave them the opportunities to conduct successful scientific studies. He understood perfectly well that science is international, and, under cold war conditions, he made great efforts to organize close and fruitful contacts between Soviet scientists and leading foreign scientists. For many years Vladilen was involved in the publishing of international scientific journals. Among the publications he edited were *Laser Science and Technology* and the *Journal of Nonlinear Optics*. He also served on the editorial boards of the *Journal of Experimental and Theoretical Physics*, *Chemical Physics Letters*, *Applied Physics B*, and others. He was an author on more than 850 research papers, including 15 monographs.

Vladilen was a self-made man who, beginning in his school years, persistently used every possibility to broaden his educational and cultural knowledge. Although he was devoted to science and gave it considerable time, he also was deeply interested in literature, music, art, and history. He was an exceptionally interesting conversationalist and a man of great erudition.

Because of his involvement in the life of Troitsk, Vladilen was made an honorary citizen of the town in 2002. He also provided assistance for the various needs of the residents of the village of Puchkovo, where he lived, and contributed greatly to the restoration of a local orthodox church.

We who admired Vladilen's wonderful talents as an investigator, inventor, and teacher will keep cherished memories of him in our hearts.

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