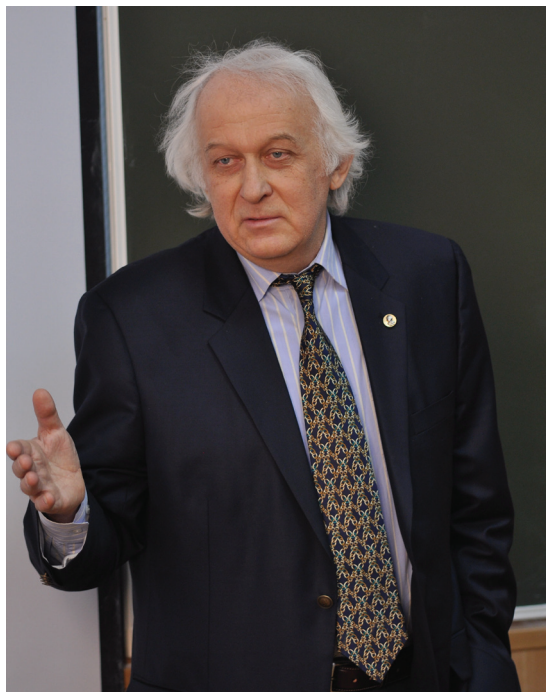


In memory of Tasoltan Tazretovich Basiev



The A.M. Prokhorov General Physics Institute (GPI) has to inform you with deep sorrow that Tasoltan Tazretovich Basiev, an outstanding scientist, deputy director of the Laser Materials and Technology Research Center, corresponding member of the Russian Academy of Sciences, passed away on 26 February at the age of 64.

Basiev was born in Moscow on 23 September 1947. After graduating with honours from the Moscow Power Engineering Institute, he started his career at the Single Crystals Department, Physics Institute, USSR Academy of Sciences. For his active participation in cutting edge research in the laser spectroscopy of solids and the physics of laser crystals, he was awarded the 1976 Lenin Komsomol Prize.

In 1977, Basiev defended his candidate dissertation: Electron Energy Transfer between Rare-Earth Ions in Laser Hosts. In 1984, he defended his brilliant doctoral dissertation: Selective Laser Spectroscopy of Activated Crystals and Glasses.

Basiev played a key role in the development of the technology and investigation of fluoride crystals with colour centres for tunable lasers. Studies and design work performed under his guidance culminated in the unrivalled Tera-Pico-Scan LiF bench-top laser system, with an output power of 0.2 TW, pulse duration of 0.5–1 ns, and a wide tuning range (1.1–1.3 μm), which took advantage of crystals with colour centres, and the MALSAN laser spectrometer.

He made an immense contribution to the development of approaches to the search for and evaluation of the potential of third-order nonlinear crystals for Raman lasers, which made it possible to identify the most promising SRS-active crystals: barium, lead, and strontium tungstates and molybdates, including rare-earth-doped crystals. The new SRS-active, high-gain materials were used to develop highly efficient compact lasers with the possibility of self-SRS, which were superior in parameters to their world's best analogues and allowed one to extend the lasing range of neodymium lasers and create high-peak-intensity, ultracompact, efficient lasers.

Basiev participated in the development of physicochemical methods of the search for near- and mid-IR (1–6 μm) laser materials. In close cooperation with Kuban State University and the Institute of Single Crystals, National Academy of Sciences of Ukraine, he investigated and optimised ZnSe crystals and ZnMgSe solid solutions activated with divalent chromium and iron ions and proposed and patented new crystals of dysprosium-activated lead thiogallate crystals for new, efficient lasers in the poorly explored mid-IR (2–6 μm) range.

Through the initiative of Basiev, the GPI began to develop the technology of laser ceramics, which made it possible to create unique fluoride ceramic laser materials. His guidance and direct participation resulted in the first, pilot-scale synthesis of optical fluoride nanoceramics based on rare-earth-doped calcium, strontium, and barium fluorides for the near- and mid-IR spectral regions.

Basiev was a member of the Russian and Moscow Optical Societies, the European Optical Society, and the Optical Society of America (OSA); member of the A.M. Prokhorov Academy of Engineering Sciences; OSA Fellows and Honorary Committee member; editor of the Optical Materials journal; and a member of the editorial board of Kvantovaya Elektronika (Quantum Electronics). He was the author or coauthor of more than 400 scientific publications and holder of about 30 patents. Basiev made a large contribution to the promotion and popularisation of Russian science's accomplishments.

For his outstanding scientific achievements, Basiev was elected a corresponding member of the Russian Academy of Sciences.

All who knew him have lost not only a scientist who made an invaluable contribution to the development of Russian laser physics and technology but also a personality with a large heart and inexhaustible optimism, a kind and responsive teacher for a constellation of his pupils.

Tasoltan Tazretovich Basiev will always be remembered in the hearts of his relatives, friends, colleagues – all who knew this remarkable person.

O.N. Krokhin, V.V. Osiko, I.A. Shcherbakov