

Vladislav Borisovich Timofeev (on his seventieth birthday)

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Full Member of the Russian Academy of Sciences Vladislav Borisovich Timofeev had his 70th anniversary on September 22, 2006. Timofeev is an outstanding physics experimentalist, Chairman of the Scientific Council on Physics of Semiconductors of the Russian Academy of Sciences (RAS), member of the Presidium of the RAS Scientific Center in Chernogolovka, winner of the USSR State Prize for 1988, member of the International Commission on Physics of Semiconductors of the IUPAP, and an expert in solid state physics and semiconductor spectroscopy.

Timofeev graduated from the Department of Physics of Kiev State University and after his postgraduate course transferred in 1963 to the Department of Physics of Chernovtsy State University where he organized research in the optical properties of semiconductors and submitted and defended his thesis for Candidate of Physicomathematical Sciences in 1964.

At that time, the Institute of Solid State Physics (ISSP) of the USSR Academy of Sciences was being organized at Chernogolovka near Moscow; young scientists from all over the USSR, after a very careful screening, were invited to transfer and work there. In this way the organizers of ISSP gathered a diverse team of highly skilled researchers which facilitated the formation of an extremely creative, self-enriching, and benevolent atmosphere. Timofeev was among the invited candidates. He became a member of the ISSP staff in 1966 and immediately dove into research with his typical optimism and active attitude in life.

Timofeev's span of interests is exceptionally wide; one of the consequences of this is that he sharply changes the direction of his research every 7–8 years, and each time he climbs to the frontline of global research in the field he has chosen. Despite intense competition, he achieves success very fast by coming up with original, sometimes completely unexpected, experimental techniques.

Timofeev built the foundation of the thermodynamics of nonequilibrium electron–hole systems in semiconductors, discovered exciton molecules, and experimentally created a new quantum object — spin-oriented exciton gas. He developed a new avenue of research, employing optical properties of low-dimensional semiconductor systems. He implemented a spectroscopic method of measuring Coulomb gaps in the fractional quantum Hall effect mode and discovered the Wigner crystallization of two-dimensional electrons. Timofeev's work created the basis for a new field of research: magnetooptics in low-dimensional electron systems in the extreme quantum limit. In recent years he successfully studied strongly correlated electron and exciton systems and discovered large-scale coherence of the Bose condensate of spatially nondirect excitons.



Vladislav Borisovich Timofeev

Timofeev enjoys very good reputation in the world scientific community. He sits on a number of Russian and international expert councils, takes part in expert evaluation of new scientific projects and results of research projects, works on program committees of scientific conferences, etc.

The laboratory of nonequilibrium electron processes that he created more than thirty years ago continues to work in close contact with leading world research centers. Since the laboratory opened, twenty Candidate of Sciences and seven DSc theses have been defended, with one of these graduate students becoming an RAS Corresponding Member.

The influence that Timofeev has on the young members of the ISSP team, students, and postgraduates is impossible to overestimate. The young cannot but feel sincere respect for him when they see how he, the much-honored Academician involved in numerous problems outside the Institute, spends many a long evening with nuts and bolts in the laboratory, and when they observe the enthusiasm that he puts into his research.

For many years now Timofeev has read lectures to students of the Moscow Institute of Physics and Technology (MFTI) and of M V Lomonosov Moscow State University (MGU), getting young people to participate in research in the

laboratory and supervising their degree projects and work on Candidate's theses. It is no surprise that he heads one of the Russian leading scientific schools of solid state physics, which is proud of first-class results and which is known to the scientific community for its rich armory of methodical approaches that allow its researchers to solve any one of the problems they encounter. This is the factor that generates the inflow of young people: they see that work at the laboratory guarantees that their qualifications will be of the top level and that they will take part in the hottest fields. On the other hand, the incorporation of the young is the key to the viability of the laboratory and to its dynamic research in the future.

Timofeev's uniquely vigorous research style, his enthusiasm, and his relentless drive toward the selected goal are reasons for our confidence that he is on the brink of wonderful new discoveries!

Vladislav Borisovich Timofeev's numerous friends, colleagues, and students warmly salute him on this jubilee and wish him happiness, health and wellbeing, and new achievements that will benefit Russian science.

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