ON THE 90TH ANNIVERSARY OF LEV MIKHAILOVICH KOVRIZHNYKH (1931-2021) [[1]](#endnote-1)\*)

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On July 5, 2021, Doctor of Physical and Mathematical Sciences, Professor LEV MIKHAILOVICH KOVRIZHNYKH, died at the age of 90. L.M. Kovrizhnykh was born on September 12, 1931.

In 1955, after graduating from Lomonosov Moscow State University L.M. Kovrizhnykh went to work at the Lebedev Physical Institute of the Academy of Sciences of the USSR (FIAN), to the laboratory of accelerators, which was headed by academician V.I. Veksler, and became involved in the development of the theory of new accelerators. For 4 years of work, he completed a cycle of research, and in 1959 he defended his Ph.D. thesis. After that he switched to the study of plasma physics, and in 1967 he defended his doctoral dissertation on the statistical theory of the interaction of waves in plasma. In 1970-1976 as part of a team Kovrizhnyh L.M. made a significant contribution to the development of the theory of the interaction of powerful electromagnetic waves with inhomogeneous plasma and the acceleration of charged particles in an enhanced field in the region of plasma resonance. At the same time, Lev Mikhailovich's interests rushed towards the physics of high-temperature plasma and its confinement in closed magnetic configurations, primarily in stellarators. Researches on high temperature plasma confinement was carried out under the direction of L.M. Kovrizhnykh at first in the plasma physics sector of the Lebedev Physical Institute, and since 1983 in the laboratory of the Institute of General Physics of the Academy of Sciences USSR (now GPI RAS), which was formed in 1982. He carried out pioneering work on the stability of the structure of helical magnetic fields, taking into account the pressure of the confined plasma and the compensation of resonant disturbances in toroidal magnetic traps. These studies have led to the development of a new concept for constructing stellarator magnetic configurations, and are now being used in many of the world's leading laboratories that operate modern stellarators.

L.M. Kovrizhnykh was one of the creators of the neoclassical theory of the transfer of charged particles and plasma energy in toroidal magnetic systems. For the cycle of works "Theory of thermonuclear toroidal plasma", performed in 1959-1980 as a member of a team of scientists, he was awarded the Lenin Prize in 1984.

For many years he headed the Scientific Council on Plasma Physics of the Russian Academy of Sciences. The Zvenigorod Conference on Plasma Physics and Fusion, which has been held since 1973 and has now become international, was an important forum for L.M. Kovrizhnykh. Since 1982, Lev Mikhailovich headed the Program Committee of this conference and remained co-chairman of this forum of scientists working in plasma physics until 2020.

Scientific and organizational works of L.M. Kovrizhnykh received public recognition - for a great contribution to the development of international relations in the field of plasma physics and fusion in 2002 L.M. Kovrizhnykh was awarded the Russian Order of Friendship.

Since 1975, Lev Mikhailovich worked as a member of the editorial board of the journal Plasma Physics Reports, as an author he published original articles and reviews on the state of research in the field of plasma physics and plasma technologies in Russia. He was an excellent lecturer, an intelligent interlocutor, capable of simply explaining a complex physical problem, thanks to which Lev Mikhailovich attracted young specialists to plasma physics.

The community of scientists working in the field of plasma physics highly appreciates the contribution of Lev Mikhailovich Kovrizhnykh to science, and will remember him as a direct and benevolent person in communication with colleagues and friends.

1. \*) [abstracts of this report in Russian](http://www.fpl.gpi.ru/Zvenigorod/XLIX/R/ru/JC-Ivanov.docx) [↑](#endnote-ref-1)