

Obituary for Yakov S. Lebedev

Professor Yakov Sergeevich Lebedev, Head of the Department of Kinetics and Catalysis of the Semenov Institute of Chemical Physics of the Russian Academy of Sciences, died on September 25, 1996. The pain of this tragic loss is hardly bearable. We have lost our dear colleague, a conscientious member of the Editorial Board of the journal "Applied Magnetic Resonance", and a great scientist whose goodwill attracted to him everybody.

Yakov Sergeevich Lebedev was born on April 22, 1935. He graduated from the Moscow Institute of Physics and Technology from where he obtained his M.S. in Physics in 1959. He was awarded a PhD in Chemistry in 1962 by the Novosibirsk Institute of Chemical Kinetics and Combustion of the Siberian Branch of the Russian Academy of Sciences. He was awarded a DSc in Chemistry in 1969 by the Semenov Institute of Chemical Physics in Moscow.

In 1959 he started his research as a research associate under guidance of the academician V. V. Voevodskii, and in 1966 Yakov Sergeevich became the head of the Laboratory of Chemical Radiospectroscopy, later on named after V. V. Voevodskii. At the same time he worked as an Assistant Professor at the Moscow Institute of Physics and Technology, and since 1974 as a Full Professor of this institution. Since 1989 Professor Lebedev worked as the head of the Department of Kinetics and Catalysis of the Semenov Institute.

Scientific research of Professor Lebedev was mainly concerned with two fields – elementary chemical processes in condensed matter and new methods of the EPR spectroscopy. His works in the field of stepwise (polychronous) kinetics of reactions in solid state are well known. Now his theoretical approach is an important constituent of the basic concepts used in the solid state chemical physics.

His results on studying radical pairs and "cage" effect in condensed matter including the first experimental proof of the tunneling mechanism of hydrogen transfer in substitution reactions at low temperatures attracted much attention. He had developed methods of interpretation of complicated EPR spectra in solid state and in inhomogeneous systems which are widely used.

In the seventies Professor Lebedev started the development of the theoretical background of the principles of new methods of the EPR spectroscopy: EPR spectroscopy in the high magnetic fields, EPR tomography, Fourier EPR spectroscopy. Experimental devices created under his guidance did not have analogs

up to the middle eighties. The theoretical principles of high resolution EPR spectroscopy developed by Professor Lebedev enabled one to enter the qualitatively higher level of the EPR spectroscopy and to obtain unique scientific results in radiation chemistry, photochemistry, and biophysics. At present they are effectively used all over the world to solve the problems of physics, chemistry and biology.

In 1988 Professor Lebedev was awarded the State Prize of the USSR in science and technique for the development of new methods of high resolution EPR spectroscopy. In 1994 he was honored with Russian Federal Scholarship for Outstanding Scientists. In 1994 Yakov Sergeevich was awarded the international Zavoisky Award for the outstanding contributions to the development of electron paramagnetic resonance, and, in particular, to high field EPR spectroscopy.

In 1970–1987 Professor Lebedev was the head of the USSR Academy Commission on Radiospectroscopy, in 1969–1989 he was the member of the USSR Academy Scientific Council on Molecular Structures and Kinetics. Since 1990 he was the member of the Directorial Council of the International EPR(ESR) Society.

Professor Lebedev was the member of the Editorial Boards of the journals “Russian Journal of Structural Chemistry”, “Russian Journal of Physical Chemistry”, and “Applied Magnetic Resonance”. It should be emphasized that his enthusiastic support of AMR starting from the first idea of its creation was a most valuable contribution to the development of “Applied Magnetic Resonance”.

He published 3 monographs and 2 textbooks, and over 320 papers in the scientific journals.

Yakov Sergeevich was a man of a rare goodwill and everybody who knew him was really charmed by his personality.

On behalf of the Editorial and the Advisory Boards of the journal “Applied Magnetic Resonance” I express deep regret and compassion to the family of the late Professor Lebedev. We will miss our dear friend and colleague and keep him in our hearts.

Kev M. Salikhov

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