
IN MEMORY OF MIKHAIL PETROVICH REKALO

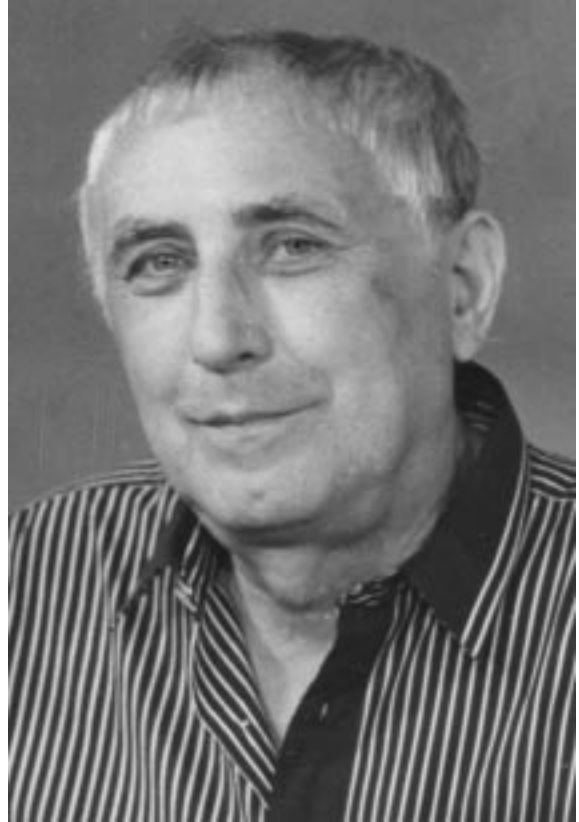
Mikhail Petrovich Rekalov, a prominent theoretical physicist, leading scientific researcher at O.I. Akhiezer Institute for Theoretical Physics of the National Science Center “KIPT”, Doctor of physical and mathematical sciences, Professor, died on August 27, 2004.

M.P. Rekalov was born on July 11, 1938 at a town of Kostantinivka, the Donetsk region. In 1960 after graduating from the Kharkiv State University, he started his intensive scientific activity in the Department of Theoretical Physics headed by O.I. Akhiezer at the Kharkiv Institute of Physics and Technology (KIPT) (now the Ukrainian Institute of Physics and Technology).

M.P. Rekalov defended his Candidate’s thesis under the guidance of O.I. Akhiezer in 1964 and received his second degree (Doctor of Sci.) on theoretical physics in 1968.

M.P. Rekalov was the author of more than 300 scientific works on the physics of elementary particles. In his first scientific studies, he investigated the diffraction scattering of strongly interacting particles (hadrons) at high energies and various applications of the quark model of elementary particles. His article “Polarization phenomena at electron scattering by protons” (O.I. Akhiezer and M.P. Rekalov, *Sov. Phys. — Doklady, AN USSR*, 1968) was of large significance. For the first time, it was shown in it that all the information necessary for the efficient separation of proton and neutron electromagnetic form factors can be obtained from experiments on the scattering of polarized electrons by polarized target nucleons (the measurement of asymmetry) or from the measurements of the polarization of nucleons scattered by polarized electrons. This work is widely quoted up till now in papers concerning the measurements of the proton and neutron form factors at large momenta transferred in polarization experiments. M.P. Rekalov proposed also a method for the measurement of nucleon electromagnetic form factors in the region of time-like momenta transferred.

A series of works of M.P. Rekalov was devoted to the photo- and electroproduction of particles containing b - and c -quarks on nucleons. He advanced a theory of vector meson production in the nucleon-nucleon scattering. A relativistic theory of polarization



effects in the disintegration of deuterons by high-energy electrons was also developed by him. Within this theory, an effective method of measurement of a neutron charge form factor was proposed.

M.P. Rekalov conducted the theoretical investigations of various tau-lepton decays; he studied the manifestations of weak currents of the second kind in a number of processes.

M.P. Rekalov actively participated in the international scientific cooperation, carrying out common researches with physicists from JINR, Dubna (Russia), Saclay (France), CEBAF (USA), etc.

Being a prodigious scientist, M.P. Rekalov was an outstanding teacher. For more than 25 years, he lectured as Professor at the Physical and Technical Faculty of the Kharkiv State University. M.P. Rekalov trained 15 disciples, Candidates of sciences.

M.P. Rekaló wrote the monographs: “Electrodynamics of Hadrons”, Kyiv, Naukova Dumka, 1977 (with O.I. Akhiezer) and “Neutral Weak Currents”, Kyiv, Naukova Dumka, 1988, as well as popular scientific books (with O.I. Akhiezer): “The Biography of Elementary Particles”, Kyiv, Naukova Dumka, 1979, (1983, 2-nd Edition,) and “Elementary Particles”, Moscow, Nauka, 1986.

Mikhail Petrovich Rekaló is remembered by his disciples and colleagues both as a talented physicist and

a person who sincerely loved science and dedicated his life to it.

*I.M. Neklyudov, V.G. Bar'yakhtar, V.M. Azhazha,
V.F. Zelensky, S.V. Peletminsky, V.V. Slezov,
K.M. Stepanov, M.F. Shul'ga, Ya.B. Fainberg,
P.I. Fomin, O.M. Egorov, I.M. Karnaukhov,
A.M. Dolbnya, V.I. Lapshin, O.V. Volobuev,
O.S. Bakai, Yu.L. Bolotin, Yu.V. Slyusarenko*