To the 80th birthday of Professor V. A. Yampol'skii

On June 14, 2026, the distinguished theoretical physicist, Doctor of Physical and Mathematical Sciences, Professor, and Corresponding Member of the National Academy of Sciences of Ukraine, V. A. Yampol'skii, celebrates his 80th birthday.

Valeriy Aleksandrovich Yampol'skii was born in 1946 in Kharkiv, where he completed secondary school ahead of schedule, receiving an excellent education by the standards of that time. In 1962, he enrolled in the Faculty of Physics at V. N. Karazin Kharkiv National University. At that time, lectures at the faculty were delivered by prominent theoretical physicists belonging to L. D. Landau's Kharkiv school, including I. M. Lifshitz, M. I. Kaganov, E. A. Kaner, and A. M. Kosevich, as well as mathematicians G. Yu. Lyubarsky and Yu. I. Lyubich. His direct academic advisors, whom he considers his teachers, were I. M. Lifshitz's former graduate students at different times: A. M. Ermolaev, M. I. Kaganov, and E. A. Kaner. Thus, V. A. Yampol'skii can rightfully be regarded as a representative of L. D. Landau's Kharkiv school of theoretical physics.

V. A. Yampol'skii graduated from the university under the supervision of Vladimir Petrovich Galaiko. After graduation (1968–1969), he worked as a junior researcher at the Donetsk Institute for Physics and Engineering of the Academy of Sciences of the Ukrainian SSR, in the Department of Theoretical Physics headed by K. B. Tolpygo, where he studied the hydrodynamics of superfluid helium under the supervision of Moisey Isaakovich Kaganov. Since 1969, he has been working at the A. Ya. Usikov Institute for Radiophysics and Electronics, where he has held the positions of graduate student, junior researcher, senior researcher, leading researcher, head of department, and chief research scientist. From his doctoral advisor, E. A. Kaner, V. A. Yampol'skii adopted a deep and comprehensive approach to research, a drive to explore new directions, and a flawless command of mathematical methods.

In 1978, V. A. Yampol'skii defended his Ph.D. thesis titled "On the Theory of High-Frequency Phenomena in Metals in Normal and Superconducting States" under the supervision of Professor E. A. Kaner. In 1988, he defended his Doctor

of Sciences dissertation titled "Nonlinear Electrodynamic Phenomena in Metals," devoted to the nonlinear electrodynamic properties of pure metals at low temperature.

Among his most significant contributions are the development of a theory of current states in pure metals at low temperature; the prediction of the collapse of transport current and magnetic moment in hard superconductors under a transverse alternating magnetic field; the development of a theory of macroturbulence in hard superconductors; the prediction of surface electromagnetic waves in layered superconductors and of the phenomenon of light stopping in such systems; the prediction of quantum oscillations of the density of states in graphene induced by an external electric field; the prediction of an anomalous temperature dependence of the Casimir force in thin metallic films; and the identification of manifestations of the Aharonov–Bohm effect in the interaction of moving charges with their own waves in semiconductor nanotubes with dielectric filling.

Scientific results of V. A. Yampol'skii have been published in more than 220 articles, 6 review papers, and 11 chapters in collective monographs.

For his scientific achievements, he was awarded the academic title of Professor in 2003, elected a Corresponding Member of the National Academy of Sciences of Ukraine (Department of Physics and Astronomy) in 2009, and received the State Prize of Ukraine in Science and Technology in 2013. He has also been awarded medals of the NAS of Ukraine "For Training the Next Generation of Scientists" and "In Honor of the 100th Anniversary of the National Academy of Sciences of Ukraine", as well as the Honorary Diploma of the Verkhovna Rada of Ukraine "For Special Merit to the Ukrainian People".

Valeriy Aleksandrovich Yampol'skii is actively engaged in scientific, organizational, and teaching activities. He is a member of the editorial boards of the journals Radiophysics and Electronics, Low Temperature Physics, and Kharkiv University Bulletin. Physics, to which he has made significant contributions.

For many years, he taught the general course in quantum mechanics as a professor at the Department of Theoretical Physics named after I. M. Lifshitz at the Faculty of Physics of V. N. Karazin Kharkiv National University. He also taught a general physics course at Kharkiv National Economic University and delivered lectures on linear and nonlinear electrodynamics of metals and superconductors to graduate students at the A. Ya. Usikov Institute for Radiophysics and Electronics. V. A. Yampol'skii supervised diploma theses of 23 students and 10 graduate students; under his supervision, 10 Ph.D. and 3 Doctor of Sciences dissertations were successfully completed.

Friends and colleagues dedicate the articles presented in this special issue to the jubilee of Valeriy Aleksandrovich Yampol'skii and warmly congratulate him on his 80th birthday, wishing him good health, tireless energy, and continued success in science.

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