

---

## V'YACHESLAV MYKOLAYOVYCH STARKOV (to the 70th anniversary of his birthday)

---



V.M. Starkov was born in the Saratov region of Russia on April 22, 1941. In 1958, he graduated from a high school with a silver medal. In 1958–1964, he was a student of the S.P. Korolev Samara Aerospace University, from which he graduated with honors. There, V.M. Starkov began his scientific career. From 1968 to 1971, he did his PhD studies at the Department of Applied Mathematics of the Institute of Mathematics of NAS of Ukraine in Kyiv. He combined his PhD study with the correspondence courses at the Mechanics and Mathematics Faculty of the St. Petersburg University.

In 1971, he defended his thesis “On the solution of biharmonic problems of two-dimensional theory of elasticity of piecewise homogeneous doubly connected media”. He has been working at the Institute of Physics of the NAS of Ukraine at the Department of Theoretical Physics since 1975.

From the very beginning of his scientific career, V.M. Starkov focused on the study of modern general physical problems by the methods of computational physics. First of all, these are the problems connected with searching for new properties and phenomena in nonlinear optics, dynamic holography, plasma physics, etc.

V.M. Starkov makes the extensive use of a system approach to mathematical and physical interpretations of the results of experimental and theoretical studies. His instruments are linear and nonlinear integral equations and the theories of spline-iterative methods. For the analysis of physical experiments, he widely uses the results of computational experiments. The analysis of some mathematical models of the problems dealing with the physical interpretation of the results of theoretical studies formulated in the form of boundary-value problems for differential equations provided adequate models in the form of integral equations of various types.

In particular, V.M. Starkov used methods of computational physics to conduct for the first time the complex analysis of a nonstationary energy exchange between two laser beams in the media with inertial cubic nonlinearity. He developed mathematical models of multibeam laser interaction in nonlinear optical media that revealed new physical phenomena of bistability in the reversal of the wave front of laser beams in nonlinear electro-optical crystals. Then he proposed new methods of mathematical modeling of the measurement path in laser facilities. He developed spline-iterative methods to solve ill-posed problems of mathematical interpretation of physical experiments. The results of these achievements were summarized in the doctoral thesis “Mathematical models and methods of computational physics in problems of interpretation” (2001).

V.M. Starkov published over 100 scientific works including the monograph “Constructive methods of computational physics in problems of interpretation” (Naukova Dumka, Kyiv, 2002). He also took part in the elimination of consequences of the Chernobyl disaster (August–September 1986). V.M. Starkov is known by his reasonable character, and he widely promotes the system approach in studies of various problems.

*M. Brodyn, P. Tomchuk, V. Krasnoholovets,  
V. Shenderovskiyi, S. Rozhkov, A. Kondrachuk,  
Yu. Sedletsy, I. Gandzha, A. Boyarchuk*