

LETTERS TO PROGRESS IN PHYSICS**Scientific Community of Valentin N. Samoilov****(On the Occasion of His 65th Birthday Anniversary)**

Dmitri Rabounski

E-mail: rabounski@ptep-online.com

In this letter we celebrate the 65th birthday anniversary of Prof. Valentin N. Samoilov, a man of the Soviet scientific ancestry in the nuclear and space research, who is a pupil and follower of the famous Soviet engineer Sergey P. Korolev and the prominent Soviet nuclear physicist Michael G. Mescheryakov.



Prof. Valentin N. Samoilov. The back wall of his cabinet is curtained with photo portrait of Michael G. Mescheryakov.

On behalf of the Editorial Board of *Progress in Physics*, in April 25, 2010, I am pleased to celebrate the 65th birthday anniversary of Professor Valentin Nikolaevich Samoilov, ScD, Director of Scientific Centre of Applied Research, Joint Institute for Nuclear Research (JINR), Dubna, Russia. His more than 45 years of the successful work on science rose from that fact that he started his scientific activity being of a pupil of two famous persons of the Soviet scientific ancestry: Sergey P. Korolev, the engineer and rocket designer who headed the pioneering cosmic flights in the USSR, and Prof. Michail G. Mescheryakov, the nuclear physicist an close co-labour of

Igor V. Kurchatov in the construction and launch of the first cyclotronic accelerator of particles in Leningrad, 1938–1940. According to the testament of his teachers, Prof. Samoilov spends his life in scientific research. He is still full of energy and creative scientific ideas until the present day.

In the row of Prof. Samoilov's scientific achievements, which are many, I would like to emphasize four fundamental discoveries in physics of solids and particles he did in common with Dr. Vahan N. Minasyan (reportas about these were published recently in *Progress in Physics* [4–7]). In these papers, they presented a new and very original approach to investigation of the excitation processes of electromagnetic surface shape resonances in lamellar metallic gratings by light, from the visible to near-infrared scale, based on the surface plasmon–polaritons, where they first argued that the smooth metal–air interface should be regarded as a distinct dielectric medium, the skin of the metal. They predicted the existence of light quasi-particles bearing spin equal to 1, and a finite effective mass $m = 2.5 \times 10^{-5} m_e$ (where m_e is the mass of the electron); these light quasi-particles should excite two type surface polaritons in the nanoholes in metal films. They also found, theoretically, that a transverse electromagnetic field should exist being formed by supersonic longitudinal and transverse waves in solids which acquire the frequency and the speed of sound. According to their theory, the transverse electromagnetic field should propagate along the direction the forming supersonic wave travels. In this context, another very interesting result obtained in the paper [6] should also be noted: there they first proved that the property of the lambda-point of superliquid helium is determined by registering the single neutron modes or neutron pair modes in the neutron-spectrometer.

In addition to his scientific research, Prof. Valentin N. Samoilov is known as a successful organizer of science, and also as a designer of the space flight complexes and their segregate components. He was granted by the honorary title Merit Creator of Cosmical Techniques (2006) and by the international order Tsciolkovski Star (2002). He also was conferred with the order Beneficence, Honor and Glory (2006), Tsiolkovski Medal (2004), and Korolev Medal (2005). Due to his activity in astro-biology research, in 2005 he was elected to the International Academy of Information, Communica-

tion, Control, in Engineering, Nature, and Society (Pasadena, California, USA). Aside for these, during the last 15 years Prof. Samoilov governs numerous common scientific projects on the nuclear safety between JINR and DOE, which include close communications with the US National Laboratories such as BNL, SNL and PNNL. Also, during the last 20 years he governs communications between JINR and European Scientific Nuclear Research Centre in Geneva (CERN), in the framework of the scientific projects LHC, CMS, ATLAS, COMPASS, and CLIC. By governing of him, a joint scientific community is working amongst JINR, Institute of Particle and Nuclear Studies, and High Energy Accelerator Research Organization (Japan). Due to his international activity, connecting research scientists throughout the world, Prof. Samoilov was conferred with Order of People Friendship which was decorated upon him in 2006 by Vladimir V. Putin, President of Russia.

Prof. Valentin N. Samoilov authored two scientific monographs, *Technology Modeling of the Complicated Processes* [1] and *Theoretical Informational Analysis of the Complicated Systems* [2], and co-authored seven other scientific books. During his long term and successful scientific carrier, he also authored about 300 scientific publications, 20 registered inventions certified by patents, and 30 software application [3]. For several of these achievements, he was conferred with A. S. Popov Silver Medal (2006).

The decades of distinguished leadership and mutual cooperation in the field of nuclear material protection control and accountability between Russia and the USA are greatly recognized as his contribution to the global security. In the present time, Prof. Valentin N. Samoilov is still engaged for the nuclear and cosmic safety as an experienced veteran of the atomic industry.

I would like to wish Prof. Samoilov for long life and success in the future.

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