
OBITUARY

In Memory of Vladimir Semyonovich Tsypin (March 19, 1938–July 15, 2007)

PACS numbers: 01.60.+q

DOI: 10.1134/S1063780X08030148



Vladimir Semyonovich Tsypin, a world-class plasma theorist and professor at the University of São Paulo (Brazil), suddenly passed away on July 15, 2007. Vladimir Semyonovich Tsypin was born on March 19, 1938, in Ivanovo region of the Russian Federation. His scientific work began in 1965, when he was a fifth-year student at the Moscow Engineering Physics Institute (MIFI). At that time, a research student vacancy was opened at the Department of Plasma Theory (headed by Academician M.A. Leontovich) of the Kurchatov Institute. Vladimir Semyonovich won an intense competition and took up the position. His scientific activity of that period was more than successful for a student: his work on the high-frequency instability of a perpendicular current in a magnetized inhomogeneous plasma,

published in 1966 in *Pis'ma Zh. Éksp. Teor. Fiz.* (*JETP Letters*), was immediately accepted by the plasma physics community. In particular, experimentalists at the University of Tennessee (United States) and Kharkiv Institute of Physics and Technology (Ukraine) explained the observed anomalous ion heating on the basis of his ideas.

After graduating from MIFI, Vladimir Semyonovich began to work as a plasma physics theoretician at the Sukhumi Physicotechnical Institute (SFTI, Georgia). From 1966 to 1969, he worked on problems of the physics of plasmas in highfrequency fields. In 1969, he was accepted as a postgraduate student at the Plasma Theory Department of the Kurchatov Institute. Here, problems of stability of collisional high-pressure plasmas became his area of research. Having completed an extensive series of studies published in leading scientific journals, he defended in 1972 his PhD thesis and returned back to the SFTI.

For a number of years after, his scientific interests were in the field of rotating plasmas.

The years 1982–1989 can be called a period of informal DSc Habilitation course taken by Vladimir Semyonovich at the Kurchatov Institute. This period was concluded with defense of his DSc thesis entitled “The Effects of Viscosity in the Processes of Transport, Equilibrium, and Stability of Plasmas in Magnetic Confinement Systems.”

In 1993, Vladimir Semyonovich moved to Brazil, where he first became a professor at the University of Rio de Janeiro and then, since 1998, at the University of São Paulo, where his scientific interests were expanded significantly. Among the topics of his publications at that period, there are problems of current drive, dynamics of near-wall plasmas, plasma rotation induced by Alfvén waves, internal transport barriers, transport processes in solar and magnetospheric plasmas, magnetic islands, runaway electrons, effects of radial electric fields, modes related to finite resistivity, physics of dusty plasmas, feedback effects, collective processes in a plasma with highly energetic ions, generation of zonal flows, and magneto-rotational instability.

Vladimir Semyonovich represented Brazil at numerous international conferences. He also took active part in regular Latin-American and Brazilian Workshops on Plasma Physics.

Vladimir Semyonovich not only preserved his old connections with scientists from the Kurchatov Institute, but also established extensive contacts with a large number of scientists from Australia, Georgia, Canada, Mexico, the United States, and Sweden. Thus, he became a coordinator of an informal scientific research group efficiently working on the timeliest problems of modern plasma physics.

As a PhD course supervisor, Vladimir Semyonovich educated a number of students in Brazil. To appreciate his service as a teacher and scientist, Latin-American physicists have established a Professor Vladimir Tsypin

Grant, which is awarded for the best student's work on plasma theory.

Friends, colleagues, and students will remember Vladimir Semyonovich as a bright and talented researcher deeply devoted to science, caring and dedicated teacher, wise advisor, highly responsible person, and warm and kind friend.

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