



Professor Leonid M. Zubov

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Partial Contents of the Article:

Leonid M. Zubov was born in Yarensk, a small town near Archangelsk, in 1943. This region yielded many known Russian scientists, one of whom was Mikhail V. Lomonosov. In 1966, Zubov graduated from the faculty of physics and mechanics of Leningrad Polytechnical Institute (now Saint Petersburg State Polytechnical University), where he was later to defend his Ph.D dissertation. The Polytechnical Institute — Polytech for short — was founded in 1899. Among its founders were D. Mendeleev (developer of the periodic table) and St. P. Timoshenko (the famous Russian mechanicist and pioneer in mechanics in the USA). The Polytech faculty included famous Russian engineers, physicists, and mathematicians such as A.F. Ioffe, A.N. Krylov, S.N. Bernstein, N.N. Semenov, Ya.I. Frenkel, A.A. Fridman, I.V. Mescherski, and E.L. Nikolai. One was Anatoly Isakovich Lurie, Zubov’s thesis advisor, who later became a collaborator. Zubov attended lectures by mechanicists such as L.G. Lojtsyansky and V.K. Prokopov, and by mathematicians such as S.I. Amosov and N.N. Lebedev. Prof. V.A. Palmov taught him how to solve classic mechanical problems. It is interesting to recall that in those days exams were given closed book and closed notes. Before the exam, there was a three- to four-hour consultation during which Prof. Lurie gave a short overview of the course while smoking half a pack of “Kazbek” cigarettes, then took questions. During a course, students not only attended lectures and seminars, but worked in laboratories geared toward physics, electromagnetics, electronics, and of course mechanics. Polytech had good engineering equipment for that purpose. Later, Zubov became a Ph.D. student under Lurie’s direction. He also did important work as an editor of Lurie’s influential book *The Theory of Elasticity*,

published in 1970. Zubov's doctoral studies were presented in his thesis "Bifurcation of Equilibrium of a Nonlinear Elastic Solid" and defended at Polytech in 1970. Also in 1970, Zubov moved to Rostov State University where he continued his work on nonlinear elasticity in the cathedra of elasticity chaired by Prof. Iosif I. Vorovich, a renowned expert in mathematical mechanics. Here Zubov delivered many clear, precise, and deep lectures on continuum mechanics and nonlinear elasticity. They were (and still are) attended by students with great interest and enthusiasm, presenting both standard material and modern results, and sometimes as-yet-unpublished results known only to the lecturer. Working at Rostov State University, Zubov prepared more than 20 Ph.D. students. As some later earned Doctor degrees in mechanics, Zubov became the founder of his own school of nonlinear mechanics — in particular, in nonlinear elasticity and nonlinear shell theory.

In 1986, Zubov defended his doctoral thesis, entitled "Semi-inverse and variational methods in nonlinear elasticity," at Leningrad State University. The opponents in the defence were known mechanicians A. F. Ulitko, K. F. Chernykh, and L. A. Tolokonnikov.

Zubov's research resulted in five books (Zubov, 1982, 1997; Zubov and Karyakin, 2006; Eremeyev and Zubov, 2008, 2009) and over one hundred papers. His main interests centered on three aspects of the nonlinear theory of elasticity: variational principles, the theory of dislocations and disclinations, and shell theory. In each of these, theoretical studies were based on the solution of many interesting and important problems.

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