



The Problem of Stability by Nonlinear Approximation

to the 85th Birthday of Professor V.I. Zubov

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Abstract: In the present paper, Vladimir Zubov's results on the problem of stability by nonlinear approximation are surveyed together with their recent developments and extensions.

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1 Introduction

The outstanding Russian mathematician and mechanical engineer Vladimir Ivanovich Zubov (1930-2000) made an invaluable contribution to the development of Stability Theory and Control Theory.

V. I. Zubov was born on April 14, 1930 in Kashira town, Moscow region, Russia. In 1945 he finished a middle school. At the age of 14, Vladimir was wounded by a hand grenade exploded accidentally and soon failed eyesight. In 1949 he finished the Leningrad special school for blind and visually impaired children and entered the Mathematical and Mechanical Faculty of the Leningrad State University. In 1953, after graduating with honors, he joined the University faculty and since then his career was inseparably associated with the Leningrad (now, Saint Petersburg) State University.

In 1955, V. I. Zubov defended his PhD thesis “Boundaries of the Asymptotic Stability Domain” in which he proved the theorem on the asymptotic stability domain. This result is now known as *Zubov's theorem*.

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