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N. F. GERASYUTA AND HIS SCIENTIFIC AND TECHNICAL SCHOOL (TO 90-TH ANNIVERSARY
OF THE BIRTH)

Abstract

As you know, after creation of atomic weapons in the USSR the problem concerning the means of their delivery to the territory of supposed enemy became very urgent. The USSR placed a stake on rockets, and after successful development of the first ballistic rockets at the Design Office of S. P. Korolev the decision was made on large-scale serial production. As a serial production plant, the operating Dnipropetrovsk Automobile Plant under construction (located in Ukraine) was chosen. In a relatively short term, the Plant was rebuilt for rocket production, and started serial production of rockets 1, 2 and 5 developed by S. P. Korolev. Concurrently with it, young team of the Plant's designers initiated their own development of new rocket using high-temperature components of propellant, and this rocket would have advanced fighting qualities, first of all, with regard to the time of readiness to launch. Such rocket was developed, built, and tested actually for 3-4 years. It is the rocket 12 (863), classical example of the national rocket production. Naturally, the complex task of such rocket development required carrying out of new investigations, creation of theoretical preconditions, and development of calculation practices. This work demanded task-oriented coordination of efforts, scientific insight and practical activity on solving a number of problems – strength, aerodynamics, heat-and-mass transfer and so on. Nevertheless, ballistics and rocket flight dynamics represented one of principal directions of research activity. This direction, in particular, provides for basic fighting qualities of rocket weapons, such as range of flight and shooting accuracy. Nikolay Fedorovich Gerasyuta, Hero of Socialist Labor, Corresponding Member of the Academy of Science of the UkrSSR, Laureate of Lenin Prize and State Prize of the USSR, became the head of this direction in Ukraine. Under his guidance, Ukrainian school of ballisticians and dynamics experts was formed, and this school has made a substantial contribution in creation of unsurpassed examples of rocket engineering in the USSR. More than 100 scientists and highly proficient specialists (including 88 candidates of technical science) received training at scientific school of N. F. Gerasyuta. Students of this school published over 1000 scientific papers, 15 monographs and received about 400 certificates of authorship for pioneer technical solutions.