

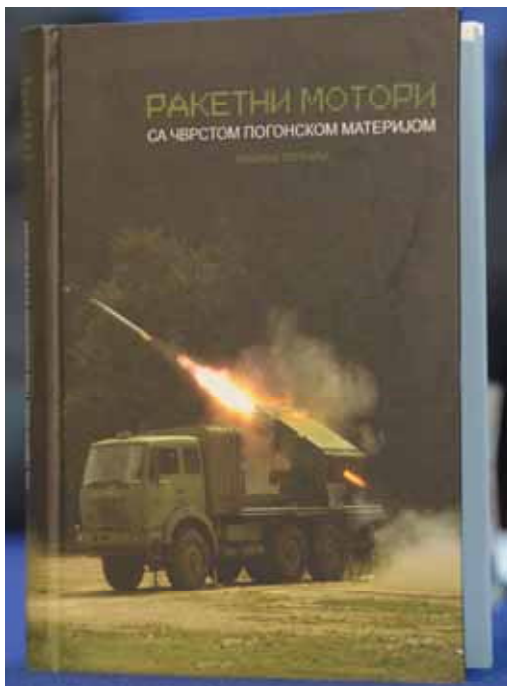
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Solid Propellant Rocket Motors - Selected Topics -

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THE publishing activity in the Military Technical Institute (MTI) has a long history, dating back for more than six decades. It includes print serials, primarily "Scientific Technical Review", the leading journal in the field of armaments, defense technologies and techniques in general, published continuously since 1950. In addition, there are also two other periodic monograph publications related to scientific and technical information and factual data associated with the weapons. So far, a total of 30 thousand pages of highly scientific level texts have been printed.

From time to time, generally related to specific commemorative dates, the MTI publishes special publications. This time, the monograph "Solid Propellant rocket motors - Selected Topics" is published, which coincides with 65 years of successful research and creative work of the Military Technical Institute.



The book is a part of the half-century experience in the development of solid propellant rocket motors designed for weapons systems. In the first part about rocket motor design, the choice of concepts and necessary research is discussed. The transient regimes, ignition and extinction, propellant grain geometry, structural integrity, mechanical characterization, reliability and service life are analysed. The design elements, combustion chamber, nozzle, thermal protection, solid propellants and solid motor test procedures are considered.

The second part presents a design of specific purpose rocket motors and some of the existing solutions. There are certain experiences in the development of artillery and aircraft realized rockets. The methodology of impulse rocket motor design for antitank weapons is defined, as well as the methodology for a rocket motor for the aircraft seat ejection. A separate chapter contains an overview of different types of tests performed with the solid propellant rocket motors.



This monograph is an attempt to leave a record of our extensive experience in decades of research and development of rocket motors for military weapons systems as well as for civilian use.

The scientific research discussed in this monograph has been conducted mainly in the Military Technical Institute, in its Rocket armament sector, Sector for materials, and others. It also describes the major contribution of our defense industry and other institutions, such as Technical faculties at the University of Belgrade, Vinča Institute, Military Academy and others.

The book discusses primarily the class of rocket motors for artillery missile systems, rocket-propelled antitank weapons, antitank guided missiles, air defense missiles and airplane air-to-ground and air-to-air missiles.

The book is written by eight authors, mainly members of the MTI. It includes 11 professional chapters, starting with the design principles of a rocket motor and analyzes its characteristic components, methods of design and testing. Some examples of actual practical solutions are presented. The primary objective of this monograph is to break away from forgetting everything that has been done in this area and has not been published yet.

It could be a good basis to missile technology students, but also to serve the professional community.

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