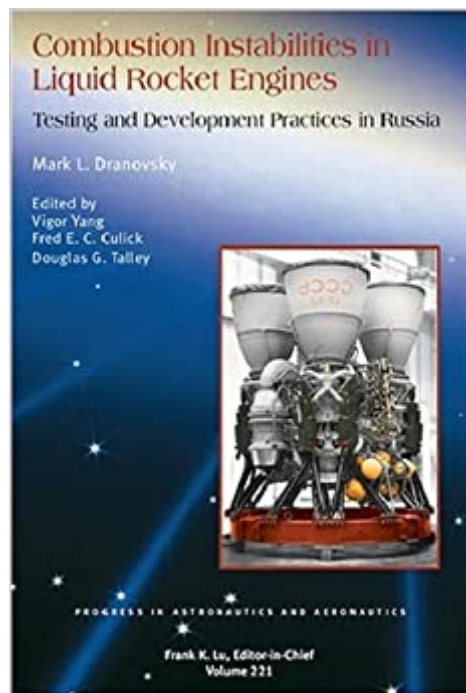




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# Combustion Instabilities In Liquid Rocket Engines: Testing And Development Practices In Russia (Progress In Astronautics & Aeronautics) (Progress In Astronautics And Aeronautics)



## Synopsis

"This is the first book in the literature to cover the development and testing practices for liquid rocket engines in Russia and the former Soviet Union. Combustion instability represents one of the most challenging problems in the development of propulsion engines. A famous example is the F-1 engines for the first stage of the Saturn V launch vehicles in the Apollo project. More than 2000 full engine tests and a vast number of design modifications were conducted to cure the instability problem. This book contains first-hand information about the testing and development practices for treating liquid rocket combustion-instability problems in Russia and the former Soviet Union. It covers more than 50 years of research, with an emphasis placed on the advances made since 1970. The book was prepared by a former R&D director of the Research Institute of Chemical Engineering, NIICHIMMASH, the largest liquid rocket testing center in the world, and has been carefully edited by three well-known experts in the field."

## Book Information

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## Customer Reviews

Mark Dranovsky, Doctor of Technical Sciences, was the head of the Scientific Department of the Research Institute of Chemical Engineering, NIICHIMMASH, the leading institution in the former Soviet Union and Russia in the evaluation and research of liquid rocket combustion instability. Dr. Dranovsky took part in the development of numerous rocket engines with General Designers S.P. Korolev, V.P. Glushko, M.K. Yangel, V.P. Makeev, V.P. Radovsky, A.D. Konopatov, and M.K.

Kuznetsov. Vigor Yang is John L. and Genevieve H. McCain Chair in Engineering at the Pennsylvania State University. He also serves as the Editor-in-Chief of the Journal of Propulsion and Power and is the author/editor of several books on rocket and air-breathing propulsion. Fred Culick is Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering (Retired) at the California Institute of Technology. He is the editor of the book by M.S. Natanzon, Combustion Instability, to be published by the AIAA, which treats Russian theoretical work concerned with the same problems addressed experimentally by the methods discussed in the present volume. Doug Talley is senior research scientist in the Aerophysics Branch of the Air Force Research Laboratory, where he has conducted research in liquid propellant rocket combustion for the past 16 years. He is an associate editor of the Journal of Propulsion and Power and author of numerous articles and papers on liquid propellant rocket injectors and combustion.

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