

## Combustion Programa Manual

Titanium and its alloys are known to undergo self-sustained combustion in aerodynamic environments. Energy in several forms, i.e. radiation, frictional heating, or aerodynamic heating can be sufficient to bring the matter to a condition where self-sustained combustion can occur. The phenomenon has been of interest in the laser effects-vulnerability area, and also in aircraft propulsion systems, where titanium alloys are extensively used.

Federal Information Processing Standards Publication

Bibliography of the Interagency Energy-environment R & D Program

Biomass energy research

Combustion Response Calculations for Composite Solid Propellants. Volume II. User's Manual

Hearings Before a Subcommittee of the Committee on Appropriations, House of Representatives, One Hundred Third Congress, Second Session

*Numerical Prediction of Flow, Heat Transfer, Turbulence and Combustion: Selected Works of Professor D. Brian Spalding focuses on the many contributions of Professor Spalding on thermodynamics. This compilation of his works is done to honor the professor on the occasion of his 60th birthday. Relatively, the works contained in this book are selected to highlight the genius of Professor Spalding in this field of interest. The book presents various research on combustion, heat transfer, turbulence, and flows. His thinking on separated flows paved the way for the multi-dimensional modeling of turbulence. Arguments on the universality of the models of turbulence and the problems that are associated with combustion engineering are clarified. The text notes the importance of combustion science as well as the problems associated with it. Mathematical computations are also presented in determining turbulent flows in different environments, including on curved pipes, curved ducts, and rotating ducts. These calculations are presented to further strengthen the claims of Professor Spalding in this discipline. The book is a great find for those who are interested in studying thermodynamics.*

*Title List of Documents Made Publicly Available*

*ERDA.*

*Synfuels Handbook*

*Numerical Prediction of Flow, Heat Transfer, Turbulence and Combustion*

*Technical Abstract Bulletin*

The present report is part of a two volume set which describes a nonlinear solid rocket motor instability analysis and computer program. This volume of the set describes the computer program and serves as a user's manual.

User's Manual for Rocket Combustor Interactive Design (Roccid) and Analysis Computer Program. Volume 1

Inventory of Federal Energy-related Environment and Safety Research for ...

Monthly Catalog of United States Government Publications

Department of the Interior and Related Agencies Appropriations for 1995

Fiscal Year 1976 Control Technology Research Program Abstracts

*Volume II is a user's manual for computer programs written to perform theoretical analyses described in Volume I. This volume describes the main routines and subroutines used in the analysis of the combustion of composite solid propellants both steady state and nonsteady state. Also, a detailed description of the input parameters required as well as the output generated is presented. Sample cases are provided to*

*facilitate understanding of the programs so described. (Author).*

*Solid Rocket Motor Performance Analysis and Prediction*

*Publications Bibliography 1971-1975 Environmental Research Center*

*Combustion Modelling Program User's Guide and Operating Manual*

*Construction Safety and Loss Control Program Manual*

*Highway Safety Literature*

The user's manual for the rocket combustor interactive design (ROCCID) computer program is presented. The program, written in Fortran 77, provides a standardized methodology using state of the art codes and procedures for the analysis of a liquid rocket engine combustor's steady state combustion performance and combustion stability. The ROCCID is currently capable of analyzing mixed element injector patterns containing impinging like doublet or unlike triplet, showerhead, shear coaxial, and swirl coaxial elements as long as only one element type exists in each injector core, baffle, or barrier zone. Real propellant properties of oxygen, hydrogen, methane, propane, and RP-1 are included in ROCCID. The properties of other propellants can easily be added. The analysis model in ROCCID can account for the influence of acoustic cavities, helmholtz resonators, and radial thrust chamber baffles on combustion stability. ROCCID also contains the logic to interactively create a combustor design which meets input performance and stability goals.

A preliminary design results from the application of historical correlations to the input design requirements. The steady state performance and combustion stability of this design is evaluated using the analysis models, and ROCCID guides the user as to the design changes required to satisfy the user's performance and stability goals, including the design of stability aids. Output from ROCCID includes a formatted input file for the standardized JANNAF engine performance prediction procedure. Muss, J. A. and Nguyen, T. V. and Johnson, C. W. Unspecified Center...

Scientific and Technical Aerospace Reports

The U.S. Environmental Protection Agency's fluidized-bed combustion program, FY 1976

Cooperative Assessment Program Manual for the Battery Manufacturing Industry

Propulsion System Flow Stability Program (Dynamic). Part X. Combustion Instability Model Program User's Manual

Department of the Interior and Related Agencies Appropriations for 1995: Public witnesses for energy programs

The appendices A-K to the user's manual for the rocket combustor interactive design (ROCCID) computer program are presented. This includes installation instructions, flow charts, subroutine model documentation, and sample output files. The ROCCID program, written in Fortran 77, provides a standardized methodology using state of the art codes and procedures for the analysis of a liquid rocket engine combustor's steady state combustion performance and combustion stability. The ROCCID is currently capable of analyzing mixed element injector patterns containing impinging like doublet or unlike triplet, showerhead, shear coaxial and swirl coaxial elements as long as only one element type exists in each injector core, baffle, or barrier zone. Real propellant properties of oxygen, hydrogen, methane, propane, and RP-1 are included in ROCCID. The properties of other propellants can be easily added. The analysis models in ROCCID can account for the influences of acoustic cavities, helmholtz resonators, and radial thrust chamber baffles on combustion stability. ROCCID also contains the logic to interactively create a combustor design which meets input performance and stability goals. A preliminary design results from the application of historical correlations to the input design requirements. The steady state performance and combustion stability of this design is evaluated using the analysis models, and ROCCID guides the user as to the design changes required to satisfy the user's performance and stability goals, including the design of stability aids. Output from ROCCID includes a formatted input file for the standardized JANNAF engine performance prediction procedure. Muss, J. A. and Nguyen, T. V. and Johnson, C. W. Unspecified Center NASA-CR-187110, NAS 1.26:187110 NAS3-25556; RTOP 582-01-21...

Current Abstracts

Mixing and Kinetic Processes in Pulverized Coal Combustors

Federal Register

User's Manual

**User's Manual for Rocket Combustor Interactive Design (Roccid) and Analysis Computer Program. Volume 2**

As an immediately useful ready-for adaption model, this manual is a valuable tool for contractors and subcontractors in the construction industry implementing the overwhelming OSHA requirements. Successfully utilized in the field, the Manual can be customized to accomodate all areas of construction. Construction Safety and Loss Control Program Manual: -- is topically organized for easy access to essential information; -- provides interpretations of the generic OSHA requirements specifically suited to the construction industry; -- offers checklists, summaries, and step-by-step directions for implementation of the requirements. Liability for every construction company, no matter how large or small, is enormous. The Manual, packed with valuable, applicable, and useable information, is just the tool necessary to minimize a company's liability and improve safety programs and employee awareness.

Monthly Catalogue, United States Public Documents

Fossil Energy Update

Department of Housing and Urban Development--independent Agencies Appropriations for 1983

Energy Research Abstracts

Numerical Analysis of Nonlinear Longitudinal Combustion Instability in Metalized Propellant Solid Rocket Motors. Volume 2. Computer Program User's Manual

This volume (Part X) contains detailed descriptions and operating instructions for two computer programs, HLMHLT and REFINE. Together, these programs comprise a numerical method of solution of a model of combustion instability in aircraft engine afterburners and duct burners. The model was developed in Phase 1 and is described in AFAPL-TR-68-142, Part XII, Unsteady Combustion in Duct Burners, Propulsion System Flow Program (Dynamic), Phase 1, Final Technical Report. Computer program HLMHLT consists of a general acoustics analysis of cylindrical and annular ducts with heat addition and with acoustic losses (or gains) at the boundaries. This program is applicable to a wide variety of problems, including those involving unsteady combustion. Computer program REFINE determines the effects of unsteady combustion and through-flow on the basic acoustic characteristics of the duct. These effects are used to modify the results of the acoustics analysis provided by Program HLMHLT. (Author).

Control Technology Research Program Abstracts

Users' manual for a computer program for 1- dimensional coal combustion or gasification (1-DICOG)

Titanium Combustion Research Program and User's Manual for Deck CCD 1152-0.0

Toxicology Research Projects Directory

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