1. Record Nr. UNINA9910955084203321

Titolo	Dynamic aspects of detonations / / edited by A.L. Kuhl ... [et al.]
Pubbl/distr/stampa	Washington, D.C., : American Institute of Aeronautics and Astronautics, 1993
ISBN	1-60086-626-3 1-60086-407-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (490 p.)
Collana	Progress in astronautics and aeronautics, , 0079-6050 ; ; v. 153
Altri autori (Persone)	KuhlA. L
Soggetti	Explosions Detonation waves
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Technical papers from the thirteenth International Colloquium on Dynamics of Explosions and Reactive Systems, Nagoya, Japan, July 1991, and subsequently revised for this volume."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover""; ""Title""; ""Copyright""; ""Preface""; ""Acknowledgments""; ""Table of Contents""; ""Chapter I""; ""Chronology of Research on Detonation Waves:1920-1950""; ""Chapter II. Gaseous Detonations""; ""High Resolution Numerical Simulations forTwo-Dimensional Unstable Detonations""; ""Simulation of Cellular Structure in a Detonation Wave""; ""Mach Reflection of Detonation Waves""; ""Formation and Propagation of PhotochemicalDetonations in Hydrogen-Chlorine Mixtures""; ""Mechanism of Unstable Detonation Front Origin""; ""Numerical Modeling of Galloping Detonation"" ""Experimental Study of the Fine Structurein Spin Detonations"""""" Influence of Fluorocarbons on H2O2Ar Detonation:Experiments and Modeling""; ""Oxidation of Gaseous UnsymmetricalDimethv Ihydrazine at High Temperatures andDetonation of UDMH/O2 Mixtures""; ""Digital Signal Processing Analysis of Soot Foils""; ""Cylindrical Detonations inMethane-Oxygen-Nitrogen Mixtures""; ""Chapter III. Initiation of Detonation Waves""; ""Structure of Reaction Waves Behind Oblique Shocks""; ""Ignition in a Complex Mach Structure""; ""Photographic Study of the Direct Initiation ofDetonation by a Turbulent Jet"" ""Transition from Fast Deflagration to DetonationUnder the Influence of Wall Obstacles""""""Simulations for Detonation Initiation BehindReflected

Shock Waves""; ""Limiting Tube Diameter of Gaseous Detonation""; ""Effect of Flame Inhibitors on DetonationCharacteristics of Fuel-Air Mixtures""; ""Propagation of Gaseous Detonations Through Regionsof Low Reactivity""; ""Failure of the Classical DynamicParameters Relationships in Highly RegularCellular Detonation Systems""; ""Chapter IV. Nonideal Detonations and Boundary Effects""; ""Mechanisms of Detonation Propagation in aPorous Medium""
""Propagation and Extinction of Detonation Waves inTube Bundles"""""" Simultaneous Strong and Quasi-Chapman-JouguetDetonation Wave Propagation""; ""Structure and Velocity Deficit of Gaseous Detonationin Rough Tubes""; ""Possible Method for Quenching of GaseousDetonations""; ""Effect of Losses on the Existence of NonidealDetonations in Hybrid Two-Phase Mixtures""; ""Effect of Hollow Heterogeneities onNitromethane Detonation""; ""Author Index""

Sommario/riassunto

The four companion volumes on Dynamic Aspects of Detonations and Explosion Phenomena and Dynamics of Gaseous and Heterogeneous Combustion and Reactive Systems present 111 of the 230 papers given at the Thirteenth International Colloquium on the Dynamics of Explosions and Reactive Systems held in Nagoya, Japan. These books embrace the topics of explosions, detonations, shock phenomena, and reactive flow, as well as the gasdynamic aspects of nonsteady flow in combustion systems, the fluid mechanics aspects of combustion, and diagnostic techniques. Two of the volumes, Dynamics of Gaseous Combustion (Vol. 151) and Dynamics of Heterogeneous Combustion and Reacting Systems (Vol. 152), focus on the processes of coupling the exothermic energy release with the fluid mechanics occurring in various combination processes. The other two volumes, Dynamic Aspects of Detonations (Vol. 153) and Dynamic Aspects of Explosion Phenomena (Vol. 154), address the rate processes of energy deposition in a compressible medium and the concurrent nonsteady flow as it typically occurs in explosion phenomena.