1. Record Nr. UNINA9911006887203321

Autore	Lee John H. S. <1938->
Titolo	The detonation phenomenon / / John H.S. Lee
Pubbl/distr/stampa	Cambridge ; ; New York, : Cambridge University Press, 2008
ISBN	1-107-18797-4 1-5231-1333-2 1-281-75127-8 9786611751272 0-511-41461-7 0-511-41529-X 0-511-41300-9 0-511-41207-X 0-511-75470-1 0-511-41392-0
Descrizione fisica	1 online resource (xii, 388 pages) : digital, PDF file(s)
Disciplina	662/.2
Soggetti	Detonation waves Detonation waves - Computer simulation Explosives
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references (p. 370-371) and index.
Nota di contenuto	Gasdynamic theory of detonations and deflagrations -- Dynamics of detonation products -- Laminar structure of detonations -- Unstable detonations : numerical description -- Unstable detonations : experimental observations -- Influence of boundary conditions -- Deflagration-to-detonation transition -- Direct initiation of detonations.
Sommario/riassunto	This book introduces the detonation phenomenon in explosives. It is ideal for engineers and graduate students with a background in thermodynamics and fluid mechanics. The material is mostly qualitative, aiming to illustrate the physical aspects of the phenomenon. Classical idealized theories of detonation waves are presented first. These permit detonation speed, gas properties ahead

of and behind the detonation wave, and the distribution of fluid properties within the detonation wave itself to be determined. Subsequent chapters describe in detail the real unstable structure of a detonation wave. One-, two-, and three-dimensional computer simulations are presented along with experimental results using various experimental techniques. The important effects of confinement and boundary conditions and their influence on the propagation of a detonation are also discussed. The final chapters cover the various ways detonation waves can be formed and provide a review of the outstanding problems and future directions in detonation research.