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| Autore | Lee John H. S. <1938-> |
| Titolo | The detonation phenomenon / / John H.S. Lee |
| Pubbl/distr/stampa | Cambridge ; ; New York, : Cambridge University Press, 2008 |
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| 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.
