1. Record Nr. UNINA9910457115103321

Autore	Yao Weian
Titolo	Symplectic elasticity [[electronic resource] /] / Weian Yao, Wanxie Zhong, Chee Wah Lim
Pubbl/distr/stampa	Singapore ; ; Hackensack, N.J., : World Scientific Publishing, c2009
ISBN	1-282-44136-1 9786612441363 981-277-872-1
Descrizione fisica	1 online resource (315 p.)
Altri autori (Persone)	LimChee Wah ZhongWanxie
Disciplina	531/.382
Soggetti	Elasticity Symplectic spaces Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Contents; Preface; Preface to the Chinese Edition; Foreword to the Chinese Edition; Nomenclature; 1. Mathematical Preliminaries; 2. Fundamental Equations of Elasticity and Variational Principle; 3. The Timoshenko Beam Theory and Its Extension; 4. Plane Elasticity in Rectangular Coordinates; 5. Plane Anisotropic Elasticity Problems; 6. Saint-Venant Problems for Laminated Composite Plates; 7. Solutions for Plane Elasticity in Polar Coordinates; 8. Hamiltonian System for Bending of Thin Plates; References; About the Authors
Sommario/riassunto	This book explains the new solution methodology by discussing plane isotropic elasticity, multiple layered plate, anisotropic elasticity, sectorial plate and thin plate bending problems in detail. A number of existing problems without analytical solutions within the framework of classical approaches are solved analytically using this symplectic approach. Symplectic methodologies can be applied not only to problems in elasticity, but also to other solid mechanics problems. In addition, it can also be extended to various engineering mechanics and mathematical physics fields, such as vibration, w

2. Record Nr. UNINA9910298576703321

Autore	Pero-Sanz Elorz José Antonio
Titolo	Physical Metallurgy of Cast Irons / / by José Antonio Pero-Sanz Elorz, Daniel Fernández González, Luis Felipe Verdeja
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-97313-4
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XV, 343 p. 205 illus., 32 illus. in color.)
Disciplina	338.476691413095484
Soggetti	Metals Tribology Corrosion and anti-corrosives Coatings Engineering—Materials Metallic Materials Tribology, Corrosion and Coatings Materials Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Fe-C system. Stable and metastable equilibrium diagrams -- Stable eutectic. Graphite morphologies -- Compromise between stable and metastable solidifications -- Stable and metastable cooling compromise in solid state -- General properties of non-alloyed gray cast irons (or low alloy) and flake graphite -- Malleable irons -- Spheroidal graphite cast irons (or ductile cast iron) -- Fe-C-Cr system -- Composition, structure, and properties of high alloy cast irons -- Exercises, problems, and case studies -- Fundamentals of the cupola furnace. Applications. Mass and energy balances.
Sommario/riassunto	This textbook focuses on cast irons, the second material in production and consumption after steel. The authors describe the Fe-C stable and metastable diagrams from the physical-chemical metallurgy point of view. The main properties of cast irons are presented and justified for all kinds of cast irons: low cost, excellent castability, mechanical properties depending on the graphite morphology (gray irons) and high

wear resistance (white irons). The physical metallurgy of highly alloyed cast irons is also described, particularly that one of those used as a consequence of their abrasion, corrosion and heat resistance. The book presents exercises, problems and cases studies, with different sections dedicated to the molding practice. The book finishes with the production cast irons in the cupola furnace. This concise textbook is particularly of interest for students and engineers that work in industries related to cast irons.