1. Record Nr. UNICAMPANIASUN0045363

Autore	David, Guy
Titolo	Analysis of and on uniformly rectifiable sets / Guy David, Stephen Semmes
Pubbl/distr/stampa	Providence, : American Mathematical Society, 1993
ISBN	08-218-1537-7
Descrizione fisica	XII, 356 p. ; 27 cm.
Altri autori (Persone)	Semmes, Stephen
Soggetti	49-XX - Calculus of variations and optimal control; optimization [MSC 2020] 42-XX - Harmonic analysis on Euclidean spaces [MSC 2020] 28A75 - Length, area, volume, other geometric measure theory [MSC 2020] 42B20 - Singular and oscillatory integrals (Calderón-Zygmund, etc.) [MSC 2020] 30G35 - Functions of hypercomplex variables and generalized variables [MSC 2020] 30C85 - Capacity and harmonic measure in the complex plane [MSC 2020] 30C65 - Quasiconformal mappings in $\mathbb{R}^n$, other generalizations [MSC 2020] 49Q15 - Geometric measure and integration theory, integral and normal currents in optimization [MSC 2020]
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910420948103321

Autore	Perez Nestor <1950->
Titolo	Phase transformation in metals : mathematics, theory and practice / / Nestor Perez
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
ISBN	3-030-49168-4
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XIX, 544 p. 210 illus., 156 illus. in color.)
Disciplina	669.94
Soggetti	Solidification Metals - Transport properties
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Chapter 1. Crystallography -- Chapter 2. Surface Reconstruction -- Chapter 3. Mass Transport by Diffusion -- Chapter 4. Solidification -- Chapter 5. Planar Metal Solidification -- Chapter 6. Contour Metal Solidification -- Chapter 7. Alloy Solidification I -- Chapter 8. Alloy Solidification II -- Chapter 9. Solid-State Phase Change -- Chapter 10. Solidification Defects.
Sommario/riassunto	This textbook explains the physics of phase transformation and associated constraints from a metallurgical or materials science point of view, based on many topics including crystallography, mass transport by diffusion, thermodynamics, heat transfer and related temperature gradients, thermal deformation, and even fracture mechanics. The work presented emphasizes solidification and related analytical models based on heat transfer. This corresponds with the most fundamental physical event of continuous evolution of latent heat of fusion for directional or non-directional liquid-to-solid phase transformation at a specific interface with a certain geometrical shape, such as planar or curved front. Dr. Perez introduces mathematical and engineering approximation schemes for describing the phase transformation, mainly during solidification of pure metals and alloys. Giving clear definitions and explanations of theoretical concepts and full detail of derivation of formulae, this interdisciplinary volume is ideal for graduate and upper-level undergraduate students in applied

science, and professionals in the metal making and surface reconstruction industries. Reinforces concepts with example problems illustrating the application of thermodynamics and heat transfer techniques for solving complex solidification problems Adopts an easy and succinct manner narrative style Elucidates solidification shrinkage and gas porosity in casting defects Describes analysis of cracks around a pore using linear elastic fracture mechanics (LEFM) .