1. Record Nr. UNINA9910154754703321

Autore	Eells James
Titolo	Harmonic Maps and Minimal Immersions with Symmetries (AM-130), Volume 130 : Methods of Ordinary Differential Equations Applied to Elliptic Variational Problems. (AM-130) / / Andrea Ratto, James Eells
Pubbl/distr/stampa	Princeton, NJ : , : Princeton University Press, , [2016] ©1993
ISBN	1-4008-8250-8
Descrizione fisica	1 online resource (235 pages) : illustrations
Collana	Annals of Mathematics Studies ; ; 312
Disciplina	514/.7
Soggetti	Harmonic maps Immersions (Mathematics) Differential equations, Elliptic - Numerical solutions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- INTRODUCTION -- TABLE OF CONTENTS -- PART 1. BASIC VARIATIONAL AND GEOMETRICAL PROPERTIES -- PART 2. G-INVARIANT MINIMAL AND CONSTANT MEAN CURVATURE IMMERSIONS -- PART 3. HARMONIC MAPS BETWEEN SPHERES -- APPENDIX 1. SECOND VARIATIONS -- APPENDIX 2. RIEMANNIAN IMMERSIONS Sm Sn -- APPENDIX 3. MINIMAL GRAPHS AND PENDENT DROPS -- APPENDIX 4. FURTHER ASPECTS OF PENDULUM TYPE EQUATIONS -- REFERENCES -- INDEX
Sommario/riassunto	The aim of this book is to study harmonic maps, minimal and parallel mean curvature immersions in the presence of symmetry. In several instances, the latter permits reduction of the original elliptic variational problem to the qualitative study of certain ordinary differential equations: the authors' primary objective is to provide representative examples to illustrate these reduction methods and their associated analysis with geometric and topological applications. The material covered by the book displays a solid interplay involving geometry, analysis and topology: in particular, it includes a basic presentation of 1-cohomogeneous equivariant differential geometry and of the theory of harmonic maps between spheres.

2. Record Nr. UNISA996214710603316

Titolo	Particle and continuum aspects of mesomechanics [[electronic resource] /] / edited by George C. Sih, Moussa Nait-Abdelaziz, Toan Vu-Khanh
Pubbl/distr/stampa	London ; ; Newport Beach, CA, : ISTE, c2007
ISBN	1-280-84760-3 9786610847600 0-470-61079-4 0-470-39344-0 1-84704-675-4
Descrizione fisica	1 online resource (837 p.)
Collana	ISTE ; ; v.2
Altri autori (Persone)	SihG. C (George C.) Nait-AbdelazizMoussa Vu-KhanhToan
Disciplina	620.1/1292 620.11292
Soggetti	Fracture mechanics Continuum mechanics Microstructure Micromechanics - Mathematical models
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 and index.
Nota di contenuto	Particle and Continuum Aspects of Mesomechanics; Table of contents; Section I: Physical Mechanisms of Multiple Damage; Multiple hierarchical scale-dependency on physical mechanisms of material damage: macromechanical, microstructural and nanochemical; Surface layers and inner interfaces as functional subsystems of solid; Microstructural evolution in dual-phase steels at high strain-rates; Plastic deformation in single cryctal Ni3Fe (thin and thick plates); Mechanisms of physical aging in polypropylene; Section II: Physica1, Mesoscopical and Multiscale Models Finite element homogeneization for the determination of the RVE size for elastoviscoplastic Polycrystalline MaterialsAn incremental energy based fatigue life calculations method for metallic structures under

multiaxial amplitude loadings; Meso/micro fatigue crack growth involving crystal structure and crack geometry; Development of a nonlinear homogeneization method: evaluation and application to a rubber-reinforced material; Cavitation of rubber toughened polymer: numerical and experimental investigation; Ductile damage by interface decohesion
A multiscale discussion of fatigue and shakedown for notched structuresTwo scale approach for the defect tolerance fatigue design of automotive components; Section III: Film, Layer and Interface; Plastic deformation and fracture of thin metallic films on annealing in terms of the multilevel model of a deformed solid; Mesoscopic model for electroactive Composite Films and its applications; Interfaces of one-way glasslepoxy composite in inflexion; Point defects of the elastic properties of layered structured nano-materials; DFT study of interactions of water on Kaolinte and Goethite surfaces
Nanolayered MAX phases from ab initio calculationsSection IV: Crack Models and Solutions; Fracture initiation at re-entrant corners: experiments and finite fracture mechanics predictions; Buckling analysis of cracked columns subjected to lateral loads; Micro-cavity effect on the plastic zone size ahead of the crack tip in confined plasticity; Effect of microcrack on plastic zone size ahead of main crack in small-scale plasticity; Stress intensity factor of surface and interface cracks in coating/substrate system; T-stress by stress difference method (SDM)
Elasto-inelastic self-consistent model of ellipsoidal inclusionCrack propagation in solid oxide fuel cells; Elastoplastic solution for an eccentric crack loaded by two pairs of point tensile forces; J-integral and CMOD for cracked cylinders; Oscillating contact of isotropic elastic half-spaces; Section V: Nanomaterials; Mechanical properties of thin pulsed laser deposited amorphous carbons and amorphous carbon/silver nanocomposites; Extension of the Hertz model for accounting to surface tension in nano-indentation tests of soft materials
Multi-scale modeling of tensile behavior of carbon nanotube-reinforced composites

Sommario/riassunto

This title brings together a variety of papers presented at the 9th annual Meso meeting in 2007. The topics selected for Meso 2007 are designed to illustrate the relation of thresholds to multiscaling:Flow through capillary tubes in contrast to pipesLaminar and turbulent flow transitionHeat convection of thin wires in contrast to cylindersElectrical conductance of macro- and nano-circuitsRubbery and glassy polymersSingle- and poly-crystal behaviorStrength of wires and round cylindrical barsUni-axial and multi-axial material: linear and non-linear response<li