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Titolo	State-of-the-Art research and application of SMAs technologies : selected, peer reviewed papers from CIMTEC 2012 - 4th International Conference on Smart Materials, Structures and Systems, June 10-14, 2012, Terme, Italy // edited by Pietro Vincenzini [and four others]
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Collana	Advances in science and technology ; ; 78
Altri autori (Persone)	VincenziniP. <1939->
Disciplina	620.19
Soggetti	Smart materials Smart structures Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Vol. 2 of 10 volumes from the 4th International Conference "Smart Materials, Structures and Systems".
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	State-of-the-Art Research and Application of SMAs Technologies; Preface and Committees; Table of Contents; Chapter 1: Materials, Phase Transformation and Microstructure; From Dual-Shape/Temperature Memory Effect to Triple-Shape Memory Effect in NiTi Shape Memory Alloys; Theoretical Study of Magnetic Properties and Twin Boundary Motion in Heusler Ni-Mn-X Shape Memory Alloys Using First Principles and Monte Carlo Method; The Effect of Pressure on Martensitic Phase Transformations; Heat-Treatment Processing for MnBi in High Magnetic Fields Composition Dependence of Compatibility in Self-Accommodation Microstructure of -Titanium Shape Memory AlloyChapter 2: Engineering; CuZnAl Shape Memory Alloys Foams; Functional Fatigue of NiTi Shape Memory Wires under Assorted Loading Conditions; Transformation Behavior of Shape Memory Alloys in Multiaxial Stress State; Modelling of Shape Memory Alloy Negator Springs for Long-Stroke Constant-Force Actuators; Design and Simulation of a Magnetic Shape Memory (MSM) Alloy Energy Harvester; Phase Field Dynamic Modelling of Shape Memory Alloys Based on Isogeometric Analysis

Effect of Repeated Heat-Treatment under Constrained Strain on Mechanical Properties of Ti-Ni Shape Memory Alloy; Digital Image-Based Method for Quality Control of Residual Bending Deformation in Slender Pseudoelastic NiTi Devices; Chapter 3: Low Dimensionality; Low Temperature Crystallization of Sputter-Deposited TiNi Films; Synthesis of Crystallized TiNi Films by Ion Irradiation; Chapter 4: Applications; SMA Dampers for Cable Vibration: An Available Solution for Oscillation Mitigation of Stayed Cables in Bridges; Devices for Rehabilitation Applications
Design of a Solid State Shape-Memory-Actuator with Guidance Functionality; An Open-Loop Control Approach for Magnetic Shape Memory Actuators Considering Temperature Variations; Studies on Internal Friction of a High Temperature Cu-Al-Mn-Zn Shape Memory Alloy; Keywords Index; Authors Index

Sommario/riassunto

The 20 peer-reviewed papers collected here together offer a plenitude of up-to-date information on "State-of-the-Art Research and Application of SMAs Technologies". The papers are conveniently arranged into: Chapter 1: Materials, Phase Transformation and Microstructure, Chapter 2: Engineering, Chapter 3: Low Dimensionality, Chapter 4: Applications. Review from Book News Inc.: Vincenzini (World Academy of Ceramics, Italy) et al. draw together 20 papers from Symposium B, "State-of-the-Art Research and Applications of SMAs Technologies," of CIMTEC 2012, the Fourth International Conference on
