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Methods for Characterization of Deformation Processes in SMAs; Effect of the Loading History on Shape Memory Alloy Transformation Temperatures; Elemental Interfaces and Displacive Phase Transformations; Texture Development in Ni-Ti Thin Films; Two-Way Memory Effect in NiTi Shape Memory Alloys; Shape Recovery and - Transformation in Fe29Mn7Si5Cr SMA
Influence of Thermomechanical Treatment on Transformation Temperatures of Cu-Al-Ni Shape Memory AlloysPseudoelasticity of Cu-13.8Al-Ni Alloys Containing V and Nb; Dynamic and Static Displacements of Atoms in B2-Phase of TiNi Alloy; Shape Memory Behavior in Some (Ti,Zr,Hf)50(Ni,Cu)50 Alloys Elaborated by Glass Devitrification; CHAPTER 3: ENGINEERING; Engineering Aspects of Shape Memory Film Actuators and Sensors; Transformation/Deformation Behavior and its Constitutive Equation for Ti-Ni-Cu Shape Memory Alloy; Effect of Micro-Voids on Plasticity in NiTi-Alloys
Experimental Characterization of NiTi SMAs Thermomechanical Behaviour Using Temperature and Strain Full-Field MeasurementsThermomechanical Characterization of Shape Memory Alloy Tubular Composite Structures; Functional Properties of Ti-Ni-Based Shape Memory Alloys; On Functional Behavior of Strain-Aged Ti-Ni Alloy; CHAPTER 4: APPLICATIONS; SMA Fatigue in Civil Engineering Applications ; Control Characteristics of Shape Memory Alloy Actuator Using Resistance Feedback Control Method; Generation of Smart Structures on the Basis of In Situ Configuration of Shape Memory Alloys
Superelastic NiTi Thin Films for Medical ApplicationsSmartflex NiTi Wires for Shape Memory Actuators ; Keywords Index; Authors Index

Sommario/riassunto

A select collection of 29 peer-reviewed papers together offering a great deal of timely information on, ""State-of-the-art Research and Application of SMAs Technologies"". The papers are conveniently arranged under the succinct headings: chapter 1: Materials; chapter 2: Phase transformation and microstructure; chapter 3: Engineering; chapter 4: Applications. This special volume has also been published online in the series, ""Advances in Science and Technology"" Vol. 59.