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Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Non-linear Behavior of Smart Magneto-Electro-Elastic Hyperboloid Shell -- 1 Introduction -- 2 Basic Formulation of MEE Hyperboloid Shell -- 3 Numerical Results -- 4 Conclusion -- References -- Numerical Investigation on Performance of FGM Dental Implant -- 1 Introduction -- 2 Materials and Methods -- 3 Results -- 4 Conclusion -- References -- Characterization and Identification of 5083 Aluminum Alloy Behavior: Experimental and Numerical Investigations -- 1 Introduction -- 2 Fully Coupled Non-associated Hill48 Plasticity/ductile Damage Model -- 3 Experimental Investigation -- 4 FE Modeling: Results and Discussions -- 4.1 FE Model Validation -- 4.2 Stress Triaxiality -- 5 SPIF Process -- 6 Conclusion -- References -- Post-buckling of Shear Deformable Nanocomposite Panels -- 1 Introduction -- 2 Nanofillers Patterns

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## Sommario/riassunto

This book reports on innovative materials research with a special emphasis on methods, modeling, and simulation tools for analyzing material behavior, emerging materials, and composites, and their applications in manufacturing and automotive, among others. It gathers the proceedings of the fourth International Conference on Advanced Materials Mechanics and Manufacturing, A3M2023, held on March 20-21, 2023, in Sousse, Tunisia, and organized by the Laboratory of Mechanics, Modeling, and Manufacturing (LA2MP) of the National School of Engineers of Sfax. The book covers findings from experimental analyses and numerical simulations of material behavior, characterization of new materials, structures and composites, optimization methods and Artificial Intelligence applications. Offering a good balance of fundamental research and practice-oriented findings, it provides researchers and professionals with a timely snapshot of engineering methods in mechanics, materials and manufacturing. .

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