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| Titolo                  | Advances in Mechanics of Time-Dependent Materials // edited by Holm Altenbach, Julius Kaplunov, Hongbing Lu, Masayuki Nakada   |
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| Descrizione fisica      | 1 online resource (254 pages)  |
| Collana                 | Advanced Structured Materials, , 1869-8441 ; ; 188   |
| Disciplina              | 620.11292  |
| Soggetti                | Mechanics, Applied<br>Engineering Mechanics  |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Nota di bibliografia    | Includes bibliographical references.   |
| Nota di contenuto       | Stieltjes continued fractions and their role in identifying linear viscoelastic material functions -- Viscoelasticity and viscoplasticity of hydrogels with supramolecular and dynamic covalent bonds -- Rheological aspects of 3D printing -- Prof. Igor Emri's time in Caltech -- Numerical simulation for tensile strength of discontinuous CFRP considering viscoelastic entropy damage -- Mechanical spectral hole burning of polymethyl methacrylate to probe nonlinear viscoelastic behavior -- Time dependent deformation and failure behavior of discontinuous fiber reinforced polymers -- Accelerated testing methodology for durability of polymer composites based on the viscoelastic behavior of matrix resin -- Applicability of "spring-loading" methodology for comprehensive characterization of hybrid structures exhibiting simultaneous creep and relaxation -- Coupled Poroviscoelastic Response of Engineered Bacterial Biofilms- Application of time-temperature superposition principle -- Viscoelastic and viscoplastic behavior of polymer and composite -- Using asymptotic homogenization in parametric space to determine effective thermo-viscoelastic properties of fibrous composites -- Tensegrity modeling of the viscoelastic cell behavior -- Thermorheological analysis and kinetic modelling of thermo-oxidative degradation of polyethylene -- Quantitative characterization of cracks and contact stresses using photoviscoelasticity. |

This book presents current trends in Mechanics of Time Dependent Materials. It covers a number of cutting-edge themes, such as characterization of linear and nonlinear mechanical behavior of viscoelastic materials and their composites, taking into consideration large deformations, low, moderate and large strain rates, as well as failure and fracture phenomena. The contributions are inspired by advanced applications in modern technologies, such as injection molding and extrusion. .

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