

GrÃ©gory Chagnon

List of Publications by Year in descending order

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Version: 2024-02-01

64
papers

1,885
citations

361045

20
h-index

264894

42
g-index

73
all docs

73
docs citations

73
times ranked

1538
citing authors

#	ARTICLE	IF	CITATIONS
1	A theory of network alteration for the Mullins effect. <i>Journal of the Mechanics and Physics of Solids</i> , 2002, 50, 2011-2028.	2.3	276
2	Hyperelastic Energy Densities for Soft Biological Tissues: A Review. <i>Journal of Elasticity</i> , 2015, 120, 129-160.	0.9	191
3	Mechanical experimental characterisation and numerical modelling of an unfilled silicone rubber. <i>Polymer Testing</i> , 2008, 27, 765-777.	2.3	181
4	Influence of the temperature on the mechanical behaviour of filled and unfilled silicone rubbers. <i>Polymer Testing</i> , 2013, 32, 492-501.	2.3	115
5	On the relevance of Continuum Damage Mechanics as applied to the Mullins effect in elastomers. <i>Journal of the Mechanics and Physics of Solids</i> , 2004, 52, 1627-1650.	2.3	114
6	Development of new constitutive equations for the Mullins effect in rubber using the network alteration theory. <i>International Journal of Solids and Structures</i> , 2006, 43, 6817-6831.	1.3	88
7	Induced anisotropy by the Mullins effect in filled silicone rubber. <i>Mechanics of Materials</i> , 2012, 50, 70-80.	1.7	75
8	Analysis of the isotropic models of the Mullins effect based on filled silicone rubber experimental results. <i>Mechanics of Materials</i> , 2010, 42, 841-851.	1.7	68
9	A comprehensive thermo-viscoelastic experimental investigation of Ecoflex polymer. <i>Polymer Testing</i> , 2020, 86, 106478.	2.3	59
10	A Comparison of the Hart-Smith Model with Arruda-Boyce and Gent Formulations for Rubber Elasticity. <i>Rubber Chemistry and Technology</i> , 2004, 77, 724-735.	0.6	57
11	Membrane Curvatures and Stress-strain Full Fields of Axisymmetric Bulge Tests from 3D-DIC Measurements. Theory and Validation on Virtual and Experimental results. <i>Experimental Mechanics</i> , 2012, 52, 865-880.	1.1	56
12	Cold drawing of 316L stainless steel thin-walled tubes: Experiments and finite element analysis. <i>International Journal of Mechanical Sciences</i> , 2013, 70, 69-78.	3.6	40
13	On the stress recovery behaviour of Ecoflex silicone rubbers. <i>International Journal of Mechanical Sciences</i> , 2021, 206, 106624.	3.6	36
14	Permanent set and stress-softening constitutive equation applied to rubber-like materials and soft tissues. <i>Acta Mechanica</i> , 2014, 225, 1685-1698.	1.1	32
15	Theory and identification of a constitutive model of induced anisotropy by the Mullins effect. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 63, 29-39.	2.3	31
16	Experimental characterization and constitutive modeling of the biomechanical behavior of male human urethral tissues validated by histological observations. <i>Biomechanics and Modeling in Mechanobiology</i> , 2018, 17, 939-950.	1.4	27
17	Experimental investigation and theoretical modelling of induced anisotropy during stress-softening of rubber. <i>International Journal of Solids and Structures</i> , 2016, 97-98, 554-565.	1.3	25
18	Mechanical behaviour's evolution of a PLA- b -PEG- b -PLA triblock copolymer during hydrolytic degradation. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 60, 288-300.	1.5	24

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19	A non-linear viscoelastic model to describe the mechanical behavior's evolution of biodegradable polymers during hydrolytic degradation. <i>Polymer Degradation and Stability</i> , 2016, 131, 145-156.	2.7	22
20	An original architected NiTi silicone rubber structure for biomedical applications. <i>Materials Science and Engineering C</i> , 2014, 45, 184-190.	3.8	21
21	Anisotropy and Clausius-Clapeyron relation for forward and reverse stress-induced martensitic transformations in polycrystalline NiTi thin walled tubes. <i>Mechanics of Materials</i> , 2020, 146, 103392.	1.7	21
22	Modeling the Mullins effect in elastomers swollen by palm biodiesel. <i>International Journal of Engineering Science</i> , 2015, 95, 1-22.	2.7	20
23	Radiopaque poly(μ -caprolactone) as additive for X-ray imaging of temporary implantable medical devices. <i>RSC Advances</i> , 2015, 5, 84125-84133.	1.7	20
24	Influence of processing parameters on the macroscopic mechanical behavior of PVA hydrogels. <i>Materials Science and Engineering C</i> , 2017, 75, 769-776.	3.8	18
25	Evaluation of a biodegradable $\langle \text{PLA} \rangle \langle \text{PEG} \rangle \langle \text{PLA} \rangle$ internal biliary stent for liver transplantation: in vitro degradation and mechanical properties. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2021, 109, 410-419.	1.6	18
26	Anisotropic Mullins stress softening of a deformed silicone holey plate. <i>Mechanics Research Communications</i> , 2013, 49, 36-43.	1.0	17
27	A conical mandrel tube drawing test designed to assess failure criteria. <i>Journal of Materials Processing Technology</i> , 2014, 214, 347-357.	3.1	17
28	Study of electropulse heat treatment of cold worked NiTi wire: From uniform to localised tensile behaviour. <i>Journal of Materials Processing Technology</i> , 2016, 227, 244-250.	3.1	15
29	NUMERICAL ANALYSIS OF THE WALL STRESS IN ABDOMINAL AORTIC ANEURYSM: INFLUENCE OF THE MATERIAL MODEL NEAR-INCOMPRESSIBILITY. <i>Journal of Mechanics in Medicine and Biology</i> , 2012, 12, 1250005.	0.3	13
30	Design of polyurethane fibers: Relation between the spinning technique and the resulting fiber topology. <i>Journal of Applied Polymer Science</i> , 2019, 136, 47706.	1.3	13
31	Using thickness-shear mode quartz resonator for characterizing the viscoelastic properties of PDMS during cross-linking, from the liquid to the solid state and at different temperatures. <i>Sensors and Actuators A: Physical</i> , 2018, 280, 107-113.	2.0	12
32	Biomechanical behaviour of human bile duct wall and impact of cadaveric preservation processes. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 98, 291-300.	1.5	12
33	Mechanical characterization and comparison of different NiTi/silicone rubber interfaces. <i>International Journal of Adhesion and Adhesives</i> , 2014, 48, 67-74.	1.4	11
34	Hyperelasticity with rate-independent microsphere hysteresis model for rubberlike materials. <i>Computational Materials Science</i> , 2014, 90, 89-98.	1.4	10
35	Characterizing Transformation Phenomena and Elastic Moduli of Austenite and Oriented Martensite of Superelastic Thin NiTi Wire through Isothermal Dynamic Mechanical Analysis. <i>Journal of Materials Engineering and Performance</i> , 2019, 28, 4667-4679.	1.2	10
36	Strain Gauges Based 3D Shape Monitoring of Beam Structures Using Finite Width Gauge Model. <i>Experimental Techniques</i> , 2019, 43, 599-611.	0.9	10

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37	Experimental investigations of the human oesophagus: anisotropic properties of the embalmed muscular layer under large deformation. <i>Biomechanics and Modeling in Mechanobiology</i> , 2022, 21, 1169-1186.	1.4	10
38	Tube Drawing Process Modelling By A Finite Element Analysis. <i>AIP Conference Proceedings</i> , 2007, , .	0.3	8
39	A generic three-dimensional static force distribution basis for a medical needle inserted into soft tissue. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2013, 28, 156-170.	1.5	8
40	Extension of classical viscoelastic models in large deformation to anisotropy and stress softening. <i>International Journal of Non-Linear Mechanics</i> , 2014, 61, 54-64.	1.4	8
41	Light-Induced Bulk Architecturation of PDMS Membranes. <i>Macromolecular Materials and Engineering</i> , 2016, 301, 1151-1157.	1.7	7
42	In-Vivo Soft Tissues Mechanical Characterization: Volume-Based Aspiration Method Validated on Silicones. <i>Experimental Mechanics</i> , 2019, 59, 251-261.	1.1	7
43	New pressure ulcers dressings to alleviate human soft tissues: A finite element study. <i>Journal of Tissue Viability</i> , 2022, , .	0.9	6
44	Anisotropic large deformation of geometrically architected unfilled silicone membranes. <i>European Journal of Mechanics, A/Solids</i> , 2015, 50, 87-99.	2.1	5
45	Hyperelasticity Modeling for Incompressible Passive Biological Tissues. , 2017, , 3-30.		5
46	From in vitro evaluation to human postmortem pre-validation of a radiopaque and resorbable internal biliary stent for liver transplantation applications. <i>Acta Biomaterialia</i> , 2020, 106, 70-81.	4.1	5
47	3D small strain large deflection beam shape sensing including poisson effect. <i>Engineering Structures</i> , 2020, 209, 109948.	2.6	4
48	Development and modeling of filled silicone architected membranes. <i>Meccanica</i> , 2015, 50, 11-24.	1.2	3
49	Mechanical behavior of architected photosensitive silicone membranes: Experimental data and numerical analysis. <i>Mechanics of Advanced Materials and Structures</i> , 2017, 24, 524-533.	1.5	3
50	Inelastic deformation of highly aligned dry-spun thermoplastic polyurethane elastomer microfibrils. <i>Materials Research Express</i> , 2018, 5, 125301.	0.8	3
51	Experimental characterisation and modelling of breast Cooper's ligaments. <i>Biomechanics and Modeling in Mechanobiology</i> , 2022, 21, 1157-1168.	1.4	3
52	Simulation of Drawing of Small Stainless Steel Platinum Medical Tubes—Influence of the Tool Parameters on the Forming Limit. , 2011, , .		2
53	AN OSMOTICALLY INFLATABLE SEAL TO TREAT ENDOLEAKS OF TYPE 1, FOLLOWING ENDOVASCULAR ANEURYSM REPAIR. <i>Journal of Mechanics in Medicine and Biology</i> , 2012, 12, 1250070.	0.3	2
54	Advanced sensors placement for accurate 3D needle shape reconstruction. , 2016, 2016, 5132-5135.		2

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55	Optimized needle shape reconstruction using experimentally based strain sensors positioning. Medical and Biological Engineering and Computing, 2019, 57, 1901-1916.	1.6	2
56	Using a 3D needleâ€™tissue force distribution basis to optimise the design of an instrumented needle. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 320-322.	0.9	1
57	Toward a real-time tracking of a medical deformable needle from strain measurements. , 2013, 2013, 3495-8.		0
58	Anisotropic viscoelastic models in large deformation for architected membranes. Mechanics of Time-Dependent Materials, 2017, 21, 163-176.	2.3	0
59	Geometry-Based Model for U-Shaped Strain Gauges on Medical Needles. , 2018, 2018, 4269-4272.		0
60	Biostable highly aligned polyurethane fibres for the potential application of small calibre vascular grafting. Materialwissenschaft Und Werkstofftechnik, 2020, 51, 1473-1480.	0.5	0
61	From the experimental determination of stress-strain full fields during a bulge test thanks to 3D-DIC technique to the characterization of anisotropic Mullins effect. , 2011, , 259-264.		0
62	The evolution of viscoelastic properties of silicone rubber during cross-linking investigated by thickness-shear mode quartz resonator. , 2017, , 405-410.		0
63	A mixed physical-phenomenological approach for the Mullins effect. , 2017, , 237-242.		0
64	Development and Operation of an Experimental System to Measure the Moments Generated in the Finger Joints. Bioengineering, 2022, 9, 184.	1.6	0