

# Jose Merodio

## List of Publications by Year in descending order

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90  
papers

2,195  
citations

236833

25  
h-index

265120

42  
g-index

95  
all docs

95  
docs citations

95  
times ranked

832  
citing authors

#	ARTICLE	IF	CITATIONS
1	On prismatic and bending bifurcations of fiber-reinforced elastic membranes under swelling with application to aortic aneurysms. <i>Mathematics and Mechanics of Solids</i> , 2023, 28, 108-123.	1.5	10
2	Bulging of inflated membranes made of fiber reinforced materials with different natural configurations. <i>European Journal of Mechanics, A/Solids</i> , 2022, 96, 104670.	2.1	10
3	On the constitution of polar fiber-reinforced materials. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 2255-2266.	1.5	18
4	Modelling of residually stressed, extended and inflated cylinders with application to aneurysms. <i>Mechanics Research Communications</i> , 2021, 111, 103643.	1.0	19
5	Effective governing equations for heterogenous porous media subject to inhomogeneous body forces. <i>Mathematics in Engineering</i> , 2021, 3, 1-17.	0.5	10
6	Simple closed-form expressions for the effective properties of multilaminated flexoelectric composites. <i>Journal of Engineering Mathematics</i> , 2021, 127, 1.	0.6	8
7	Bulging initiation and propagation in fiber-reinforced swellable Mooney-Rivlin membranes. <i>Journal of Engineering Mathematics</i> , 2021, 128, 1.	0.6	16
8	Nonlinear rate-dependent spectral constitutive equation for viscoelastic solids with residual stresses. <i>Journal of Engineering Mathematics</i> , 2021, 129, 1.	0.6	3
9	Bifurcation analysis of elastic residually-stressed circular cylindrical tubes. <i>International Journal of Solids and Structures</i> , 2021, 226-227, 111062.	1.3	14
10	Modelling the residually stressed magneto-electrically coupled soft elastic materials. <i>International Journal of Non-Linear Mechanics</i> , 2021, 137, 103802.	1.4	12
11	Computational bifurcation analysis for hyperelastic residually stressed tubes under combined inflation and extension and aneurysms in arterial tissue. <i>Finite Elements in Analysis and Design</i> , 2021, 197, 103636.	1.7	17
12	A hierarchical asymptotic homogenization approach for viscoelastic composites. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 2190-2201.	1.5	6
13	Swelling and axial propagation of bulging with application to aneurysm propagation in arteries. <i>Mathematics and Mechanics of Solids</i> , 2020, 25, 1459-1471.	1.5	15
14	A nonlinear constitutive model for a two preferred direction electro-elastic body with residual stresses. <i>International Journal of Non-Linear Mechanics</i> , 2020, 119, 103352.	1.4	19
15	A nonlinear electro-elastic model with residual stresses and a preferred direction. <i>Mathematics and Mechanics of Solids</i> , 2020, 25, 838-865.	1.5	18
16	Two-phase piecewise homogeneous plane deformations of a fibre-reinforced neo-Hookean material with application to fibre kinking and splitting. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 143, 104091.	2.3	11
17	Residually Stressed Fiber Reinforced Solids: A Spectral Approach. <i>Materials</i> , 2020, 13, 4076.	1.3	14
18	The role of microscale solid matrix compressibility on the mechanical behaviour of poroelastic materials. <i>European Journal of Mechanics, A/Solids</i> , 2020, 83, 103996.	2.1	23

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19	A nonlinear spectral rate-dependent constitutive equation for electro-viscoelastic solids. Zeitschrift Fur Angewandte Mathematik Und Physik, 2020, 71, 1.	0.7	10
20	Residually stressed two fibre solids: A spectral approach. International Journal of Engineering Science, 2020, 148, 103205.	2.7	14
21	Basic Equations of Continuum Mechanics. Solid Mechanics and Its Applications, 2020, , 1-16.	0.1	1
22	Effective predictions of heterogeneous flexoelectric multilayered composite with generalized periodicity. International Journal of Mechanical Sciences, 2020, 181, 105755.	3.6	13
23	Finite Deformation Elasticity Theory. Solid Mechanics and Its Applications, 2020, , 17-52.	0.1	3
24	Homogenized out-of-plane shear response of three-scale fiber-reinforced composites. Computing and Visualization in Science, 2019, 20, 85-93.	1.2	26
25	Macroscopic thermal profile of heterogeneous cancerous breasts. A three-dimensional multiscale analysis. International Journal of Engineering Science, 2019, 144, 103135.	2.7	4
26	A general non-local constitutive relation for residually stressed solids. Mechanics Research Communications, 2019, 101, 103421.	1.0	10
27	Bifurcation and post-bifurcation of an inflated and extended residually-stressed circular cylindrical tube with application to aneurysms initiation and propagation in arterial wall tissue. Finite Elements in Analysis and Design, 2019, 161, 51-60.	1.7	38
28	An approach for modeling non-ageing linear viscoelastic composites with general periodicity. Composite Structures, 2019, 223, 110927.	3.1	1
29	Asymptotic Homogenization Applied to Flexoelectric Rods. Materials, 2019, 12, 232.	1.3	8
30	A computational model for fiber-reinforced composites: hyperelastic constitutive formulation including residual stresses and damage. Computational Mechanics, 2019, 63, 931-948.	2.2	22
31	Constitutive modeling framework for residually stressed viscoelastic solids at finite strains. Mechanics Research Communications, 2019, 95, 79-84.	1.0	17
32	The role of porosity and solid matrix compressibility on the mechanical behavior of poroelastic tissues. Materials Research Express, 2019, 6, 035404.	0.8	24
33	MATHEMATICAL MODELING OF THE INTERPLAY BETWEEN STRESS AND ANISOTROPIC GROWTH OF AVASCULAR TUMORS. Journal of Mechanics in Medicine and Biology, 2018, 18, 1850006.	0.3	3
34	Deformation induced loss of ellipticity in an anisotropic circular cylindrical tube. Journal of Engineering Mathematics, 2018, 109, 31-45.	0.6	10
35	Three scales asymptotic homogenization and its application to layered hierarchical hard tissues. International Journal of Solids and Structures, 2018, 130-131, 190-198.	1.3	60
36	Effective balance equations for elastic composites subject to inhomogeneous potentials. Continuum Mechanics and Thermodynamics, 2018, 30, 145-163.	1.4	5

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37	Nonlinear electro-elastic bodies with residual stresses; spectral formulation. Quarterly Journal of Mechanics and Applied Mathematics, 2018, 71, 485-504.	0.5	10
38	Explicit transfer matrices of pre-stressed elastic layers. International Journal of Non-Linear Mechanics, 2018, 106, 288-296.	1.4	2
39	An asymptotic homogenization approach to the microstructural evolution of heterogeneous media. International Journal of Non-Linear Mechanics, 2018, 106, 245-257.	1.4	39
40	Bulging bifurcation of inflated circular cylinders of doubly fiber-reinforced hyperelastic material under axial loading and swelling. Mathematics and Mechanics of Solids, 2017, 22, 666-682.	1.5	30
41	Homogenized modeling for vascularized poroelastic materials. Meccanica, 2017, 52, 3321-3343.	1.2	36
42	The influence of anisotropic growth and geometry on the stress of solid tumors. International Journal of Engineering Science, 2017, 119, 40-49.	2.7	15
43	Rate type constitutive equations for fiber reinforced nonlinearly viscoelastic solids using spectral invariants. Mechanics Research Communications, 2017, 84, 60-64.	1.0	11
44	The role of malignant tissue on the thermal distribution of cancerous breast. Journal of Theoretical Biology, 2017, 426, 152-161.	0.8	22
45	A Semi-Analytical Heterogeneous Model for Thermal Analysis of Cancerous Breasts. Series in Bioengineering, 2017, , 175-190.	0.3	1
46	Connection between electrical conductivity and diffusion coefficient of a conductive porous material filled with electrolyte. International Journal of Engineering Science, 2017, 121, 108-117.	2.7	14
47	The effect of initial stress on the propagation of surface waves in a layered half-space. International Journal of Solids and Structures, 2016, 88-89, 88-100.	1.3	46
48	The secular equation for non-principal Rayleigh waves in deformed incompressible doubly fiber-reinforced nonlinearly elastic solids. International Journal of Non-Linear Mechanics, 2016, 84, 23-30.	1.4	13
49	Extension, inflation and torsion of a residually stressed circular cylindrical tube. Continuum Mechanics and Thermodynamics, 2016, 28, 157-174.	1.4	75
50	Helical buckling and postbuckling of pre-stressed cylindrical tubes under finite torsion. Finite Elements in Analysis and Design, 2016, 112, 1-10.	1.7	27
51	Effective properties of regular elastic laminated shell composite. Composites Part B: Engineering, 2016, 87, 12-20.	5.9	21
52	Loss of ellipticity in the combined helical, axial and radial elastic deformations of a fibre-reinforced circular cylindrical tube. International Journal of Solids and Structures, 2015, 63, 99-108.	1.3	9
53	Azimuthal shear of doubly fibre-reinforced, non-linearly elastic cylindrical tubes. Journal of Engineering Mathematics, 2015, 95, 347-357.	0.6	8
54	Mathematical modeling of anisotropic avascular tumor growth. Mechanics Research Communications, 2015, 69, 8-14.	1.0	18

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55	Preface to the special issue on "Mechanics of Fibre-Reinforced Materials: Theory and Applications, Part II" Journal of Engineering Mathematics, 2015, 95, 1-4.	0.6	1
56	Action of body forces in tumor growth. International Journal of Engineering Science, 2015, 89, 18-34.	2.7	16
57	Non-principal Rayleigh waves in deformed transversely isotropic incompressible non-linearly elastic solids. IMA Journal of Applied Mathematics, 2014, 79, 915-928.	0.8	11
58	Finite elastic deformations of transversely isotropic circular cylindrical tubes. International Journal of Solids and Structures, 2014, 51, 1188-1196.	1.3	27
59	Competition between radial expansion and axial propagation in bulging of inflated cylinders with application to aneurysms propagation in arterial wall tissue. International Journal of Engineering Science, 2014, 85, 74-89.	2.7	51
60	Numerical analysis of neck and bulge propagation in anisotropic tubes subject to axial loading and internal pressure. Finite Elements in Analysis and Design, 2014, 90, 11-19.	1.7	19
61	Foreword to Special Issue celebrating Professor Ray Ogden's 70th birthday. IMA Journal of Applied Mathematics, 2014, 79, 721-721.	0.8	0
62	Computational modelling of bulging of inflated cylindrical shells applicable to aneurysm formation and propagation in arterial wall tissue. Finite Elements in Analysis and Design, 2013, 73, 20-29.	1.7	36
63	The influence of residual stress on finite deformation elastic response. International Journal of Non-Linear Mechanics, 2013, 56, 43-49.	1.4	73
64	On acoustoelasticity and the elastic constants of soft biological tissues. Journal of Mechanics of Materials and Structures, 2013, 8, 359-367.	0.4	9
65	Wave velocity formulas to evaluate elastic constants of soft biological tissues. Journal of Mechanics of Materials and Structures, 2013, 8, 51-64.	0.4	9
66	On weak formulations and their second variation in nonlinear electroelasticity. Mechanics Research Communications, 2012, 46, 15-19.	1.0	3
67	Constitutive structure in coupled non-linear electro-elasticity: Invariant descriptions and constitutive restrictions. International Journal of Non-Linear Mechanics, 2011, 46, 1315-1323.	1.4	22
68	A new derivation of the bifurcation conditions of inflated cylindrical membranes of elastic material under axial loading. Application to aneurysm formation. Mechanics Research Communications, 2011, 38, 203-210.	1.0	57
69	COMPRESSION INSTABILITIES OF TISSUES WITH LOCALIZED STRAIN SOFTENING. International Journal of Applied Mechanics, 2011, 03, 69-83.	1.3	6
70	Non-smooth solutions in the azimuthal shear of an anisotropic nonlinearly elastic material. Journal of Engineering Mathematics, 2010, 68, 27-36.	0.6	13
71	On simple constitutive restrictions for transversely isotropic nonlinearly elastic materials and isotropic magneto-sensitive elastomers. Journal of Engineering Mathematics, 2010, 68, 15-26.	0.6	12
72	Bifurcation of thick-walled cylindrical shells and the mechanical response of arterial tissue affected by Marfan's syndrome. Mechanics Research Communications, 2010, 37, 1-6.	1.0	49

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73	The elasticity of arterial tissue affected by Marfan's syndrome. <i>Mechanics Research Communications</i> , 2009, 36, 659-668.	1.0	40
74	Azimuthal Shear of a Transversely Isotropic Elastic Solid. <i>Mathematics and Mechanics of Solids</i> , 2008, 13, 690-724.	1.5	37
75	On the Failure of Ellipticity for Compressible Isotropic Nonlinearly Elastic Materials. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	0
76	On Constitutive Equations For Anisotropic Nonlinearly Viscoelastic Solids. <i>Mathematics and Mechanics of Solids</i> , 2007, 12, 131-147.	1.5	23
77	On thermodynamically consistent constitutive equations for fiber-reinforced nonlinearly viscoelastic solids with application to biomechanics. <i>Mechanics Research Communications</i> , 2007, 34, 561-571.	1.0	21
78	The rectilinear shear of fiber-reinforced incompressible non-linearly elastic solids. <i>International Journal of Non-Linear Mechanics</i> , 2007, 42, 342-354.	1.4	25
79	Remarks on cavity formation in fiber-reinforced incompressible non-linearly elastic solids. <i>European Journal of Mechanics, A/Solids</i> , 2006, 25, 778-792.	2.1	25
80	The influence of the invariant on the stress-strain deformation and ellipticity characteristics of doubly fiber-reinforced non-linearly elastic solids. <i>International Journal of Non-Linear Mechanics</i> , 2006, 41, 556-563.	1.4	65
81	On constitutive equations for fiber-reinforced nonlinearly viscoelastic solids. <i>Mechanics Research Communications</i> , 2006, 33, 764-770.	1.0	26
82	On the equivalence of strong ellipticity in the material and spatial settings of finite elasticity. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2006, 57, 1096-1101.	0.7	1
83	Remarks on instabilities and ellipticity for a fiber-reinforced compressible nonlinearly elastic solid under plane deformation. <i>Quarterly of Applied Mathematics</i> , 2005, 63, 325-333.	0.5	32
84	Tensile instabilities and ellipticity in fiber-reinforced compressible non-linearly elastic solids. <i>International Journal of Engineering Science</i> , 2005, 43, 697-706.	2.7	36
85	Mechanical response of fiber-reinforced incompressible non-linearly elastic solids. <i>International Journal of Non-Linear Mechanics</i> , 2005, 40, 213-227.	1.4	220
86	On tensile instabilities and ellipticity loss in fiber-reinforced incompressible non-linearly elastic solids. <i>Mechanics Research Communications</i> , 2005, 32, 290-299.	1.0	43
87	Instabilities and loss of ellipticity in fiber-reinforced compressible non-linearly elastic solids under plane deformation. <i>International Journal of Solids and Structures</i> , 2003, 40, 4707-4727.	1.3	144
88	A Note on Strong Ellipticity for Transversely Isotropic Linearly Elastic Solids. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2003, 56, 589-591.	0.5	47
89	Title is missing!. <i>Journal of Elasticity</i> , 2001, 62, 119-144.	0.9	45
90	Title is missing!. <i>Journal of Elasticity</i> , 2001, 62, 145-170.	0.9	42