Konstantin Yu Volokh

List of Publications by Year
in descending order

47 papers	1,242 citations	430874 18 h-index	377865 34 g-index
49 all docs	49 docs citations	49 times ranked	838 citing authors

#	Article	IF	Citations
1	Hyperelasticity with softening for modeling materials failure. Journal of the Mechanics and Physics of Solids, 2007, 55, 2237-2264.	4.8	135
2	Analytical modelling of concrete cover cracking caused by corrosion of reinforcement. Materials and Structures/Materiaux Et Constructions, 2010, 43, 543-556.	3.1	127
3	A model of growth and rupture of abdominal aortic aneurysm. Journal of Biomechanics, 2008, 41, 1015-1021.	2.1	107
4	Prediction of arterial failure based on a microstructural bi-layer fiberâ€“matrix model with softening. Journal of Biomechanics, 2008, 41, 447-453.	2.1	78
5	On modeling failure of rubber-like materials. Mechanics Research Communications, 2010, 37, 684-689.	1.8	72
6	Tensegrity architecture explains linear stiffening and predicts softening of living cells. Journal of Biomechanics, 2000, 33, 1543-1549.	2.1	68
7	Modeling failure of soft anisotropic materials with application to arteries. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1582-1594.	3.1	63
8	REVIEW OF THE ENERGY LIMITERS APPROACH TO MODELING FAILURE OF RUBBER. Rubber Chemistry and Technology, 2013, 86, 470-487.	1.2	57
9	Stresses in growing soft tissues. Acta Biomaterialia, 2006, 2, 493-504.	8.3	48
10	Buckling of sandwich beams with compliant interfaces. Computers and Structures, 2002, 80, 1329-1335.	4.4	42
11	Comparison of biomechanical failure criteria for abdominal aortic aneurysm. Journal of Biomechanics, 2010, 43, 2032-2034.	2.1	30
12	Fracture toughness from the standpoint of softening hyperelasticity. Journal of the Mechanics and Physics of Solids, 2008, 56, 2459-2472.	4.8	29
13	Cracks in rubber. International Journal of Solids and Structures, 2008, 45, 6034-6044.	2.7	27
14	Softening hyperelasticity for modeling material failure: Analysis of cavitation in hydrostatic tension. International Journal of Solids and Structures, 2007, 44, 5043-5055.	2.7	24
15	â€œNaturalâ€, â€œkinematicâ€•and â€œelasticâ€•displacements of underconstrained structures. International Journal of Solids and Structures, 1997, 34, 911-930.	2.7	23
16	On arterial fiber dispersion and auxetic effect. Journal of Biomechanics, 2017, 61, 123-130.	2.1	21
17	Characteristic Length of Damage Localization in Rubber. International Journal of Fracture, 2011, 168, 113-116.	2.2	20
18	Modeling deformation and failure of elastomers at high strain rates. Mechanics of Materials, 2017, 104, 85-92.	3.2	19

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19	Cavitation instability as a trigger of aneurysm rupture. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1071-1079.	2.8	18
20	Thermoelastic deformation and failure of rubberlike materials. Journal of the Mechanics and Physics of Solids, 2019, 122, 538-554.	4.8	18
21	Modeling dynamic failure in rubber. International Journal of Fracture, 2010, 162, 245-253.	2.2	16
22	Aneurysm strength can decrease under calcification. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 57, 164-174.	3.1	16
23	Modeling rupture of growing aneurysms. Journal of Biomechanics, 2014, 47, 653-658.	2.1	15
24	Spherical void expansion in rubber-like materials: The stabilizing effects of viscosity and inertia. International Journal of Non-Linear Mechanics, 2017, 92, 118-126.	2.6	15
25	Nonlinear analysis of underconstrained structures. International Journal of Solids and Structures, 1999, 36, 2175-2187.	2.7	13
26	New classes of reticulated underconstrained structures. International Journal of Solids and Structures, 1997, 34, 1093-1104.	2.7	12
27	On foundations of the Hardy Cross method. International Journal of Solids and Structures, 2002, 39, 4197-4200.	2.7	12
28	Experimental Study of the Effect of Temperature on Strength and Extensibility of Rubberlike Materials. Experimental Mechanics, 2018, 58, 847-858.	2.0	12
29	Characteristic length of damage localization in concrete. Mechanics Research Communications, 2013, 51, 29-31.	1.8	11
30	Dynamics of Cable Structures. Journal of Engineering Mechanics - ASCE, 2003, 129, 175-180.	2.9	9
31	An approach to multi-body interactions in a continuum-atomistic context: Application to analysis of tension instability in carbon nanotubes. International Journal of Solids and Structures, 2006, 43, 7609-7627.	2.7	9
32	Inflation and rupture of rubber membrane. International Journal of Fracture, 2012, 177, 179-190.	2.2	9
33	Why pre-tensioning stiffens cable systems. International Journal of Solids and Structures, 2000, 37, 1809-1816.	2.7	8
34	A simple theory of strain gradient plasticity based on stress-induced anisotropy of defect diffusion. International Journal of Plasticity, 2007, 23, 2085-2114.	8.8	8
35	Elasticity with energy limiters for modeling dynamic failure propagation. International Journal of Solids and Structures, 2010, 47, 3389-3396.	2.7	7
36	Characteristic length of damage localization in steel. Engineering Fracture Mechanics, 2012, 94, 85-86.	4.3	7

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37	Softening hyperviscoelasticity for modeling rate-dependent material failure. Journal of Mechanics of Materials and Structures, 2008, 3, 1695-1707.	0.6	5
38	Thrombus rupture via cavitation. Journal of Biomechanics, 2015, 48, 2186-2188.	2.1	5
39	Mechanics of Soft Materials. , 2016, , .		5
40	An investigation into the stability of a shear thinning fluid. International Journal of Engineering Science, 2009, 47, 740-743.	5.0	4
41	Non-linear thermoelasticity with energy limiters. International Journal of Non-Linear Mechanics, 2015, 76, 169-175.	2.6	4
42	Comments and authors? reply on ?Linear stress-strain relations in nonlinear elasticity? by A. Chiskis and R. Parnes, (Acta Mech. 146, 109?113, 2001). Acta Mechanica, 2004, 171, 241-245.	2.1	3
43	On fracture initiation toughness and crack sharpness for Mode II cracks. Engineering Fracture Mechanics, 2009, 76, 1255-1267.	4.3	3
44	Modeling Aneurysm Growth and Failure. Procedia IUTAM, 2015, 12, 204-210.	1.2	3
45	Plane frames as semi-underconstrained systems. International Journal of Mechanical Sciences, 2000, 42, 1119-1134.	6.7	2
46	On the Onset of Cracks in Arteries. MCB Molecular and Cellular Biomechanics, 2020, 17, 1-17.	0.7	2
47	An explanation of the drag reduction via polymer solute. Acta Mechanica, 2018, 229, 4295-4301.	2.1	1