Julius Kaplunov

List of Publications by Year
in descending order

105	2,126	218677	276875
papers	citations	26 h-index	41 g-index

114	114	114	727
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High-frequency homogenization for periodic media. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 2341-2362.	2.1	238
2	Celebrating the Centenary of Timoshenko's Study of Effects of Shear Deformation and Rotary Inertia. Applied Mechanics Reviews, 2015, 67, .	10.1	104
3	On Timoshenko-Reissner type theories of plates and shells. International Journal of Solids and Structures, 1993, 30, 675-694.	2.7	93
4	Dispersion of elastic waves in a strongly inhomogeneous three-layered plate. International Journal of Solids and Structures, 2017, 113-114, 169-179.	2.7	72
5	Edge waves and resonance on elastic structures: An overview. Mathematics and Mechanics of Solids, 2012, 17, 4-16.	2.4	62
6	High frequency homogenization for structural mechanics. Journal of the Mechanics and Physics of Solids, 2011, 59, 651-671.	4.8	59
7	Asymptotic Theory for Rayleigh and Rayleigh-Type Waves. Advances in Applied Mechanics, 2017, 50, 1-106.	2.3	59
8	High-Frequency Asymptotics, Homogenisation and Localisation for Lattices. Quarterly Journal of Mechanics and Applied Mathematics, 2010, 63, 497-519.	1.3	58
9	Long-wave asymptotic theories: The connection between functionally graded waveguides and periodic media. Wave Motion, 2014, 51, 581-588.	2.0	56
10	A long-wave model for the surface elastic wave in a coated half-space. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 3097-3116.	2.1	49
11	Asymptotic analysis of an anti-plane dynamic problem for a three-layered strongly inhomogeneous laminate. Mathematics and Mechanics of Solids, 2020, 25, 3-16.	2.4	45
12	Explicit models for elastic and piezoelastic surface waves. IMA Journal of Applied Mathematics, 2006, 71, 768-782.	1.6	42
13	Three-dimensional edge waves in plates. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 301-318.	2.1	40
14	Eigenvalue of a semi-infinite elastic strip. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 1255-1270.	2.1	36
15	Free localized vibrations of a semi-infinite cylindrical shell. Journal of the Acoustical Society of America, 2000, 107, 1383-1393.	1.1	34
16	Multi-parametric analysis of the lowest natural frequencies of strongly inhomogeneous elastic rods. Journal of Sound and Vibration, 2016, 366, 264-276.	3.9	34
17	Plane vibrations and radiation of an elastic layer lying on a liquid half-space. Wave Motion, 1993, 17, 199-211.	2.0	32
18	A plane contact problem for an elastic orthotropic strip. Journal of Engineering Mathematics, 2011, 70, 399-409.	1.2	32

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19	A perturbation approach for evaluating natural frequencies of moderately thick elliptic plates. Journal of Sound and Vibration, 2005, 281, 905-919.	3.9	31
20	High-frequency homogenization for checkerboard structures: defect modes, ultrarefraction, and all-angle negative refraction. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 1032.	1.5	31
21	On a 3D moving load problem for an elastic half space. Wave Motion, 2013, 50, 1229-1238.	2.0	31
22	Direct asymptotic integration of the equations of transversely isotropic elasticity for a plate near cut-off frequencies. Quarterly Journal of Mechanics and Applied Mathematics, 2000, 53, 323-341.	1.3	29
23	On three-dimensional edge waves in semi-infinite isotropic plates subject to mixed face boundary conditions. Journal of the Acoustical Society of America, 2005, 118, 2975-2983.	1.1	29
24	A revisit to the moving load problem using an asymptotic model for the Rayleigh wave. Wave Motion, 2010, 47, 440-451.	2.0	28
25	Bloch dispersion and high frequency homogenization for separable doubly-periodic structures. Wave Motion, 2012, 49, 333-346.	2.0	28
26	An Asymptotically Consistent Model for Long-Wave High-Frequency Motion in a Pre-Stressed Elastic Plate. Mathematics and Mechanics of Solids, 2002, 7, 581-606.	2.4	27
27	The lowest vibration spectra of multi-component structures with contrast material properties. Journal of Sound and Vibration, 2019, 445, 132-147.	3.9	26
28	The edge wave on an elastically supported Kirchhoff plate. Journal of the Acoustical Society of America, 2014, 136, 1487-1490.	1.1	25
29	Justification and refinement of Winklerâ€“Fuss hypothesis. Zeitschrift Fur Angewandte Mathematik Und Physik, 2018, 69, 1.	1.4	25
30	Antiplane shear of an asymmetric sandwich plate. Continuum Mechanics and Thermodynamics, 2021, 33, 1247-1262.	2.2	25
31	The edge waves on a Kirchhoff plate bilaterally supported by a two-parameter elastic foundation. JVC/Journal of Vibration and Control, 2017, 23, 2014-2022.	2.6	23
32	Dispersion of elastic waves in a layer interacting with a Winkler foundation. Journal of the Acoustical Society of America, 2018, 144, 2918-2925.	1.1	23
33	Rayleigh-type waves on a coated elastic half-space with a clamped surface. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20190111.	3.4	23
34	Lowâ€“frequency decay conditions for a semiâ€“infinite elastic strip. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2004, 460, 2153-2169.	2.1	21
35	The near-resonant regimes of a moving load in a three-dimensional problem for a coated elastic half-space. Mathematics and Mechanics of Solids, 2017, 22, 89-100.	2.4	21
36	Multiâ€parametric analysis of strongly inhomogeneous periodic waveguideswith internal cutoff frequencies. Mathematical Methods in the Applied Sciences, 2017, 40, 3381-3392.	2.3	21

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37	Refined boundary conditions on the free surface of an elastic half-space taking into account non-local effects. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150800.	2.1	19
38	An asymptotic hyperbolicâ€“elliptic model for flexural-seismic metasurfaces. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20190079.	2.1	19
39	Scale effect and higher-order boundary conditions for generalized lattices, with direct and indirect interactions. Mechanics Research Communications, 2019, 97, 1-7.	1.8	19
40	A simple example of a trapped mode in an unbounded waveguide. Journal of the Acoustical Society of America, 1995, 97, 3898-3899.	1.1	17
41	Vibrations of an elastic cylindrical shell near the lowest cut-off frequency. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150753.	2.1	17
42	The lowest vibration modes of an elastic beam composed of alternating stiff and soft components. Archive of Applied Mechanics, 2020, 90, 339-352.	2.2	17
43	Edge bending wave on a thin elastic plate resting on a Winkler foundation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160178.	2.1	16
44	A second-order asymptotic model for Rayleigh waves on a linearly elastic half plane. IMA Journal of Applied Mathematics, 2020, 85, 113-131.	1.6	16
45	Reduced model for the surface dynamics of a generally anisotropic elastic half-space. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20190590.	2.1	16
46	An asymptotic analysis of initial-value problems for thin elastic plates. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 2541-2561.	2.1	15
47	Approximate analysis of surface wave-structure interaction. Journal of Mechanics of Materials and Structures, 2018, 13, 297-309.	0.6	15
48	A robust approach for analysing dispersion of elastic waves in an orthotropic cylindrical shell. Journal of Sound and Vibration, 2017, 401, 23-35.	3.9	14
49	A non-local asymptotic theory for thin elastic plates. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170249.	2.1	13
50	Elastic bending wave on the edge of a semi-infinite plate reinforced by a strip plate. Mathematics and Mechanics of Solids, 2019, 24, 3319-3330.	2.4	13
51	An asymptotic theory for internal reflection in weakly inhomogeneous elastic waveguides. Wave Motion, 2005, 41, 95-108.	2.0	12
52	The Rayleigh wave field in mixed problems for a half-plane. IMA Journal of Applied Mathematics, 2013, 78, 1078-1086.	1.6	12
53	Explicit Models for Surface, Interfacial and Edge Waves. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2013, , 73-114.	0.6	12
54	Synthesis of the dispersion curves for a cylindrical shell on the basis of approximate theories. Journal of Sound and Vibration, 1995, 186, 37-53.	3.9	11

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55	Free interfacial vibrations in cylindrical shells. Journal of the Acoustical Society of America, 2002, 111, 2692-2704.	1.1	11
56	On integral and differential formulations in nonlocal elasticity. European Journal of Mechanics, A/Solids, 2023, 100, 104497.	3.7	11
57	Anti-plane shear waves in a fibre-reinforced composite with a non-linear imperfect interface. International Journal of Non-Linear Mechanics, 2015, 76, 223-232.	2.6	10
58	Elastic contact of a stiff thin layer and a half-space. Zeitschrift Fur Angewandte Mathematik Und Physik, 2019, 70, 1.	1.4	10
59	Asymptotic derivation of a refined equation for an elastic beam resting on a Winkler foundation. Mathematics and Mechanics of Solids, 2022, 27, 1638-1648.	2.4	10
60	Short wave motion in a pre-stressed incompressible elastic plate. IMA Journal of Applied Mathematics, 2002, 67, 383-399.	1.6	9
61	Composite wave models for elastic plates. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180103.	2.1	9
62	Approximation of the flexural velocity branch in plates. International Journal of Solids and Structures, 2006, 43, 6329-6346.	2.7	8
63	Riemannâ€“Hilbert Approach to the Elastodynamic Equation: Part I. Letters in Mathematical Physics, 2011, 96, 53-83.	1.1	8
64	An asymptotic higher-order theory for rectangular beams. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180001.	2.1	8
65	An explicit asymptotic model for the Bleusteinâ€“Gulyaev wave. Comptes Rendus - Mecanique, 2004, 332, 487-492.	2.1	7
66	Analysis of localized edge vibrations of cylindrical shells using the Stroh formalism. Mathematics and Mechanics of Solids, 2012, 17, 59-66.	2.4	7
67	Low-frequency perturbations of rigid body motions of a viscoelastic inhomogeneous bar. Mechanics of Time-Dependent Materials, 2015, 19, 135-151.	4.4	7
68	The edge bending wave on a plate reinforced by a beam (L). Journal of the Acoustical Society of America, 2019, 146, 1061-1064.	1.1	7
69	Radiation conditions for a semi-infinite elastic strip. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 1163-1179.	2.1	6
70	The effect of a weak nonlinearity on the lowest cut-off frequencies of a cylindrical shell. Zeitschrift Fur Angewandte Mathematik Und Physik, 2018, 69, 1.	1.4	6
71	Asymptotic derivation of refined dynamic equations for a thin elastic annulus. Mathematics and Mechanics of Solids, 2021, 26, 118-132.	2.4	6
72	On non-locally elastic Rayleigh wave. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, .	3.4	6

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73	Elastic-plastic torsion of a Cosserat-type rod. Acta Mechanica, 1995, 113, 53-62.	2.1	5
74	A bending quasi-front generated by an instantaneous impulse loading at the edge of a semi-infinite pre-stressed incompressible elastic plate. Journal of the Mechanics and Physics of Solids, 2005, 53, 1079-1098.	4.8	5
75	An example of a quasi-trapped mode in a weakly non-linear elastic waveguide. Comptes Rendus - Mecanique, 2008, 336, 553-558.	2.1	5
76	Extensional edge modes in elastic plates and shells. Journal of the Acoustical Society of America, 2009, 125, 621-623.	1.1	5
77	On the dynamics of drilling. International Journal of Engineering Science, 2020, 146, 103184.	5.0	5
78	Nonlinear Vibrations of a Rotor-Fluid-Foundation System Supported by Rolling Bearings. Strojniski Vestnik/Journal of Mechanical Engineering, 2016, 62, 351-362.	1.1	5
79	Elastodynamics of a coated half-space under a sliding contact. Mathematics and Mechanics of Solids, 0, , 108128652210944.	2.4	5
80	Asymptotic derivation of 2D dynamic equations of motion for transversely inhomogeneous elastic plates. International Journal of Engineering Science, 2022, 178, 103723.	5.0	5
81	Analysis of transient waves in thin structures utilizing matched asymptotic expansions. Acta Mechanica, 2001, 149, 55-68.	2.1	4
82	Resonance vibrations of an elastic interfacial layer. Journal of Sound and Vibration, 2006, 294, 663-677.	3.9	4
83	Composite dynamic models for periodically heterogeneous media. Mathematics and Mechanics of Solids, 2019, 24, 2663-2693.	2.4	4
84	Radiation conditions for a semi-infinite elastic strip. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 1163-1179.	2.1	4
85	Low-frequency vibrations of a thin-walled functionally graded cylinder (plane strain problem). Mechanics of Advanced Materials and Structures, 2023, 30, 1172-1180.	2.6	4
86	On a Lamb-type problem for a bi-axially pre-stressed incompressible elastic plateâ€. IMA Journal of Applied Mathematics, 2006, 71, 171-185.	1.6	3
87	Uniform Asymptotic Behaviour of Integrals of Bessel Functions with a Large Parameter in the Argument. Quarterly Journal of Mechanics and Applied Mathematics, 2010, 63, 57-72.	1.3	3
88	Dispersion of elastic waves in laminated glass. Procedia Engineering, 2017, 199, 1489-1494.	1.2	3
89	A composite hyperbolic equation for plate extension. Mechanics Research Communications, 2019, 99, 64-67.	1.8	3
90	Structural Modelling at the Micro-, Meso-, and Nanoscales. Modelling and Simulation in Engineering, 2017, 2017, 1-3.	0.7	3

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91	The Two-Term Interior Asymptotic Expansion in the Case of Low-frequency Longitudinal Vibrations of an Elongated Elastic Rectangle. , 2003, , 137-145.		2
92	On a class of three-phase checkerboards with unusual effective properties. Comptes Rendus - Mecanique, 2011, 339, 411-417.	2.1	2
93	On surface wave fields arising in soil-structure interaction problems. Procedia Engineering, 2017, 199, 2366-2371.	1.2	2
94	Perturbed rigid body motions of an elastic rectangle. Zeitschrift Fur Angewandte Mathematik Und Physik, 2020, 71, 1.	1.4	2
95	Matching of asymptotic models in scattering of a plane acoustic wave by an elastic cylindrical shell. Journal of Sound and Vibration, 2003, 264, 639-655.	3.9	1
96	Low-Frequency Cutoffs for the Dispersion Spectrum ofÂElastic Waves in a Thin-Walled Anisotropic Cylinder. Journal of Elasticity, 2009, 95, 31-42.	1.9	1
97	On steady-state moving load problems for an elastic half-space. , 2016, , .		1
98	An edge moving load on an orthotropic plate resting on a Winkler foundation. Procedia Engineering, 2017, 199, 2579-2584.	1.2	1
99	Multi-parametric dynamic analysis of lightweight elastic laminates. IOP Conference Series: Materials Science and Engineering, 2019, 683, 012014.	0.6	1
100	Impact normal compression of an elastic plate: analysis utilising an advanced asymptotic 2D model. Mechanics Research Communications, 2000, 27, 117-122.	1.8	0
101	About Multi-parametric Analysis of Drill String Vibrations. Mechanisms and Machine Science, 2015, , 373-377.	0.5	0
102	Preface to a special feature dedicated to the memory of Prof. Peter Chadwick FRS. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200615.	2.1	0
103	A Composite Wave Model for a Cylindrical Shell. Advanced Structured Materials, 2019, , 315-328.	0.5	0
104	Homogenized equation of second-order accuracy for conductivity of laminates. Applicable Analysis, 0, , 1-9.	1.3	0
105	Dynamic Sliding Contact for a Thin Elastic Layer. Advanced Structured Materials, 2022, , 103-114.	0.5	0