Valery L Okulov

List of Publications by Year
in descending order

106 papers	1,803 citations	361413 20 h-index	289244 40 g-index
107 all docs	107 docs citations	107 times ranked	740 citing authors

#	Article	IF	Citations
1	Analytical and numerical solutions to classical rotor designs. Progress in Aerospace Sciences, 2022, 130, 100793.	12.1	2
2	Review of Analytical Approaches for Simulating Motions of Helical Vortex. Frontiers in Energy Research, 2022, 10, .	2.3	1
3	Influence of nano- and micro-roughness on vortex generations of mixing flows in a cavity. Physics of Fluids, 2022, 34, 032005.	4.0	3
4	Finite blade functions and blade element optimization for diffuser-augmented wind turbines. Renewable Energy, 2021, 165, 812-822.	8.9	19
5	SINGULAR APPROXIMATIONS FOR CALCULATING VORTEX FILAMENTS. Journal of Applied Mechanics and Technical Physics, 2021, 62, 519-524.	0.5	2
6	Physical De-Icing Techniques for Wind Turbine Blades. Energies, 2021, 14, 6750.	3.1	12
7	Experimental Investigation of the Effect of Nano- and Microroughnesses on the Intensity of Swirled Flow. Doklady Physics, 2021, 66, 118-121.	0.7	2
8	Simulation of Deceleration of an Axial Flow by Vortex Wakes on an NEJ Blade. Doklady Physics, 2021, 66, 358-361.	0.7	0
9	The self-induced motion of a helical vortex. Journal of Fluid Mechanics, 2020, 883, .	3.4	16
10	Vortex Pair of Coaxial Helical Filaments. Journal of Applied Mechanics and Technical Physics, 2020, 61, 343-349.	0.5	2
11	Parametric Description of the Stationary Helical Vortex in a Hydrodynamic Vortex Chamber. Journal of Applied Mechanics and Technical Physics, 2020, 61, 359-367.	0.5	2
12	The structure of the confined swirling flow under different phase boundary conditions at the fixed end of the cylinder. Thermophysics and Aeromechanics, 2020, 27, 89-94.	0.5	13
13	Differences between the motion of a helical vortex and the movement of fluid particles along its axis. Thermophysics and Aeromechanics, 2020, 27, 473-480.	0.5	3
14	Analytical solution for self-induced motion of a helical vortex with a Gaussian core. Thermophysics and Aeromechanics, 2020, 27, 481-488.	0.5	3
15	Wakes and wake interaction between rotors and discs in an experimental model array. Journal of Physics: Conference Series, 2019, 1256, 012013.	0.4	2
16	Helical self-similarity of tip vortex cores. Journal of Fluid Mechanics, 2019, 859, 1084-1097.	3.4	13
17	Instabilities in the Wake of an Inclined Prolate Spheroid. Computational Methods in Applied Sciences (Springer), 2019, , 311-352.	0.3	3
18	The role of laboratory testing in the development of rotor aerodynamics (review). Thermophysics and Aeromechanics, 2018, 25, 1-20.	0.5	5

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19	Self-similarity and helical symmetry of various vortex wakes. AIP Conference Proceedings, 2018, , .	0.4	1
20	Development and interaction of rotor wakes. Journal of Physics: Conference Series, 2018, 1037, 072045.	0.4	0
21	Aerodynamic effect of icing/rain impacts on super-hydrophobic surfaces. AIP Conference Proceedings, 2018, , .	0.4	3
22	Influence of repeating elements on the far wake characteristics. AIP Conference Proceedings, 2018, , .	0.4	0
23	Self-similarity of far wake behind tandem of two disks. Journal of Engineering Thermophysics, 2017, 26, 154-159.	1.4	4
24	An influence of the different incoming wake-like flows on the rotor vibrations. Journal of Physics: Conference Series, 2017, 854, 012034.	0.4	0
25	Wake developments behind different configurations of passive disks and active rotors. Journal of Physics: Conference Series, 2017, 854, 012035.	0.4	1
26	Nonlinear blade element-momentum analysis of Betz-Goldstein rotors. Renewable Energy, 2017, 107, 542-549.	8.9	13
27	Power Properties of Two Interacting Wind Turbine Rotors. Journal of Energy Resources Technology, Transactions of the ASME, 2017, 139, .	2.3	17
28	Loss of efficiency in a coaxial arrangement of a pair of wind rotors. Thermophysics and Aeromechanics, 2017, 24, 545-551.	0.5	2
29	An investigation of a self-similarity for local vorticity and velocity components in tip vortex cores of a rotor wake. Journal of Physics: Conference Series, 2017, 899, 022008.	0.4	0
30	The Contribution of Kawada to the Analytical Solution for the Velocity Induced by a Helical Vortex Filament and Modern Applications of Helical Vortices. Mathematics for Industry, 2017, , 167-174.	0.4	3
31	Extension of Goldstein's circulation function for optimal rotors with hub. Journal of Physics: Conference Series, 2016, 753, 022018.	0.4	1
32	On the peculiar structure of a helical wake vortex behind an inclined prolate spheroid. Journal of Fluid Mechanics, 2016, 801, 1-12.	3.4	29
33	Direct calculation of wind turbine tip loss. Renewable Energy, 2016, 95, 269-276.	8.9	33
34	Performance and wake conditions of a rotor located in the wake of an obstacle. Journal of Physics: Conference Series, 2016, 753, 032051.	0.4	5
35	Comparison of the far wake behind dual rotor and dual disk configurations. Journal of Physics: Conference Series, 2016, 753, 032060.	0.4	1
36	Comparison of classical methods for blade design and the influence of tip correction on rotor performance. Journal of Physics: Conference Series, 2016, 753, 022020.	0.4	4

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37	Experimental investigation of wake evolution behind a couple of flat discs in a hydrochannel. Thermophysics and Aeromechanics, 2016, 23, 657-666.	0.5	6
38	Estimation of wake propagation behind the rotors of wind-powered generators. Thermal Engineering (English Translation of Teploenergetika), 2016, 63, 208-213.	0.9	10
39	An acentric rotation of two helical vortices of the same circulations. Regular and Chaotic Dynamics, 2016, 21, 267-273.	0.8	5
40	Multiple vortex structures in the wake of a rectangular winglet in ground effect. Experimental Thermal and Fluid Science, 2016, 72, 31-39.	2.7	33
41	Investigation of a wake decay behind a circular disk in a hydro channel at high Reynolds numbers. Thermophysics and Aeromechanics, 2015, 22, 657-665.	0.5	8
42	Wake effect on a uniform flow behind wind-turbine model. Journal of Physics: Conference Series, 2015, 625, 012011.	0.4	20
43	COMPARISON OF FAR WAKES BEHIND A SOLID DISK AND A THREE-BLADE ROTOR. Journal of Flow Visualization and Image Processing, 2015, 22, 175-183.	0.5	4
44	Efficiency of operation of wind turbine rotors optimized by the Glauert and Betz methods. Technical Physics, 2015, 60, 1632-1636.	0.7	6
45	The Contribution of Kawada to the Analytical Solution for the Velocity Induced by a Helical Vortex Filament. Applied Mechanics Reviews, 2015, 67, .	10.1	18
46	Rotor theories by Professor Joukowsky: Momentum theories. Progress in Aerospace Sciences, 2015, 73, 1-18.	12.1	52
47	The rotor theories by Professor Joukowsky: Vortex theories. Progress in Aerospace Sciences, 2015, 73, 19-46.	12.1	74
48	Design of low noise wind turbine blades using Betz and Joukowski concepts. Journal of Physics: Conference Series, 2014, 524, 012131.	0.4	0
49	Stagnation zone formation on the axis of a closed vortex flow. Thermophysics and Aeromechanics, 2014, 21, 767-770.	0.5	10
50	PIV and LDA measurements of the wake behind a wind turbine model. Journal of Physics: Conference Series, 2014, 524, 012168.	0.4	17
51	Testing of rotor vortex theories using Betz optimization. Doklady Physics, 2014, 59, 16-20.	0.7	2
52	Diagnostics of bubble-mode vortex breakdown in swirling flow in a large-aspect-ratio cylinder. Technical Physics Letters, 2014, 40, 181-184.	0.7	8
53	Experimental investigation of the wake behind a model of wind turbine in a water flume. Journal of Physics: Conference Series, 2014, 555, 012080.	0.4	7
54	Limit cases for rotor theories with Betz optimization. Journal of Physics: Conference Series, 2014, 524, 012129.	0.4	11

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55	A regular Strouhal number for large-scale instability in the far wake of a rotor. Journal of Fluid Mechanics, 2014, 747, 369-380.	3.4	77
56	PIV study of the effect of piston position on the in-cylinder swirling flow during the scavenging process in large two-stroke marine diesel engines. Journal of Marine Science and Technology, 2013, 18, 133-143.	2.9	23
57	The Aerodynamics of Wind Turbines. , 2013, , 231-247.		3
58	Flow diagnostics downstream of a tribladed rotor model. Thermophysics and Aeromechanics, 2012, 19, 171-181.	0.5	13
59	The Betzâ€"Joukowsky limit: on the contribution to rotor aerodynamics by the British, German and Russian scientific schools. Wind Energy, 2012, 15, 335-344.	4.2	58
60	Regimes of flow past a vortex generator. Technical Physics Letters, 2012, 38, 379-382.	0.7	6
61	Multiple helical modes of vortex breakdown. Journal of Fluid Mechanics, 2011, 683, 430-441.	3.4	40
62	Alteration of helical vortex core without change in flow topology. Physics of Fluids, 2011, 23, .	4.0	12
63	Maximum efficiency of wind turbine rotors using Joukowsky and Betz approaches. Journal of Fluid Mechanics, 2010, 649, 497-508.	3.4	83
64	Diagnostics of spatial structure of vortex multiplets in a swirl flow. Thermophysics and Aeromechanics, 2010, 17, 551-558.	0.5	5
65	Explanation of visual diagnostics of multihelix vortex breakdown. Doklady Physics, 2010, 55, 556-560.	0.7	0
66	Applications of 2D helical vortex dynamics. Theoretical and Computational Fluid Dynamics, 2010, 24, 395-401.	2.2	22
67	Validation of mathematical models for predicting the swirling flow and the vortex rope in a Francis turbine operated at partial discharge. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012051.	0.3	10
68	Vortex Precession in a Gas-Liquid Flow. Heat Transfer Research, 2010, 41, 465-478.	1.6	6
69	Chaotic advection and separatrix branching in the Lagrangian diagnostics of flows. Doklady Physics, 2009, 54, 134-139.	0.7	0
70	Helical structure of longitudinal vortices embedded in turbulent wall-bounded flow. Journal of Fluid Mechanics, 2009, 619, 167-177.	3.4	48
71	Applications of 2D helical vortex dynamics. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 411-417.	0.2	0
72	Refined Betz limit for rotors with a finite number of blades. Wind Energy, 2008, 11, 415-426.	4.2	74

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73	An ideal wind turbine with a finite number of blades. Doklady Physics, 2008, 53, 337-342.	0.7	22
74	Self-organized vortex multiplets in swirling flow. Technical Physics Letters, 2008, 34, 675-678.	0.7	5
75	A numerical study of the stabilitiy of helical vortices using vortex methods. Journal of Physics: Conference Series, 2007, 75, 012034.	0.4	24
76	Optimum operating regimes for the ideal wind turbine. Journal of Physics: Conference Series, 2007, 75, 012009.	0.4	7
77	Stability of helical tip vortices in a rotor far wake. Journal of Fluid Mechanics, 2007, 576, 1-25.	3.4	161
78	Optical diagnostics of intermittent flows. Technical Physics, 2007, 52, 583-592.	0.7	12
79	Two scenarios of the development of instability in intense swirling flow. Technical Physics Letters, 2007, 33, 775-778.	0.7	4
80	Modeling of the Far Wake behind a Wind Turbine. , 2007, , 245-248.		2
81	<title>Laser Doppler semiconductor anemometry of vortex flow behind the vane wheel rotor of the water turbine</title>. , 2006, , .		1
82	Vortex triplet. Doklady Physics, 2006, 51, 388-392.	0.7	2
83	Simulation of Flow Structure in the Suction Pipe of a Hydroturbine by Integral Characteristics. Heat Transfer Research, 2006, 37, 675-684.	1.6	7
84	Vortex scenario and bubble generation in a cylindrical cavity with rotating top and bottom. European Journal of Mechanics, B/Fluids, 2005, 24, 137-148.	2.5	16
85	The velocity field induced by a helical vortex tube. Physics of Fluids, 2005, 17, 107101.	4.0	53
86	Helical dipole. Doklady Physics, 2004, 49, 662-667.	0.7	6
87	Instability of a vortex wake behind wind turbines. Doklady Physics, 2004, 49, 772-777.	0.7	7
88	On heat transfer enhancement in swirl pipe flows. International Journal of Heat and Mass Transfer, 2004, 47, 2379-2393.	4.8	62
89	On the stability of multiple helical vortices. Journal of Fluid Mechanics, 2004, 521, 319-342.	3.4	146
90	Experimental investigation of a swirling flow in a cubic container. Technical Physics, 2003, 48, 1249-1254.	0.7	11

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91	Alternation of the right-and left-handed helical vortices caused by increased flow swirling in a cylindrical cavity with rotating lids. Technical Physics Letters, 2002, 28, 55-58.	0.7	6
92	Generalization of the Leveque problem for mass transfer in swirling flows in the entrance region of a cylindrical section. Doklady Physics, 2002, 47, 685-689.	0.7	1
93	Instability of an equilibrium circular configuration of helical vortices. Technical Physics Letters, 2002, 28, 1060-1064.	0.7	1
94	Mass transfer ambiguities in swirling pipe flows. Journal of Applied Electrochemistry, 2002, 32, 25-34.	2.9	8
95	L-transition from right- to left-handed helical vortices. , 2002, , 55-60.		0
96	The effect of decreased mass transfer in twisted flows. Technical Physics Letters, 2001, 27, 765-768.	0.7	1
97	Changes in the topology and symmetry of a vorticity field upon turbulent vortex breakdown. Technical Physics Letters, 2000, 26, 432-435.	0.7	7
98	Helical vortices in swirl flow. Journal of Fluid Mechanics, 1999, 382, 195-243.	3.4	192
99	Self-induced motion and asymptotic expansion of the velocity field in the vicinity of a helical vortex filament. Physics of Fluids, 1998, 10, 607-614.	4.0	46
100	Theory of Helical Vortices. Fluid Mechanics and Its Applications, 1998, , 255-264.	0.2	0
101	Self-Induced Motion of Helical Vortices. Fluid Mechanics and Its Applications, 1998, , 55-62.	0.2	0
102	Gas burning in a spiral flow. Combustion, Explosion and Shock Waves, 1993, 29, 657-658.	0.8	0
103	Virtual masses coefficients and aerodynamic damping constant of vibrating circular arrays of thin profiles. Journal of Applied Mechanics and Technical Physics, 1988, 30, 423-429.	0.5	0
104	Acoustic resonance in subsonic aerodynamic interaction of cascades. Journal of Applied Mechanics and Technical Physics, 1987, 28, 18-24.	0.5	2
105	Natural wavenumbers of acoustic and electromagnetic oscillations in the vicinity of a circular cascade with a core. Journal of Applied Mechanics and Technical Physics, 1984, 25, 367-373.	0.5	0
106	Triplet of Helical Vortices. , 0, , 281-290.		0