Vladimir I Nikora

List of Publications by Year
in descending order

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123 papers	7,190 citations	71102 41 h-index	60623 81 g-index
129 all docs	129 docs citations	129 times ranked	3893 citing authors

#	Article	IF	Citations
1	Despiking Acoustic Doppler Velocimeter Data. Journal of Hydraulic Engineering, 2002, 128, 117-126.	1.5	1,253
2	Spatially Averaged Open-Channel Flow over Rough Bed. Journal of Hydraulic Engineering, 2001, 127, 123-133.	1.5	396
3	Double-Averaging Concept for Rough-Bed Open-Channel and Overland Flows: Theoretical Background. Journal of Hydraulic Engineering, 2007, 133, 873-883.	1.5	318
4	Flow Turbulence over Fixed and Weakly Mobile Gravel Beds. Journal of Hydraulic Engineering, 2000, 126, 679-690.	1.5	266
5	Hydrodynamics of aquatic ecosystems: An interface between ecology, biomechanics and environmental fluid mechanics. River Research and Applications, 2010, 26, 367-384.	1.7	214
6	SUBSIDY AND STRESS RESPONSES OF STREAM PERIPHYTON TO GRADIENTS IN WATER VELOCITY AS A FUNCTION OF COMMUNITY GROWTH FORM. Journal of Phycology, 1998, 34, 598-607.	2.3	202
7	On gravel-bed roughness characterization. Water Resources Research, 1998, 34, 517-527.	4.2	186
8	On bed particle diffusion in gravel bed flows under weak bed load transport. Water Resources Research, 2002, 38, 17-1-17-9.	4.2	172
9	Double-Averaging Concept for Rough-Bed Open-Channel and Overland Flows: Applications. Journal of Hydraulic Engineering, 2007, 133, 884-895.	1.5	144
10	Statistical properties of armored gravel bed surfaces. Water Resources Research, 2006, 42, .	4.2	139
11	Velocity Distribution in the Roughness Layer of Rough-Bed Flows. Journal of Hydraulic Engineering, 2004, 130, 1036-1042.	1.5	125
12	Hydraulic Resistance due to Aquatic Vegetation in Small Streams: Field Study. Journal of Hydraulic Engineering, 2008, 134, 1326-1332.	1.5	102
13	Statistical sand wave dynamics in one-directional water flows. Journal of Fluid Mechanics, 1997, 351, 17-39.	3.4	94
14	Effects of fish size, time-to-fatigue and turbulence on swimming performance: a case study of Galaxias maculatus. Journal of Fish Biology, 2003, 63, 1365-1382.	1.6	94
15	Massâ€transferâ€limited nitrogen and phosphorus uptake by stream periphyton:A conceptual model and experimental evidence. Limnology and Oceanography, 2004, 49, 1992-2000.	3.1	92
16	Origin of the â€œâ˜1â€•Spectral Law in Wall-Bounded Turbulence. Physical Review Letters, 1999, 83, 734-736.	7.8	90
17	Effects of bed material properties on cohesive sediment erosion. Marine Geology, 2004, 207, 83-93.	2.1	86
18	Velocity Profiles in Vegetated Open-Channel Flows: Combined Effects of Multiple Mechanisms. Journal of Hydraulic Engineering, 2013, 139, 1021-1032.	1.5	80

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19	Quadrant analysis of persistent spatial velocity perturbations over square-bar roughness. Experiments in Fluids, 2007, 42, 413-423.	2.4	79
20	Plant patch hydrodynamics in streams: Mean flow, turbulence, and drag forces. Water Resources Research, 2012, 48, .	4.2	73
21	Aquatic interfaces: a hydrodynamic and ecological perspective. Journal of Hydraulic Research/De Recherches Hydrauliques, 2014, 52, 744-758.	1.7	73
22	Flow-plant interactions at a leaf scale: effects of leaf shape, serration, roughness and flexural rigidity. Aquatic Sciences, 2012, 74, 267-286.	1.5	72
23	Biomechanical properties of aquatic plants and their effects on plantâ€“flow interactions in streams and rivers. Aquatic Sciences, 2012, 74, 31-44.	1.5	67
24	Fractal structures of river plan forms. Water Resources Research, 1991, 27, 1327-1333.	4.2	66
25	Statistical characterization of bed roughness due to bed forms: A field study in the Elbe River at Aken, Germany. Water Resources Research, 2010, 46, .	4.2	65
26	Fluvial dunes: initiation, characterization, flow structure. Earth Surface Processes and Landforms, 2011, 36, 39-57.	2.5	65
27	Erosion of Cohesive Sediments: Resuspension, Bed Load, and Erosion Patterns from Field Experiments. Journal of Hydraulic Engineering, 2007, 133, 508-520.	1.5	64
28	Very-large-scale motions in rough-bed open-channel flow. Journal of Fluid Mechanics, 2017, 814, 416-429.	3.4	64
29	Some observations of the effects of micro-organisms growing on the bed of an open channel on the turbulence properties. Journal of Fluid Mechanics, 2002, 450, 317-341.	3.4	63
30	Friction factor decomposition for rough-wall flows: theoretical background and application to open-channel flows. Journal of Fluid Mechanics, 2019, 872, 626-664.	3.4	62
31	Spatially Averaged Turbulent Flow over Square Ribs. Journal of Engineering Mechanics - ASCE, 2007, 133, 194-204.	2.9	61
32	The debate about drag and reconfiguration of freshwater macrophytes: comparing results obtained by three recently discussed approaches. Freshwater Biology, 2006, 51, 2173-2183.	2.4	60
33	Spatially Averaged Flows over Mobile Rough Beds: Definitions, Averaging Theorems, and Conservation Equations. Journal of Hydraulic Engineering, 2013, 139, 803-811.	1.5	57
34	3D Lagrangian modelling of saltating particles diffusion in turbulent water flow. Acta Geophysica, 2012, 60, 1639-1660.	2.0	54
35	Synoptic velocity and pressure fields at the waterâ€“sediment interface of streambeds. Journal of Fluid Mechanics, 2010, 660, 55-86.	3.4	52
36	River network fractal geometry and its computer simulation. Water Resources Research, 1993, 29, 3569-3575.	4.2	50

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37	Flow structure over square bars at intermediate submergence: Large Eddy Simulation study of bar spacing effect. Acta Geophysica, 2008, 56, 876-893.	2.0	49
38	Characteristics of turbulent unidirectional flow over rough beds: Double-averaging perspective with particular focus on sand dunes and gravel beds. Water Resources Research, 2006, 42, .	4.2	44
39	Flow effects on periphyton patches and their ecological consequences in a <scp>N</scp>ew <scp>Z</scp>ealand river. Freshwater Biology, 2013, 58, 1588-1602.	2.4	44
40	Scaling Relationships for Sand Wave Development in Unidirectional Flow. Journal of Hydraulic Engineering, 1997, 123, 1152-1156.	1.5	42
41	Flowâ€“plant interactions at leaf, stem and shoot scales: drag, turbulence, and biomechanics. Aquatic Sciences, 2014, 76, 269-294.	1.5	42
42	Secondary currents and very-large-scale motions in open-channel flow over streamwise ridges. Journal of Fluid Mechanics, 2020, 887, .	3.4	42
43	Diffusion of saltating particles in unidirectional water flow over a rough granular bed. Journal of Physics A, 2001, 34, L743-L749.	1.6	41
44	Interpretation of alluvial beds through bedâ€elevation distribution moments. Water Resources Research, 2011, 47, .	4.2	41
45	Equilibrium hydrodynamics concept for developing dunes. Physics of Fluids, 2006, 18, 105104.	4.0	40
46	Dynamic reconfiguration of aquatic plants and its interrelations with upstream turbulence and drag forces. Journal of Hydraulic Research/De Recherches Hydrauliques, 2013, 51, 46-55.	1.7	40
47	A unifying framework for particle entrainment. Water Resources Research, 2008, 44, .	4.2	39
48	Scaling properties in landscape patterns: New Zealand experience. Landscape Ecology, 1999, 14, 17-33.	4.2	37
49	On stream periphytonâ€turbulence interactions. New Zealand Journal of Marine and Freshwater Research, 1997, 31, 435-448.	2.0	36
50	Spatially averaged turbulent stress and its partitioning. Experiments in Fluids, 2008, 45, 73-83.	2.4	36
51	Interactions between aquatic plants and turbulent flow: a field study using stereoscopic PIV. Journal of Fluid Mechanics, 2013, 732, 345-372.	3.4	35
52	Flowâ€plant interactions in openâ€channel flows: A comparative analysis of five freshwater plant species. Water Resources Research, 2012, 48, .	4.2	34
53	Fractal geometry of individual river channels and its computer simulation. Water Resources Research, 1993, 29, 3561-3568.	4.2	33
54	Large-scale turbulent structure of uniform shallow free-surface flows. Environmental Fluid Mechanics, 2007, 7, 159-172.	1.6	33

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55	Exner equation: A continuum approximation of a discrete granular system. Water Resources Research, 2009, 45, .	4.2	33
56	Particle motion and diffusion at weak bed load: accounting for unsteadiness effects of entrainment and disentrainment. Journal of Hydraulic Research/De Recherches Hydrauliques, 2015, 53, 633-648.	1.7	33
57	A case study of longitudinal dispersion in small lowland rivers. Water Environment Research, 1997, 69, 1246-1253.	2.7	32
58	A Simple Model of Stream Periphyton-Flow Interactions. Oikos, 1998, 81, 607.	2.7	32
59	On statistical properties of bed load sediment concentration. Water Resources Research, 2009, 45, .	4.2	32
60	Compound open-channel flows: effects of transverse currents on the flow structure. Journal of Fluid Mechanics, 2020, 885, .	3.4	31
61	Entrainment of sediment particles by very large-scale motions. Journal of Fluid Mechanics, 2020, 888, .	3.4	31
62	Structure of the internal boundary layer over a patch of pinnid bivalves (<I>Atrina zelandica</I>) in an estuary. Journal of Marine Research, 2002, 60, 121-150.	0.3	31
63	The effects of the moss Fissidens rigidulus (Fissidentaceae: Musci) on nearâ€bed flowstructure in an experimental cobble bed flume. Limnology and Oceanography, 1998, 43, 1321-1331.	3.1	30
64	Stream Bank Erosion: In Situ Flume Tests. Journal of Irrigation and Drainage Engineering - ASCE, 2007, 133, 256-264.	1.0	30
65	Pressure forces on sediment particles in turbulent open-channel flow: a laboratory study. Journal of Fluid Mechanics, 2014, 757, 458-497.	3.4	30
66	Biomechanical properties and morphological characteristics of lake and river plants: implications for adaptations to flow conditions. Aquatic Sciences, 2014, 76, 465-481.	1.5	30
67	Predictable changes in fish school characteristics due to a tidal turbine support structure. Renewable Energy, 2019, 141, 1092-1102.	8.9	30
68	On the definition of solid discharge in hydro-environment research and applications. Journal of Hydraulic Research/De Recherches Hydrauliques, 2014, 52, 173-184.	1.7	28
69	Fish distributions in a tidal channel indicate the behavioural impact of a marine renewable energy installation. Energy Reports, 2018, 4, 65-69.	5.1	28
70	Silverstream ecoâ€hydraulics flume: Hydraulic design and tests. New Zealand Journal of Marine and Freshwater Research, 1998, 32, 607-620.	2.0	27
71	Turbulent friction in flows over permeable walls. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	27
72	On self-similarity and self-affinity of drainage basins. Water Resources Research, 1994, 30, 133-137.	4.2	26

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73	Morphological and mechanical properties of blades of Saccharina latissima. Estuarine, Coastal and Shelf Science, 2017, 196, 1-9.	2.1	26
74	Hydraulic resistance in open-channel flows over self-affine rough beds. Journal of Hydraulic Research/De Recherches Hydrauliques, 2019, 57, 183-196.	1.7	26
75	The Structure and Dynamics of the Thin Near-bed Layer in a Complex Marine Environment: A Case Study in Beatrix Bay, New Zealand. Estuarine, Coastal and Shelf Science, 2002, 54, 915-926.	2.1	25
76	Fish swimming speed variability at constant flow:Galaxias maculatus. New Zealand Journal of Marine and Freshwater Research, 2007, 41, 185-195.	2.0	25
77	Rough-bed flows in geophysical, environmental, and engineering systems: Double-Averaging Approach and its applications. Acta Geophysica, 2008, 56, 529-533.	2.0	25
78	Bed load transport by bed form migration. Acta Geophysica, 2012, 60, 1720-1743.	2.0	25
79	Diffusion of bedload particles in open-channel flows: distribution of travel times and second-order statistics of particle trajectories. Environmental Fluid Mechanics, 2015, 15, 1281-1292.	1.6	25
80	Spatially-averaged momentum fluxes and stresses in flows over mobile granular beds: a DNS-based study. Journal of Hydraulic Research/De Recherches Hydrauliques, 2017, 55, 208-223.	1.7	24
81	Double-averaged velocity profiles over fixed dune shapes. Acta Geophysica, 2008, 56, 669-697.	2.0	23
82	Drag forces on a bed particle in open-channel flow: effects of pressure spatial fluctuations and very-large-scale motions. Journal of Fluid Mechanics, 2019, 863, 494-512.	3.4	23
83	Bed and flow dynamics leading to sedimentâ€wave initiation. Water Resources Research, 2009, 45, .	4.2	22
84	Flow interactions with an aquatic macrophyte: a field study using stereoscopic particle image velocimetry. Journal of Ecohydraulics, 2019, 4, 113-130.	3.1	22
85	Extended Self-Similarity in Geophysical and Geological Applications. Mathematical Geosciences, 2001, 33, 251-271.	0.9	21
86	Automatic active acoustic target detection in turbulent aquatic environments. Limnology and Oceanography: Methods, 2017, 15, 184-199.	2.0	21
87	Flow dynamics in alluvial channels: the legacy of Kirill V. Grishanin. Journal of Hydraulic Research/De Recherches Hydrauliques, 2011, 49, 285-292.	1.7	19
88	Momentum balance in flows over mobile granular beds: application of double-averaging methodology to DNS data. Journal of Hydraulic Research/De Recherches Hydrauliques, 2017, 55, 190-207.	1.7	19
89	Active interactions between turbulence and bed load: Conceptual picture and experimental evidence. Water Resources Research, 2013, 49, 90-99.	4.2	18
90	Flowâ€“seaweed interactions: a laboratory study using blade models. Environmental Fluid Mechanics, 2018, 18, 611-636.	1.6	18

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91	The structure of gravelâ€bed flow with intermediate submergence: A laboratory study. Water Resources Research, 2015, 51, 9232-9255.	4.2	17
92	Coupling Unmanned Aerial Vehicle (UAV) and hydraulic surveys to study the geometry and spatial distribution of aquatic macrophytes. Journal of Ecohydraulics, 2018, 3, 45-58.	3.1	17
93	Flow-seaweed interactions of Saccharina latissima at a blade scale: turbulence, drag force, and blade dynamics. Aquatic Sciences, 2019, 81, 1.	1.5	16
94	Mars topography: bulk statistics and spectral scaling. Chaos, Solitons and Fractals, 2004, 19, 427-439.	5.1	15
95	Biomechanical properties of aquatic plants: The effect of test conditions. Limnology and Oceanography: Methods, 2018, 16, 222-236.	2.0	15
96	Double-averaged velocity and stress distributions for hydraulically-smooth and transitionally-rough turbulent flows. Acta Geophysica, 2008, 56, 642-653.	2.0	14
97	Statistics and characteristic scales for bed load in a channel flow with sidewall effects. Acta Geophysica, 2010, 58, 1072-1093.	2.0	14
98	Hydrodynamic performance of vegetation surrogates in hydraulic studies: a comparative analysis of seaweed blades and their physical models. Journal of Hydraulic Research/De Recherches Hydrauliques, 2020, 58, 248-261.	1.7	13
99	High-Order Structure Functions for Planet Surfaces: A Turbulence Metaphor. IEEE Geoscience and Remote Sensing Letters, 2005, 2, 362-365.	3.1	12
100	Spatially-averaged flows over mobile rough beds: equations for the second-order velocity moments. Journal of Hydraulic Research/De Recherches Hydrauliques, 2020, 58, 133-151.	1.7	12
101	Momentum and energy transfer in open-channel flow over streamwise ridges. Journal of Fluid Mechanics, 2021, 915, .	3.4	12
102	Double-averaged kinetic energy budgets in flows over mobile granular beds: insights from DNS data analysis. Journal of Hydraulic Research/De Recherches Hydrauliques, 2020, 58, 653-672.	1.7	11
103	A submersible device for measuring drag forces on aquatic plants and other organisms. New Zealand Journal of Marine and Freshwater Research, 2007, 41, 119-127.	2.0	10
104	Spatially-averaged oscillatory flow over a rough bed. Acta Geophysica, 2008, 56, 698-733.	2.0	10
105	Hydrodynamic Impacts of a Marine Renewable Energy Installation on the Benthic Boundary Layer in a Tidal Channel. Energy Procedia, 2017, 125, 250-259.	1.8	10
106	On Channel Network Fractal Properties: A Case of Study of the Hutt River Basin, New Zealand. Water Resources Research, 1996, 32, 3375-3384.	4.2	9
107	A lattice Boltzmann-based model of planktonâ€“flow interaction around a mussel cluster. Ecological Modelling, 2006, 192, 645-657.	2.5	9
108	Hydrodynamics of aquatic ecosystems: spatial-averaging perspective. Acta Geophysica, 2007, 55, 3-10.	2.0	9

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109	Effects of Streamwise Ridges on Hydraulic Resistance in Open-Channel Flows. Journal of Hydraulic Engineering, 2020, 146, .	1.5	8
110	Flow Measurement Using Flying ADV Probes. Journal of Hydraulic Engineering, 2007, 133, 1345-1355.	1.5	7
111	SWAT.nz: New-Zeland-based â€œSand Waves and Turbulenceâ€•experimental programme. Acta Geophysica, 2008, 56, 417-439.	2.0	7
112	Martian Topography: Scaling, Craters, and High-Order Statistics. Mathematical Geosciences, 2005, 37, 337-355.	0.9	6
113	Comment on â€œDrag, turbulence, and diffusion in flow through emergent vegetationâ€•by H. M. Nepf. Water Resources Research, 2000, 36, 1985-1986.	4.2	5
114	Heterogeneity in catchment properties: a case study of Grey and Buller catchments, New Zealand. Hydrology and Earth System Sciences, 2002, 6, 167-184.	4.9	5
115	Spectral scaling in Mars topography: effect of craters. Acta Geophysica, 2006, 54, 102-112.	2.0	5
116	A novel experimental technique and its application to study the effects of particle density and flow submergence on bed particle saltation. Journal of Hydraulic Research/De Recherches Hydrauliques, 2017, 55, 101-113.	1.7	5
117	Bed particle dynamics at entrainment. Journal of Hydraulic Research/De Recherches Hydrauliques, 2019, 57, 464-474.	1.7	5
118	Implications of hyposaline stress for seaweed morphology and biomechanics. Aquatic Botany, 2020, 162, 103188.	1.6	5
119	Ocean-atmosphere CO2 exchange: An accessible lab simulation for considering biological effects. Climatic Change, 1994, 27, 299-320.	3.6	3
120	A PIV investigation into the interaction between wave motion and sediment ripples. , 2006, , .		3
121	Formula for the discharge of the bed load propagating as sand waves. Power Technology and Engineering, 1982, 16, 544-546.	0.0	0
122	Stephen Edward Coleman (1966â€“2012). Acta Geophysica, 2012, 60, 1500-1501.	2.0	0
123	Self-similarity and Reynolds number invariance in Froude modelling. Journal of Hydraulic Research/De Recherches Hydrauliques, 2018, 56, 291-292.	1.7	0