

G J F Van Heijst

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/12027118/publications.pdf>

Version: 2024-02-01

153
papers

4,147
citations

101496

36
h-index

149623

56
g-index

156
all docs

156
docs citations

156
times ranked

1848
citing authors

#	ARTICLE	IF	CITATIONS
1	An experimental study of unstable barotropic vortices in a rotating fluid. Journal of Fluid Mechanics, 1991, 223, 1.	1.4	224
2	The flow between two finite rotating disks enclosed by a cylinder. Journal of Fluid Mechanics, 1983, 128, 123.	1.4	140
3	Tripolar vortices in a rotating fluid. Nature, 1989, 338, 569-571.	13.7	132
4	Propagation of barotropic vortices over topography in a rotating tank. Journal of Fluid Mechanics, 1991, 233, 119-139.	1.4	132
5	Laboratory experiments on the tripolar vortex in a rotating fluid. Journal of Fluid Mechanics, 1991, 225, 301-331.	1.4	127
6	CFD simulation of pollutant dispersion around isolated buildings: On the role of convective and turbulent mass fluxes in the prediction accuracy. Journal of Hazardous Materials, 2011, 194, 422-434.	6.5	125
7	Dipole formation and collisions in a stratified fluid. Nature, 1989, 340, 212-215.	13.7	121
8	An experimental study of dipolar vortex structures in a stratified fluid. Journal of Fluid Mechanics, 1994, 279, 101-133.	1.4	106
9	Kramers-Kronig relations for the dielectric function and the static conductivity of Coulomb systems. Europhysics Letters, 2010, 90, 10003.	0.7	75
10	The three-dimensional structure of an electromagnetically generated dipolar vortex in a shallow fluid layer. Physics of Fluids, 2008, 20, .	1.6	70
11	Two-Dimensional Navier-Stokes Turbulence in Bounded Domains. Applied Mechanics Reviews, 2009, 62, .	4.5	66
12	On the wake structure behind a heated horizontal cylinder in cross-flow. Journal of Fluid Mechanics, 2003, 486, 189-211.	1.4	65
13	Spontaneous Spin-Up during the Decay of 2D Turbulence in a Square Container with Rigid Boundaries. Physical Review Letters, 1998, 80, 5129-5132.	2.9	63
14	Decaying two-dimensional turbulence in square containers with no-slip or stress-free boundaries. Physics of Fluids, 1999, 11, 611-626.	1.6	59
15	Experimental study of dipolar vortices on a topographic \hat{T} -plane. Journal of Fluid Mechanics, 1994, 259, 79-106.	1.4	58
16	Spin-up in a rectangular container. Physics of Fluids A, Fluid Dynamics, 1990, 2, 150-159.	1.6	56
17	Stable and unstable monopolar vortices in a stratified fluid. Journal of Fluid Mechanics, 1996, 311, 257.	1.4	54
18	The effects of solid boundaries on confined two-dimensional turbulence. Journal of Fluid Mechanics, 2006, 554, 411.	1.4	54

#	ARTICLE	IF	CITATIONS
19	Large-Eddy Simulation of pollutant dispersion around a cubical building: Analysis of the turbulent mass transport mechanism by unsteady concentration and velocity statistics. <i>Environmental Pollution</i> , 2012, 167, 47-57.	3.7	54
20	Energy Spectra for Decaying 2D Turbulence in a Bounded Domain. <i>Physical Review Letters</i> , 2000, 85, 306-309.	2.9	51
21	Interaction of two unequal corotating vortices. <i>Physics of Fluids</i> , 2005, 17, 087103.	1.6	51
22	The effect of an urban park on the microclimate in its vicinity: a case study for Antwerp, Belgium. <i>International Journal of Climatology</i> , 2018, 38, e303.	1.5	48
23	Quasi-two-dimensional turbulence in shallow fluid layers: The role of bottom friction and fluid layer depth. <i>Physical Review E</i> , 2003, 67, 066303.	0.8	47
24	Intrinsic three-dimensionality in electromagnetically driven shallow flows. <i>Europhysics Letters</i> , 2008, 83, 24001.	0.7	47
25	On the suitability of steady RANS CFD for forced mixing ventilation at transitional slot Reynolds numbers. <i>Indoor Air</i> , 2013, 23, 236-249.	2.0	47
26	Experiments on rapidly rotating turbulent flows. <i>Physics of Fluids</i> , 2009, 21, .	1.6	46
27	The evolution of stable barotropic vortices in a rotating free-surface fluid. <i>Journal of Fluid Mechanics</i> , 1992, 239, 607.	1.4	45
28	Topography effects on vortices in a rotating fluid. <i>Meccanica</i> , 1994, 29, 431-451.	1.2	45
29	Three-dimensional structure and decay properties of vortices in shallow fluid layers. <i>Physics of Fluids</i> , 2001, 13, 1932-1945.	1.6	45
30	Nonlinear Ekman effects in rotating barotropic flows. <i>Journal of Fluid Mechanics</i> , 2000, 412, 75-91.	1.4	44
31	Ekman effects in a rotating flow over bottom topography. <i>Journal of Fluid Mechanics</i> , 2002, 471, 239-255.	1.4	44
32	Vorticity dynamics of a dipole colliding with a no-slip wall. <i>Physics of Fluids</i> , 2007, 19, .	1.6	43
33	Self-organization of quasi-two-dimensional turbulence in stratified fluids in square and circular containers. <i>Physics of Fluids</i> , 2002, 14, 2150.	1.6	42
34	Vortical motion in the head of an axisymmetric gravity current. <i>Physics of Fluids</i> , 2006, 18, 046601.	1.6	42
35	A numerical and experimental study on advection in three-dimensional Stokes flows. <i>Journal of Fluid Mechanics</i> , 2004, 514, 77-105.	1.4	41
36	Dynamics of pancake-like vortices in a stratified fluid: experiments, model and numerical simulations. <i>Journal of Fluid Mechanics</i> , 2001, 433, 1-27.	1.4	37

#	ARTICLE	IF	CITATIONS
37	Spin-up phenomena in non-axisymmetric containers. <i>Journal of Fluid Mechanics</i> , 1989, 206, 171-191.	1.4	36
38	The observation of a triangular vortex in a rotating fluid. <i>Fluid Dynamics Research</i> , 1998, 22, 265-279.	0.6	35
39	Transition to Chaos in a Confined Two-Dimensional Fluid Flow. <i>Physical Review Letters</i> , 2005, 95, 104503.	2.9	35
40	Two-layer spin-up and frontogenesis. <i>Journal of Fluid Mechanics</i> , 1984, 143, 69-94.	1.4	34
41	Interaction of Barotropic Vortices with Coastal Topography: Laboratory Experiments and Numerical Simulations. <i>Journal of Physical Oceanography</i> , 2000, 30, 2141-2162.	0.7	34
42	Decay of dipolar vortex structures in a stratified fluid. <i>Physics of Fluids</i> , 1995, 7, 374-383.	1.6	33
43	Numerical and experimental study of the interaction between a vortex dipole and a circular cylinder. <i>Experiments in Fluids</i> , 1995, 18, 153-163.	1.1	32
44	Unsteady behaviour of a topography-modulated tripole. <i>Journal of Fluid Mechanics</i> , 1996, 307, 11-41.	1.4	32
45	Evolution of an isolated turbulent region in a stratified fluid. <i>Journal of Geophysical Research</i> , 1998, 103, 24857-24868.	3.3	32
46	Experiments on the evolution of gravitational instability of an overturned, initially stably stratified fluid. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 2461-2466.	1.6	31
47	Collapse of turbulence in stably stratified channel flow: a transient phenomenon. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2015, 141, 2137-2147.	1.0	30
48	Viscous evolution of 2D dipolar vortices. <i>Fluid Dynamics Research</i> , 1998, 22, 191-213.	0.6	29
49	Decaying quasi-2D turbulence in a stratified fluid with circular boundaries. <i>Europhysics Letters</i> , 1999, 46, 339-345.	0.7	28
50	Boundary layer development in the flow field between a rotating and a stationary disk. <i>Physics of Fluids</i> , 2012, 24, .	1.6	28
51	PIV measurements of a plane wall jet in a confined space at transitional slot Reynolds numbers. <i>Experiments in Fluids</i> , 2012, 53, 499-517.	1.1	27
52	PIV measurements of isothermal plane turbulent impinging jets at moderate Reynolds numbers. <i>Experiments in Fluids</i> , 2017, 58, 1.	1.1	27
53	Laboratory experiments on intrusive flows and internal waves in a pycnocline. <i>Journal of Fluid Mechanics</i> , 2001, 432, 285-311.	1.4	26
54	Ekman decay of a dipolar vortex in a rotating fluid. <i>Physics of Fluids</i> , 2001, 13, 440-451.	1.6	26

#	ARTICLE	IF	CITATIONS
55	Dynamics of a vortex ring in a rotating fluid. <i>Journal of Fluid Mechanics</i> , 1996, 317, 215-239.	1.4	25
56	Influence of dilated cardiomyopathy and a left ventricular assist device on vortex dynamics in the left ventricle. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2008, 11, 649-660.	0.9	25
57	Three-dimensional flow in electromagnetically driven shallow two-layer fluids. <i>Physical Review E</i> , 2010, 82, 026314.	0.8	25
58	The structure of sidewall boundary layers in confined rotating Rayleigh-Bénard convection. <i>Journal of Fluid Mechanics</i> , 2013, 727, 509-532.	1.4	25
59	Collapse interactions of finite-sized two-dimensional vortices. <i>Physics of Fluids</i> , 1997, 9, 3315-3322.	1.6	24
60	Chaotic transport by dipolar vortices on a \hat{I}^2 -plane. <i>Journal of Fluid Mechanics</i> , 1995, 291, 139-161.	1.4	23
61	Decaying quasi-two-dimensional viscous flow on a square domain. <i>Physics of Fluids</i> , 1998, 10, 595-606.	1.6	23
62	Dissipation of kinetic energy in two-dimensional bounded flows. <i>Physical Review E</i> , 2002, 65, 066305.	0.8	23
63	Mixing in the Stokes flow in a cylindrical container. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2002, 458, 1867-1885.	1.0	23
64	A model for vortical plumes in rotating convection. <i>Physics of Fluids</i> , 2008, 20, .	1.6	23
65	Collision of dipolar vortices on a \hat{I}^2 plane. <i>Physics of Fluids</i> , 1995, 7, 2735-2750.	1.6	22
66	Self-organization of decaying quasi-two-dimensional turbulence in stratified fluid in rectangular containers. <i>Journal of Fluid Mechanics</i> , 2003, 495, 19-33.	1.4	22
67	Laboratory experiments on multipolar vortices in a rotating fluid. <i>Physics of Fluids</i> , 2010, 22, .	1.6	21
68	Dipolar vortices in a strain flow. <i>Physics of Fluids</i> , 1998, 10, 144-159.	1.6	20
69	Extreme Small-Scale Clustering of Droplets in Turbulence Driven by Hydrodynamic Interactions. <i>Physical Review Letters</i> , 2018, 120, 244504.	2.9	20
70	Dynamics of monopolar vortices in a strain flow. <i>Journal of Fluid Mechanics</i> , 1997, 345, 165-201.	1.4	19
71	The shear-layer structure in a rotating fluid near a differentially rotating sidewall. <i>Journal of Fluid Mechanics</i> , 1983, 130, 1.	1.4	18
72	Experiments on convection from a horizontal plate with and without background rotation. <i>Experiments in Fluids</i> , 1994, 16-16, 155-164.	1.1	18

#	ARTICLE	IF	CITATIONS
73	The spin-up of fluid in a rectangular container with sloping bottom. <i>Journal of Fluid Mechanics</i> , 1994, 265, 125-159.	1.4	18
74	Evolution and instability of monopolar vortices in a stratified fluid. <i>Physics of Fluids</i> , 2003, 15, 1033-1045.	1.6	18
75	Dynamics and structure of decaying shallow dipolar vortices. <i>Physics of Fluids</i> , 2010, 22, .	1.6	18
76	Dissipation of coherent structures in confined two-dimensional turbulence. <i>Physics of Fluids</i> , 2017, 29, 111103.	1.6	18
77	Inertia-induced coherent structures in a time-periodic viscous mixing flow. <i>Physics of Fluids</i> , 2006, 18, 083603.	1.6	17
78	Vortices in oscillating spin-up. <i>Journal of Fluid Mechanics</i> , 2007, 573, 339-369.	1.4	17
79	An experimental study of the effect of external turbulence on the decay of a single vortex and a vortex pair. <i>Journal of Fluid Mechanics</i> , 2011, 670, 214-239.	1.4	17
80	The evolution of an isolated turbulent region in a two-layer fluid. <i>Physics of Fluids</i> , 1994, 6, 287-296.	1.6	16
81	Decay of monopolar vortices in a stratified fluid. <i>Fluid Dynamics Research</i> , 1998, 23, 27-43.	0.6	16
82	The Behavior of Jet Currents over a Continental Slope Topography with a Possible Application to the Northern Current. <i>Journal of Physical Oceanography</i> , 2005, 35, 790-810.	0.7	16
83	Merger of coherent structures in time-periodic viscous flows. <i>Chaos</i> , 2006, 16, 043104.	1.0	16
84	Motion of a two-dimensional monopolar vortex in a bounded rectangular domain. <i>Physics of Fluids</i> , 1996, 8, 2393-2399.	1.6	15
85	Dipole formation by two interacting shielded monopoles in a stratified fluid. <i>Physics of Fluids</i> , 2002, 14, 704-720.	1.6	15
86	Horizontal and vertical motions of barotropic vortices over a submarine mountain. <i>Journal of Fluid Mechanics</i> , 2012, 695, 173-198.	1.4	15
87	Spin-up in a rectangular tank with low angular velocity. <i>Physics of Fluids</i> , 1994, 6, 1168-1176.	1.6	14
88	Two-dimensional flows with zero net momentum: evolution of vortex quadrupoles and oscillating-grid turbulence. <i>Journal of Fluid Mechanics</i> , 1995, 282, 21-44.	1.4	14
89	Monopolar vortices in an irrotational annular shear flow. <i>Journal of Fluid Mechanics</i> , 1998, 360, 273-294.	1.4	14
90	Virial theorem for an inhomogeneous medium, boundary conditions for the wave functions, and stress tensor in quantum statistics. <i>Physical Review E</i> , 2010, 82, 010102.	0.8	14

#	ARTICLE	IF	CITATIONS
91	Wave pattern formation in a fluid annulus with a radially vibrating inner cylinder. <i>Journal of Fluid Mechanics</i> , 1996, 328, 229-252.	1.4	13
92	Numerical simulation of barotropic jets over a sloping bottom: Comparison to a laboratory model of the Northern Current. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	13
93	Influence of initial conditions on decaying two-dimensional turbulence. <i>Physics of Fluids</i> , 2007, 19, 046601.	1.6	13
94	Meandering streams in a shallow fluid layer. <i>Europhysics Letters</i> , 2009, 85, 54001.	0.7	13
95	Free-surface effects on spin-up in a rectangular tank. <i>Journal of Fluid Mechanics</i> , 1997, 334, 189-210.	1.4	12
96	Spontaneous angular momentum generation of two-dimensional fluid flow in an elliptic geometry. <i>Physical Review E</i> , 2008, 78, 036301.	0.8	12
97	Scaling of decaying shallow axisymmetric swirl flows. <i>Journal of Fluid Mechanics</i> , 2010, 648, 471-484.	1.4	12
98	Dynamics of a vortex ring moving perpendicularly to the axis of a rotating fluid. <i>Journal of Fluid Mechanics</i> , 1998, 354, 69-100.	1.4	11
99	Interaction of dipolar vortices with a step-like topography. <i>Physics of Fluids</i> , 2006, 18, 056603.	1.6	11
100	Dynamics of two identical vortices in linear shear. <i>Physics of Fluids</i> , 2010, 22, 117104.	1.6	11
101	Scaling and asymmetry in an electromagnetically forced dipolar flow structure. <i>Physical Review E</i> , 2011, 83, 016306.	0.8	11
102	Nonlinear spin-up in a circular cylinder. <i>Physics of Fluids</i> , 1995, 7, 2989-2999.	1.6	9
103	On the interaction between two oppositely signed, shielded, monopolar vortices. <i>Physics of Fluids</i> , 1998, 10, 3099-3110.	1.6	9
104	Ω^2 -plane turbulence in a basin with no-slip boundaries. <i>Physics of Fluids</i> , 2006, 18, 026603.	1.6	9
105	Regimes of two-dimensionality of decaying shallow axisymmetric swirl flows with background rotation. <i>Journal of Fluid Mechanics</i> , 2012, 691, 214-244.	1.4	9
106	The maximum sustainable heat flux in stably stratified channel flows. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2016, 142, 781-792.	1.0	9
107	Spin-up in a semicircular cylinder. <i>International Journal for Numerical Methods in Fluids</i> , 1992, 15, 503-524.	0.9	8
108	The strain rate in evolutions of (elliptical) vortices in inviscid two-dimensional flows. <i>Physics of Fluids</i> , 2001, 13, 3699-3708.	1.6	8

#	ARTICLE	IF	CITATIONS
109	Vortex models based on similarity solutions of the two-dimensional diffusion equation. <i>Physics of Fluids</i> , 2004, 16, 3997-4011.	1.6	8
110	On the Reynolds number scaling of vorticity production at no-slip walls during vortex-wall collisions. <i>Theoretical and Computational Fluid Dynamics</i> , 2011, 25, 293-300.	0.9	8
111	Lyapunov-stability of solution branches of rotating disk flow. <i>Physics of Fluids</i> , 2013, 25, 073602.	1.6	8
112	Modelling the separation and eddy formation of coastal currents in a stratified tank. <i>Experiments in Fluids</i> , 1992, 13, 11-16.	1.1	7
113	Experiments and Simulations on Coastal Flows in the Presence of a Topographic Slope. <i>Journal of Physical Oceanography</i> , 2005, 35, 2204-2218.	0.7	7
114	Interaction of monopoles, dipoles, and turbulence with a shear flow. <i>Physics of Fluids</i> , 2016, 28, 093603.	1.6	7
115	Formation of a Tripolar Vortex in a Stratified Fluid. <i>Fluid Mechanics and Its Applications</i> , 1993, , 405-409.	0.1	7
116	Source-sink flow in a rotating cylinder. <i>Journal of Engineering Mathematics</i> , 1984, 18, 247-257.	0.6	6
117	Fluid flow in a partially-filled rotating cylinder. <i>Journal of Engineering Mathematics</i> , 1986, 20, 233-250.	0.6	6
118	Similarities of Patterns in Fluid and Granulated Flow Inside a Horizontally Rotating Cylinder. <i>International Applied Mechanics</i> , 2001, 37, 929-934.	0.2	6
119	Attractor crisis and bursting in a fluid flow with two no-slip directions. <i>Physical Review E</i> , 2007, 75, 036309.	0.8	6
120	Vortex dipole collision with a sliding wall. <i>Fluid Dynamics Research</i> , 2013, 45, 045501.	0.6	6
121	Kinematic properties of monopolar vortices in a strain flow. <i>Fluid Dynamics Research</i> , 1998, 23, 319-341.	0.6	5
122	Experiments on barotropic vortex-wall interaction on a topographic $\hat{1}^2$ plane. <i>Journal of Geophysical Research</i> , 1999, 104, 10917-10932.	3.3	5
123	Linear spin-up in a sliced cylinder. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2000, 92, 85-114.	0.4	5
124	Structure-function scaling of bounded two-dimensional turbulence. <i>Physical Review E</i> , 2011, 84, 026310.	0.8	5
125	The theory of a metal-insulator transition at zero temperature and features of the dielectric function in the Coulomb model of matter. <i>High Temperature</i> , 2013, 51, 457-464.	0.1	5
126	Shallow flows: 2D or not 2D?. <i>Environmental Fluid Mechanics</i> , 2014, 14, 945-956.	0.7	5

#	ARTICLE	IF	CITATIONS
127	PHOSPHORESCENT FLOW TRACKING FOR QUANTITATIVE MEASUREMENTS OF LIQUID SPRAY DISPERSION. <i>Atomization and Sprays</i> , 2016, 26, 219-233.	0.3	5
128	Frontal upwelling in a rotating two-layer fluid. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1984, 29, 139-153.	0.4	4
129	Spin-up in a circular tank with a radial barrier. <i>Physics of Fluids</i> , 1996, 8, 2048-2059.	1.6	4
130	On the large-scale structure and spectral dynamics of two-dimensional turbulence in a periodic channel. <i>Physics of Fluids</i> , 2008, 20, 056602.	1.6	4
131	Spin-up in a rectangular tank with a discontinuous topography. <i>Physics of Fluids</i> , 1996, 8, 2943-2952.	1.6	3
132	Contour Dynamics with Non-uniform Background Vorticity. <i>International Journal of Computational Fluid Dynamics</i> , 2001, 15, 227-249.	0.5	3
133	Inertial oscillations in a confined monopolar vortex subjected to background rotation. <i>Physics of Fluids</i> , 2009, 21, 116602.	1.6	3
134	The break-up of Ekman theory in a flow subjected to background rotation and driven by a non-conservative body force. <i>Physics of Fluids</i> , 2012, 24, .	1.6	3
135	Lanthanide-based laser-induced phosphorescence for spray diagnostics. <i>Review of Scientific Instruments</i> , 2016, 87, 033702.	0.6	3
136	High-resolution single-camera photogrammetry: incorporation of refraction at a fluid interface. <i>Experiments in Fluids</i> , 2020, 61, 1.	1.1	3
137	An analytical model for ice-edge upwelling. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1984, 29, 155-177.	0.4	2
138	Generalized point-vortex model for the motion of a dipole-vortex on the $\hat{\mathbf{i}}^2$ -plane. <i>Fluid Dynamics Research</i> , 1998, 23, 113-124.	0.6	2
139	Experiments and simulations on self-organization of confined quasi-two-dimensional turbulent flows with discontinuous topography. <i>Physics of Fluids</i> , 2010, 22, 025101.	1.6	2
140	Experimental stabilisation of 2D vortex patterns using time-dependent forcing. <i>Europhysics Letters</i> , 2013, 104, 24003.	0.7	2
141	Preferential states of rotating turbulent flows in a square container with a step topography. <i>Physics of Fluids</i> , 2013, 25, .	1.6	2
142	On the Oceanic Circulation Near a Shelf-Ice Edge. <i>Glaciology and Quaternary Geology</i> , 1987, , 37-56.	0.5	2
143	Effect of microbubble-induced cavitation on the dispersion of sprays. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	2
144	Spin-up in a rectangular container with an internal cylindrical obstacle. <i>Physics of Fluids</i> , 2000, 12, 1986-1996.	1.6	1

#	ARTICLE	IF	CITATIONS
145	Stability and transport properties of multiple-patch quasiequilibria. <i>Physics of Fluids</i> , 2004, 16, 3656-3669.	1.6	1
146	A Note on the Effects of Solid Boundaries on Confined Decaying 2D Turbulence. , 2003, , 305-324.		1
147	The Okubo-Weiss criterion in hydrodynamic flows: geometric aspects and further extension. <i>Fluid Dynamics Research</i> , 2022, 54, 015505.	0.6	1
148	Dispersion and Mixing in Quasi-two-dimensional Rotating Flows. , 2008, , 119-136.		0
149	Decreasing luminescence lifetime of evaporating phosphorescent droplets. <i>Applied Physics Letters</i> , 2016, 109, 234103.	1.5	0
150	Wavelength selection of vortex ripples in an oscillating cylinder: The effect of curvature and background rotation. <i>Physical Review E</i> , 2019, 99, 033105.	0.8	0
151	The 3D character of decaying turbulence in a shallow fluid layer. <i>Springer Proceedings in Physics</i> , 2009, , 293-296.	0.1	0
152	The minimum-entropy principle for decaying 2D turbulence in circular domains. <i>Springer Proceedings in Physics</i> , 2009, , 257-260.	0.1	0
153	Spin-Up in Non-Axisymmetric Containers. , 1993, , 155-162.		0