Genta Kawahara

List of Publications by Year
in descending order

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59 papers	1,569 citations	471509 17 h-index	289244 40 g-index
59 all docs	59 docs citations	59 times ranked	752 citing authors

#	Article	IF	Citations
1	Periodic motion embedded in plane Couette turbulence: regeneration cycle and burst. Journal of Fluid Mechanics, 2001, 449, 291-300.	3.4	329
2	The Significance of Simple Invariant Solutions in Turbulent Flows. Annual Review of Fluid Mechanics, 2012, 44, 203-225.	25.0	240
3	Turbulent shear flow over active and passive porous surfaces. Journal of Fluid Mechanics, 2001, 442, 89-117.	3.4	150
4	Reynolds number dependence of mean flow structure in square duct turbulence. Journal of Fluid Mechanics, 2010, 644, 107-122.	3.4	140
5	Marginally turbulent flow in a square duct. Journal of Fluid Mechanics, 2007, 588, 153-162.	3.4	97
6	Characterization of near-wall turbulence in terms of equilibrium and â€œburstingâ€•solutions. Physics of Fluids, 2005, 17, 015105.	4.0	94
7	Laminarization of minimal plane Couette flow: Going beyond the basin of attraction of turbulence. Physics of Fluids, 2005, 17, 041702.	4.0	51
8	Hierarchy of antiparallel vortex tubes in spatially periodic turbulence at high Reynolds numbers. Physical Review Fluids, 2017, 2, .	2.5	50
9	Periodic motion representing isotropic turbulence. Fluid Dynamics Research, 2006, 38, 19-46.	1.3	46
10	Homoclinic Tangle on the Edge of Shear Turbulence. Physical Review Letters, 2011, 107, 114501.	7.8	45
11	Wrap, tilt and stretch of vorticity lines around a strong thin straight vortex tube in a simple shear flow. Journal of Fluid Mechanics, 1997, 353, 115-162.	3.4	37
12	Linear instability of a corrugated vortex sheet â€“ a model for streak instability. Journal of Fluid Mechanics, 2003, 483, 315-342.	3.4	35
13	Traveling-waves consistent with turbulence-driven secondary flow in a square duct. Physics of Fluids, 2010, 22, .	4.0	29
14	On Matrix-Free Computation of 2D Unstable Manifolds. SIAM Journal of Scientific Computing, 2011, 33, 25-44.	2.8	22
15	The onset of transient turbulence in minimal plane Couette flow. Journal of Fluid Mechanics, 2019, 862, .	3.4	19
16	Turbulent mixing in a precessing sphere. Physics of Fluids, 2014, 26, 115106.	4.0	18
17	Quasi-cyclic evolution of turbulence driven by a steady force in a periodic cube. Fluid Dynamics Research, 2014, 46, 061413.	1.3	17
18	Optimal heat transfer enhancement in plane Couette flow. Journal of Fluid Mechanics, 2018, 835, 1157-1198.	3.4	17

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19	Localized turbulence structures in transitional rectangular-duct flow. Journal of Fluid Mechanics, 2015, 782, 368-379.	3.4	16
20	Maximal heat transfer between two parallel plates. Journal of Fluid Mechanics, 2018, 851, .	3.4	15
21	Energy dissipation in spiral vortex layers wrapped around a straight vortex tube. Physics of Fluids, 2005, 17, 055111.	4.0	14
22	Resonant Thermal Convections in a Square Cavity Induced by Heat-Flux Vibration on the Bottom Wall. Numerical Heat Transfer; Part A: Applications, 2010, 58, 20-40.	2.1	11
23	Multi-scale steady solution for Rayleighâ€“BÃ©nard convection. Journal of Fluid Mechanics, 2021, 914, .	3.4	11
24	Time-Periodic Inertial Range Dynamics. Physical Review Letters, 2019, 123, 134502.	7.8	9
25	Ultimate heat transfer in â€˜wall-boundedâ€™ convective turbulence. Journal of Fluid Mechanics, 2021, 914, .	3.4	9
26	Generation and sustenance mechanisms of coherent vortical structures in rotating shear turbulence of zero-mean-absolute vorticity. Fluid Dynamics Research, 2004, 35, 237-254.	1.3	8
27	Three-Dimensional Vortical Structures of a Backward-Facing Step Flow at Moderate Reynolds Numbers. Journal of the Physical Society of Japan, 2001, 70, 3550-3555.	1.6	7
28	Unstable periodic orbits in plane Couette flow with the Smagorinsky model. Journal of Physics: Conference Series, 2016, 708, 012003.	0.4	4
29	Transitions in large eddy simulation of box turbulence. European Physical Journal: Special Topics, 2018, 227, 463-480.	2.6	4
30	A vortex interaction mechanism for generating energy and enstrophy fluctuations in high-symmetric turbulence. Journal of Fluid Mechanics, 2019, 874, 639-676.	3.4	4
31	Internal gravity wave resonance of thermal convection fields in rectangular cavities with heat-flux vibration (effects of aspect ratio on the fields). Heat Transfer - Asian Research, 2007, 36, 158-171.	2.8	3
32	Forced oscillations, optimal forcing and resonance of thermal convection under small, time-varying forcing. International Journal of Heat and Mass Transfer, 2012, 55, 6618-6631.	4.8	3
33	Steady thermal convection representing the ultimate scaling. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210037.	3.4	3
34	Average and extremal properties of heat transfer and shear stress on a wall surface in Rayleighâ€“BÃ©nard convection. Heat and Mass Transfer, 2009, 46, 153-165.	2.1	2
35	Reynolds number dependence of mean flow structure in square duct turbulence â€“ CORRIGENDUM. Journal of Fluid Mechanics, 2010, 653, 537-537.	3.4	2
36	Second-order approximation to forced oscillations of thermal convection under small time-varying forcing. International Journal of Heat and Mass Transfer, 2016, 96, 145-153.	4.8	2

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37	Bifurcation structure of unstable periodic orbits in plane Couette flow with the Smagorinsky model. Physical Review Fluids, 2021, 6, .	2.5	2
38	Can preferential concentration of finite-size particles in plane Couette turbulence be reproduced with the aid of equilibrium solutions?. Physical Review Fluids, 2020, 5, .	2.5	2
39	Vorticity Stretching and Energy Dissipation around a Straight Vortex Tube in a Uniform Shear Flow.. JSME International Journal Series B, 2001, 44, 369-377.	0.3	1
40	The ultimate state of turbulent permeable-channel flow. Journal of Fluid Mechanics, 2022, 931, .	3.4	1
41	Application of Three-Layer Model Analysis to Single-Component Two-Phase Critical Flow through a Converging Nozzle. (Comparison of the Experimental Results for Steam-Water Mixture and Carbon) Tj ETQq1 1 0.784314 rgBT /Overlo	0.4	0
42	Internal Gravity Wave Resonance of Thermal Convection Fields in Rectangular Cavities with Heat-Flux Vibration (Effects of Aspect Ratio on the Fields). 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2006, 72, 1789-1796.	0.2	0
43	Unstable Periodic Motion Embedded in Turbulent Flows. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2006, 72, 2870-2877.	0.2	0
44	Global, nonparametric, noniterative optimization of time-averaged quantities under small, time-varying forcing: An application to a thermal convection field. Numerical Heat Transfer, Part B: Fundamentals, 2019, 76, 185-202.	0.9	0
45	Bimodal vortex solutions on a sphere. Physica D: Nonlinear Phenomena, 2020, 406, 132438.	2.8	0
46	F08 Nonparametric sensitivity analysis and its application to optimal control on the unsteady convective heat transfer problem. The Proceedings of Conference of Kyushu Branch, 2008, 2008, 227-228.	0.0	0
47	0116 Large-eddy simulation of developed turbulence in hyperbolic stagnation-point flow. The Proceedings of the Fluids Engineering Conference, 2012, 2012, 35-36.	0.0	0
48	0506 Direct numerical simulation of turbulent channel flow at high Reynolds number. The Proceedings of the Fluids Engineering Conference, 2013, 2013, _0506-01_-_0506-02_.	0.0	0
49	0513 Transient turbulence in rectangular-duct flows. The Proceedings of the Fluids Engineering Conference, 2013, 2013, _0513-01_-_0513-03_.	0.0	0
50	0504 An edge state in transitional square-duct flow. The Proceedings of the Fluids Engineering Conference, 2013, 2013, _0504-01_-_0504-03_.	0.0	0
51	0509 An edge state and relaminarization in transitional pipe flow. The Proceedings of the Fluids Engineering Conference, 2013, 2013, _0509-01_-_0509-03_.	0.0	0
52	S051032 Modulation of turbulence by surfactant in a precessing sphere. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _S051032-1-_S051032-5.	0.0	0
53	J0570204 Maximization of dissimilarity between momentum and heat transfer. The Proceedings of Mechanical Engineering Congress Japan, 2014, 2014, _J0570204-_J0570204-.	0.0	0
54	10.1063/1.4901449.1. , 2014, , .		0

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55	J0550203 Onset of chaotic reversals in thermal convection. The Proceedings of Mechanical Engineering Congress Japan, 2015, 2015, _J0550203--_J0550203-.	0.0	0
56	HOMOCLINIC ORBITS IN TRANSITIONAL PLANE COUETTE FLOW. Journal of Computational Fluids Engineering, 2015, 20, 58-62.	0.0	0
57	Optimization of forced convection heat transfer by using variational principle. The Proceedings of Mechanical Engineering Congress Japan, 2016, 2016, J0530102.	0.0	0
58	The Action and Plan in School/Graduate School of Engineering Science, Osaka University. The Proceedings of Mechanical Engineering Congress Japan, 2016, 2016, W261004.	0.0	0
59	Turbulent heat and momentum transfer in Rayleigh-BÃ©nard-Poiseuille flow. The Proceedings of Mechanical Engineering Congress Japan, 2016, 2016, J0530101.	0.0	0