

Paolo Luchini

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Wall Turbulence and Turbulent Drag Reduction. , 2022, , 349-364.		3
2	Studying Sound Production in the Hole-Tone Configuration Using Compressible and Incompressible Global Stability Analyses. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2021, , 251-263.	0.2	2
3	Acoustic impedance and hydrodynamic instability of the flow through a circular aperture in a thick plate. Journal of Fluid Mechanics, 2020, 885, .	1.4	15
4	Turbulent drag reduction over curved walls. Journal of Fluid Mechanics, 2020, 896, .	1.4	17
5	On the Stability of Subsonic Impinging Jets. Lecture Notes in Mechanical Engineering, 2020, , 99-116.	0.3	2
6	The acoustic impedance of a laminar viscous jet through a thin circular aperture. Journal of Fluid Mechanics, 2019, 864, 5-44.	1.4	14
7	On the large difference between Benjamin's and Hanratty's formulations of perturbed flow over uneven terrain. Journal of Fluid Mechanics, 2019, 871, 534-561.	1.4	3
8	Inviscid flow separation at the crest of an erodible dune. Physical Review Fluids, 2019, 4, .	1.0	4
9	Law of the Wall and Law of the Wake in Turbulent Parallel Flow. Springer Proceedings in Physics, 2019, , 63-68.	0.1	2
10	Structure and interpolation of the turbulent velocity profile in parallel flow. European Journal of Mechanics, B/Fluids, 2018, 71, 15-34.	1.2	26
11	A probabilistic framework for the control of systems with discrete states and stochastic excitation. Automatica, 2018, 88, 113-116.	3.0	2
12	Viscous and inviscid simulations of the start-up vortex. Journal of Fluid Mechanics, 2017, 813, 53-69.	1.4	3
13	Addendum to "Immersed-boundary simulations of turbulent flow past a sinusoidally undulated river bottom". [Eur. J. Mech. B Fluids 55 (2016) 340-347]. European Journal of Mechanics, B/Fluids, 2017, 62, 57-58.	1.2	2
14	Towards a quantitative comparison between global and local stability analysis. Journal of Fluid Mechanics, 2017, 819, 147-164.	1.4	13
15	Efficient stabilization and acceleration of numerical simulation of fluid flows by residual recombination. Journal of Computational Physics, 2017, 344, 234-246.	1.9	35
16	Stability and Sensitivity Analysis of the Secondary Instability in the Sphere Wake. AIAA Journal, 2017, 55, 3661-3668.	1.5	18
17	A fast algorithm for the estimation of statistical error in DNS (or experimental) time averages. Journal of Computational Physics, 2017, 347, 328-340.	1.9	23
18	Universality of the Turbulent Velocity Profile. Physical Review Letters, 2017, 118, 224501.	2.9	49

#	ARTICLE	IF	CITATIONS
19	Error sensitivity to refinement: a criterion for optimal grid adaptation. Theoretical and Computational Fluid Dynamics, 2017, 31, 595-605.	0.9	6
20	The flow past a freely rotating sphere. Theoretical and Computational Fluid Dynamics, 2017, 31, 475-482.	0.9	13
21	Receptivity to Thermal Noise of the Boundary Layer over a Swept Wing. AIAA Journal, 2017, 55, 121-130.	1.5	10
22	Quasilaminar regime in the linear response of a turbulent flow to wall waviness. Physical Review Fluids, 2017, 2, .	1.0	4
23	Linear stability and weakly nonlinear analysis of the flow past rotating spheres. Journal of Fluid Mechanics, 2016, 807, 62-86.	1.4	23
24	The linear response of turbulent flow to a volume force: comparison between eddy-viscosity model and DNS. Journal of Fluid Mechanics, 2016, 790, 104-127.	1.4	16
25	Contradictions in the Large-Wavelength Approximation of Turbulent Flow Past a Wavy Bottom. Springer Proceedings in Physics, 2016, , 155-159.	0.1	0
26	Methods for solution of large optimal control problems that bypass open-loop model reduction. Meccanica, 2016, 51, 2997-3014.	1.2	10
27	The speed of sound in periodic ducts. Journal of Sound and Vibration, 2016, 361, 243-250.	2.1	1
28	Immersed-boundary simulations of turbulent flow past a sinusoidally undulated river bottom. European Journal of Mechanics, B/Fluids, 2016, 55, 340-347.	1.2	14
29	Cylinder Wake Stabilization Using a Minimal Energy Compensator. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2016, , 335-348.	0.2	0
30	Calculation of the effective speed of sound in corrugated pipes by multiple scales. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 531-532.	0.2	1
31	Global stability and sensitivity analysis of boundary-layer flows past a hemispherical roughness element. Physics of Fluids, 2015, 27, .	1.6	35
32	Boundary-layer Flows Past an Hemispherical Roughness Element: DNS, Global Stability and Sensitivity Analysis. Procedia IUTAM, 2015, 14, 173-181.	1.2	5
33	Feedback control of vortex shedding using a full-order optimal compensator. Journal of Fluids and Structures, 2015, 53, 15-25.	1.5	22
34	Linear three-dimensional global and asymptotic stability analysis of incompressible open cavity flow. Journal of Fluid Mechanics, 2015, 768, 113-140.	1.4	34
35	Multiple-scale approximation of instabilities in unsteady boundary layers. European Journal of Mechanics, B/Fluids, 2015, 50, 1-8.	1.2	3
36	Boundary-layer receptivity to external disturbances using multiple scales. Meccanica, 2014, 49, 441-467.	1.2	12

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37	Adjoint Equations in Stability Analysis. Annual Review of Fluid Mechanics, 2014, 46, 493-517.	10.8	244
38	Linearized no-slip boundary conditions at a rough surface. Journal of Fluid Mechanics, 2013, 737, 349-367.	1.4	40
39	Stability and Sensitivity Analysis of Non-Newtonian Flow through an Axisymmetric Expansion. Journal of Physics: Conference Series, 2011, 318, 032015.	0.3	7
40	Turbulent Superfluid Profiles in a Counterflow Channel. Journal of Low Temperature Physics, 2011, 162, 354-360.	0.6	21
41	The phase lead of shear stress in shallow-water flow over a perturbed bottom. Journal of Fluid Mechanics, 2010, 665, 516-539.	1.4	25
42	Consistent section-averaged equations of quasi-one-dimensional laminar flow. Journal of Fluid Mechanics, 2010, 656, 337-341.	1.4	23
43	Structural sensitivity of the secondary instability in the wake of a circular cylinder. Journal of Fluid Mechanics, 2010, 651, 319-337.	1.4	46
44	A Thermodynamic Lower Bound on Transition-Triggering Disturbances. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 11-18.	0.1	10
45	Adjoint analysis of the flow over a forward-facing step. Theoretical and Computational Fluid Dynamics, 2009, 23, 37-54.	0.9	28
46	Streamwise oscillation of spanwise velocity at the wall of a channel for turbulent drag reduction. Physics of Fluids, 2009, 21, .	1.6	84
47	Structural Sensitivity of the Finite-Amplitude Vortex Shedding Behind a Circular Cylinder. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 151-160.	0.1	21
48	Turbulent drag reduction by feedback: a Wiener-filtering approach. Springer Proceedings in Physics, 2009, , 241-246.	0.1	0
49	Structural Sensitivity of Linear and Nonlinear Global Modes. , 2008, , .		9
50	Acoustic Streaming and Lower-than-Laminar Drag in Controlled Channel Flow. Mathematics in Industry, 2008, , 169-177.	0.1	4
51	Structural sensitivity of the first instability of the cylinder wake. Journal of Fluid Mechanics, 2007, 581, 167-197.	1.4	440
52	Effect of streamwise-periodic wall transpiration on turbulent friction drag. Journal of Fluid Mechanics, 2007, 576, 425-444.	1.4	15
53	Skin-friction Drag Reduction via Steady Streamwise Oscillations of Spanwise Velocity. , 2007, , 659-661.		4
54	Leading-edge receptivity by adjoint methods. Journal of Fluid Mechanics, 2006, 547, 21.	1.4	24

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55	Algebraic growth in a Blasius boundary layer: Nonlinear optimal disturbances. <i>European Journal of Mechanics, B/Fluids</i> , 2006, 25, 1-17.	1.2	38
56	A low-cost parallel implementation of direct numerical simulation of wall turbulence. <i>Journal of Computational Physics</i> , 2006, 211, 551-571.	1.9	55
57	The phase-locked mean impulse response of a turbulent channel flow. <i>Physics of Fluids</i> , 2006, 18, 121702.	1.6	11
58	Acoustic streaming past a vibrating wall. <i>Physics of Fluids</i> , 2005, 17, 122106.	1.6	7
59	Modification of Turbulent Flow Using Distributed Transpiration. <i>Canadian Aeronautics and Space Journal</i> , 2005, 51, 61-69.	0.1	1
60	Is a plane liquid curtain algebraically absolutely unstable?. <i>Physics of Fluids</i> , 2004, 16, 2154-2157.	1.6	4
61	Algebraic growth in a Blasius boundary layer: optimal and robust control by mean suction in the nonlinear regime. <i>Journal of Fluid Mechanics</i> , 2004, 513, 135-160.	1.4	37
62	Instability of a nearly inextensible thin layer in a shear flow. <i>European Journal of Mechanics, B/Fluids</i> , 2003, 22, 39-50.	1.2	3
63	Stability analysis of a shear flow with strongly stratified viscosity. <i>Journal of Fluid Mechanics</i> , 2003, 496, 295-312.	1.4	55
64	The effect of base flow variation on flow stability. <i>Journal of Fluid Mechanics</i> , 2003, 476, 293-302.	1.4	100
65	Integral space-time scales in turbulent wall flows. <i>Physics of Fluids</i> , 2003, 15, 2219-2227.	1.6	57
66	The start-up vortex issuing from a semi-infinite flat plate. <i>Journal of Fluid Mechanics</i> , 2002, 455, 175-193.	1.4	24
67	Direct numerical simulation of the turbulent flow in a pipe with annular cross section. <i>European Journal of Mechanics, B/Fluids</i> , 2002, 21, 413-427.	1.2	27
68	Adjoint DNS of Turbulent Channel Flow. , 2002, , .		2
69	Time-Dependent Optimal Perturbations for the Algebraic Instability in the Nonlinear Regime. , 2002, , .		0
70	Linear stability and receptivity analyses of the Stokes layer produced by an impulsively started plate. <i>Physics of Fluids</i> , 2001, 13, 1668-1678.	1.6	20
71	Algebraic growth in boundary layers: optimal control by blowing and suction at the wall. <i>European Journal of Mechanics, B/Fluids</i> , 2000, 19, 469-490.	1.2	52
72	Paolo Orlandi, <i>Fluid Flow Phenomena – A Numerical Toolkit</i> . <i>Meccanica</i> , 2000, 35, 381-381.	1.2	0

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73	Reynolds-number-independent instability of the boundary layer over a flat surface: optimal perturbations. <i>Journal of Fluid Mechanics</i> , 2000, 404, 289-309.	1.4	445
74	Optimal Control by Blowing and Suction at the Wall of Algebraically Growing Boundary Layer Disturbances. , 2000, , 307-312.		3
75	Görtler vortices: Are they amenable to local eigenvalue analysis?. <i>European Journal of Mechanics, B/Fluids</i> , 1999, 18, 47-65.	1.2	37
76	Görtler vortices: a backward-in-time approach to the receptivity problem. <i>Journal of Fluid Mechanics</i> , 1998, 363, 1-23.	1.4	116
77	Reynolds-number-independent instability of the boundary layer over a flat surface. <i>Journal of Fluid Mechanics</i> , 1996, 327, 101-115.	1.4	99
78	Direction-Adaptive Nonreflecting Boundary Conditions. <i>Journal of Computational Physics</i> , 1996, 128, 121-133.	1.9	7
79	THE LINEAR STABILITY OF GÖRTLER VORTICES REVISITED. , 1996, , 1-14.		1
80	Effects of riblets upon flow stability. <i>Flow, Turbulence and Combustion</i> , 1995, 54, 313-321.	0.2	17
81	Creeping Flow in Partially Obstructed Ducts. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 1994, 74, 286-289.	0.9	3
82	Fourier analysis of numerical integration formulae. <i>Computer Physics Communications</i> , 1994, 83, 227-235.	3.0	3
83	End-correction integration formulae with optimized terminal sampling points. <i>Computer Physics Communications</i> , 1994, 83, 236-244.	3.0	0
84	Multigrid pressure correction techniques for the computation of quasi-incompressible internal flows. <i>International Journal for Numerical Methods in Fluids</i> , 1994, 18, 489-507.	0.9	4
85	Viscous sublayer analysis of riblets and wire arrays. <i>Flow, Turbulence and Combustion</i> , 1993, 50, 255-266.	0.2	2
86	Electric-discharge excited blast waves in a flat subsonic nozzle. <i>AIAA Journal</i> , 1993, 31, 1060-1067.	1.5	1
87	Compressible flow in a hovercraft air cushion. <i>AIAA Journal</i> , 1993, 31, 528-533.	1.5	2
88	Viscous sublayer analysis of riblets and wire arrays. <i>Fluid Mechanics and Its Applications</i> , 1993, , 255-266.	0.1	1
89	Viscous eddies over a grooved surface computed by a Gaussian-integration Galerkin boundary-element method. <i>AIAA Journal</i> , 1992, 30, 2168-2170.	1.5	15
90	A fast conformal mapping algorithm with no FFT. <i>Journal of Computational Physics</i> , 1992, 101, 368-374.	1.9	1

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91	Resistance of a grooved surface to parallel flow and cross-flow. Journal of Fluid Mechanics Digital Archive, 1991, 228, 87.	0.6	100
92	Eigenfunction Expansion for Creeping Flow in a Partially Obstructed Flow. Journal of Applied Mechanics, Transactions ASME, 1991, 58, 1091-1092.	1.1	0
93	A deferred-correction multigrid algorithm based on a new smoother for the Navier-Stokes equations. Journal of Computational Physics, 1991, 92, 349-368.	1.9	3
94	Higher-order difference approximations of the Navier-Stokes equations. International Journal for Numerical Methods in Fluids, 1991, 12, 491-506.	0.9	9
95	Solution of a coupled creeping-flow problem by the Wiener-Hopf method. Journal of Engineering Mathematics, 1991, 25, 23-30.	0.6	1
96	Unsteady Stokes Flow in a Distensible Pipe. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 1991, 71, 367-378.	0.9	7
97	Magnetization-vector analogy as a reformulation of the equations of fluid dynamics. AIAA Journal, 1991, 29, 474-477.	1.5	3
98	The Effects of Wall Thermal Resistance on Forced Convection Around Two-Dimensional Bodies. Journal of Heat Transfer, 1990, 112, 572-578.	1.2	1
99	Flow around simply and multiply connected bodies - A new iterative scheme for conformal mapping. AIAA Journal, 1989, 27, 345-351.	1.5	12
100	Variational solution of the wave equation for a high gain FEL and a finite wiggling radius. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1988, 272, 311-318.	0.7	1
101	Effects of bending on free electron laser performance. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1988, 272, 334-339.	0.7	1
102	Comments on "Effect of the radiation force on free-electron laser gain". IEEE Journal of Quantum Electronics, 1987, 23, 130-130.	1.0	0
103	An adaptive-mesh finite-difference solution method for the Navier-Stokes equations. Journal of Computational Physics, 1987, 68, 283-306.	1.9	13
104	More on optical guiding in an FEL. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1987, 259, 150-153.	0.7	6
105	Unsteady-state behaviour of enzyme membrane reactors with substrate rejection. Journal of Membrane Science, 1986, 27, 263-274.	4.1	1
106	Gain-induced reflection can be used for a high power X-ray laser. Physics Letters, Section A: General, Atomic and Solid State Physics, 1986, 116, 318-320.	0.9	0
107	Optical guiding in an FEL. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1986, 250, 413-417.	0.7	17
108	Analytical and numerical solutions for natural convection in a corner. AIAA Journal, 1986, 24, 841-848.	1.5	11

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109	An exact solution for the motion of an ultrarelativistic electron in a tapered undulator. Applied Physics B, Photophysics and Laser Chemistry, 1985, 37, 47-54.	1.5	0
110	Three-dimensional description of free electron lasers: Preliminary results. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1985, 237, 84-92.	0.7	0
111	On the optimal profile of a tapered undulator. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1985, 237, 389-394.	0.7	0
112	Gain and mode-coupling in a three-dimensional free-electron laser: A generalization of Madey's theorem. IEEE Journal of Quantum Electronics, 1985, 21, 952-965.	1.0	19
113	Instability of an equation arising in the theory of free-electron lasers. Physics Letters, Section A: General, Atomic and Solid State Physics, 1984, 103, 110-112.	0.9	1
114	Two-dimensional numerical integration using a square mesh. Computer Physics Communications, 1984, 31, 303-310.	3.0	6
115	Evaluation of the statistical distribution of spheroidal objects from measurements on metallographic cross sections. Meccanica, 1984, 19, 127-132.	1.2	2
116	An unsteady-state analysis of the hemofiltration processes. Journal of Membrane Science, 1983, 14, 303-329.	4.1	2
117	Madey's gain-spread theorem for the free-electron laser and the theory of stochastic processes. Journal of Applied Physics, 1982, 53, 5453-5458.	1.1	22
118	Use of indeterminate Padé approximations in the analysis of diffraction at the mirror edges of an optical resonator. Optics Letters, 1982, 7, 259.	1.7	3
119	Effective mass of an electron in an electromagnetic field. Physics Letters, Section A: General, Atomic and Solid State Physics, 1982, 91, 438-440.	0.9	5
120	On the theory of electron motion due to superposed em waves and its application to the free-electron laser with linear polarization. Applied Physics B, Photophysics and Laser Chemistry, 1982, 28, 15-20.	1.5	7
121	SURPRISING BEHAVIOUR AND SINGULARITY IN THE SAINT VENANT APPROXIMATION FOR A FLUID. Istituto Lombardo - Accademia Di Scienze E Lettere - Incontri Di Studio, 0, , .	0.0	0