

Denis Sipp

List of Publications by Year in descending order

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102
papers

3,764
citations

101496

36
h-index

133188

59
g-index

104
all docs

104
docs citations

104
times ranked

1350
citing authors

#	ARTICLE	IF	CITATIONS
1	Global stability of base and mean flows: a general approach and its applications to cylinder and open cavity flows. <i>Journal of Fluid Mechanics</i> , 2007, 593, 333-358.	1.4	277
2	Sensitivity analysis and passive control of cylinder flow. <i>Journal of Fluid Mechanics</i> , 2008, 615, 221-252.	1.4	276
3	Dynamics and Control of Global Instabilities in Open-Flows: A Linearized Approach. <i>Applied Mechanics Reviews</i> , 2010, 63, .	4.5	190
4	Closed-loop control of an open cavity flow using reduced-order models. <i>Journal of Fluid Mechanics</i> , 2009, 641, 1-50.	1.4	186
5	Conditions for validity of mean flow stability analysis. <i>Journal of Fluid Mechanics</i> , 2016, 798, 485-504.	1.4	136
6	Stability, Receptivity, and Sensitivity Analyses of Buffeting Transonic Flow over a Profile. <i>AIAA Journal</i> , 2015, 53, 1980-1993.	1.5	125
7	Kelvin waves and the singular modes of the Lamb-Oseen vortex. <i>Journal of Fluid Mechanics</i> , 2006, 551, 235.	1.4	108
8	Global mode interaction and pattern selection in the wake of a disk: a weakly nonlinear expansion. <i>Journal of Fluid Mechanics</i> , 2009, 633, 159-189.	1.4	100
9	Amplifier and resonator dynamics of a low-Reynolds-number recirculation bubble in a global framework. <i>Journal of Fluid Mechanics</i> , 2008, 605, 429-443.	1.4	82
10	A data-assimilation method for Reynolds-averaged Navier-Stokes-driven mean flow reconstruction. <i>Journal of Fluid Mechanics</i> , 2014, 759, 404-431.	1.4	79
11	Effect of base-flow variation in noise amplifiers: the flat-plate boundary layer. <i>Journal of Fluid Mechanics</i> , 2011, 687, 503-528.	1.4	78
12	Characterization of noise amplifiers with global singular modes: the case of the leading-edge flat-plate boundary layer. <i>Theoretical and Computational Fluid Dynamics</i> , 2013, 27, 617-635.	0.9	77
13	Direct and adjoint global modes of a recirculation bubble: lift-up and convective non-normalities. <i>Journal of Fluid Mechanics</i> , 2009, 622, 1-21.	1.4	74
14	Three-dimensional centrifugal-type instabilities of two-dimensional flows in rotating systems. <i>Physics of Fluids</i> , 2000, 12, 1740-1748.	1.6	72
15	A physics-based approach to flow control using system identification. <i>Journal of Fluid Mechanics</i> , 2012, 702, 26-58.	1.4	71
16	Interaction between feedback aeroacoustic and acoustic resonance mechanisms in a cavity flow: a global stability analysis. <i>Journal of Fluid Mechanics</i> , 2013, 717, 134-165.	1.4	70
17	Instability and unsteadiness of aircraft wake vortices. <i>Aerospace Science and Technology</i> , 2003, 7, 577-593.	2.5	67
18	Self-adaptation and viscous selection in concentrated two-dimensional vortex dipoles. <i>Physics of Fluids</i> , 2000, 12, 245-248.	1.6	57

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19	A global analysis of tonal noise in flows around aerofoils. <i>Journal of Fluid Mechanics</i> , 2014, 754, 5-38.	1.4	57
20	Unsteadiness in transonic shock-wave/boundary-layer interactions: experimental investigation and global stability analysis. <i>Journal of Fluid Mechanics</i> , 2015, 781, 550-577.	1.4	56
21	Quasi-laminar stability and sensitivity analyses for turbulent flows: Prediction of low-frequency unsteadiness and passive control. <i>Physics of Fluids</i> , 2014, 26, .	1.6	55
22	Vortices in rotating systems: Centrifugal, elliptic and hyperbolic type instabilities. <i>Physics of Fluids</i> , 1999, 11, 3716-3728.	1.6	52
23	Elliptic instability in two-dimensional flattened Taylor's "Green vortices. <i>Physics of Fluids</i> , 1998, 10, 839-849.	1.6	51
24	Widnall instabilities in vortex pairs. <i>Physics of Fluids</i> , 2003, 15, 1861-1874.	1.6	51
25	Linear Closed-Loop Control of Fluid Instabilities and Noise-Induced Perturbations: A Review of Approaches and Tools ¹ . <i>Applied Mechanics Reviews</i> , 2016, 68, .	4.5	47
26	Efficient evaluation of the direct and adjoint linearized dynamics from compressible flow solvers. <i>Journal of Computational Physics</i> , 2012, 231, 7739-7755.	1.9	44
27	Stochastic dynamics and model reduction of amplifier flows: the backward facing step flow. <i>Journal of Fluid Mechanics</i> , 2013, 719, 406-430.	1.4	44
28	Unsteadiness in the wake of disks and spheres: Instability, receptivity and control using direct and adjoint global stability analyses. <i>Journal of Fluids and Structures</i> , 2009, 25, 601-616.	1.5	43
29	Effect of compressibility on the global stability of axisymmetric wake flows. <i>Journal of Fluid Mechanics</i> , 2010, 660, 499-526.	1.4	43
30	Closed-loop control of unsteadiness over a rounded backward-facing step. <i>Journal of Fluid Mechanics</i> , 2012, 703, 326-362.	1.4	42
31	Optimal eddy viscosity for resolvent-based models of coherent structures in turbulent jets. <i>Journal of Fluid Mechanics</i> , 2021, 917, .	1.4	42
32	Open-loop control of compressible afterbody flows using adjoint methods. <i>Physics of Fluids</i> , 2010, 22, .	1.6	41
33	Transonic buffet instability: From two-dimensional airfoils to three-dimensional swept wings. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	41
34	Computation of eigenvalue sensitivity to base flow modifications in a discrete framework: Application to open-loop control. <i>Journal of Computational Physics</i> , 2014, 269, 234-258.	1.9	40
35	Data assimilation of mean velocity from 2D PIV measurements of flow over an idealized airfoil. <i>Experiments in Fluids</i> , 2017, 58, 1.	1.1	40
36	Weakly nonlinear saturation of short-wave instabilities in a strained Lamb's "Oseen vortex. <i>Physics of Fluids</i> , 2000, 12, 1715-1729.	1.6	36

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37	Input-output measures for model reduction and closed-loop control: application to global modes. <i>Journal of Fluid Mechanics</i> , 2011, 685, 23-53.	1.4	36
38	Optimal amplification of the Crow instability. <i>Physics of Fluids</i> , 2007, 19, .	1.6	34
39	Response analysis of a laminar premixed M-flame to flow perturbations using a linearized compressible Navier-Stokes solver. <i>Physics of Fluids</i> , 2015, 27, .	1.6	33
40	Nonlinear input/output analysis: application to boundary layer transition. <i>Journal of Fluid Mechanics</i> , 2021, 911, .	1.4	33
41	Stability of a vortex with a heavy core. <i>Journal of Fluid Mechanics</i> , 2005, 526, 67-76.	1.4	31
42	Open-loop control of cavity oscillations with harmonic forcings. <i>Journal of Fluid Mechanics</i> , 2012, 708, 439-468.	1.4	30
43	Unsteadiness, instability and turbulence in trailing vortices. <i>Comptes Rendus Physique</i> , 2005, 6, 399-414.	0.3	29
44	Unsteady flow dynamics reconstruction from mean flow and point sensors: an experimental study. <i>Journal of Fluid Mechanics</i> , 2017, 824, 174-201.	1.4	29
45	Analysis and Comparison of Transonic Buffet Phenomenon over Several Three-Dimensional Wings. <i>AIAA Journal</i> , 2019, 57, 379-396.	1.5	29
46	Linear iterative method for closed-loop control of quasiperiodic flows. <i>Journal of Fluid Mechanics</i> , 2019, 868, 26-65.	1.4	28
47	Global stability analysis of underexpanded screeching jets. <i>European Journal of Mechanics, B/Fluids</i> , 2015, 49, 392-399.	1.2	27
48	Mean-flow data assimilation based on minimal correction of turbulence models: Application to turbulent high Reynolds number backward-facing step. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	24
49	Link between subsonic stall and transonic buffet on swept and unswept wings: from global stability analysis to nonlinear dynamics. <i>Journal of Fluid Mechanics</i> , 2021, 908, .	1.4	23
50	Model reduction for fluids using frequential snapshots. <i>Physics of Fluids</i> , 2011, 23, .	1.6	22
51	A tale of two airfoils: resolvent-based modelling of an oscillator versus an amplifier from an experimental mean. <i>Journal of Fluid Mechanics</i> , 2019, 881, 51-83.	1.4	22
52	Machine learning-augmented turbulence modeling for RANS simulations of massively separated flows. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	21
53	Various approaches to determine active regions in an unstable global mode: application to transonic buffet. <i>Journal of Fluid Mechanics</i> , 2019, 881, 617-647.	1.4	20
54	Absolute instability in axisymmetric wakes: compressible and density variation effects. <i>Journal of Fluid Mechanics</i> , 2008, 600, 373-401.	1.4	19

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55	A sensitivity study of vortex breakdown onset to upstream boundary conditions. <i>Journal of Fluid Mechanics</i> , 2010, 645, 81-119.	1.4	19
56	A dynamic observer to capture and control perturbation energy in noise amplifiers. <i>Journal of Fluid Mechanics</i> , 2014, 758, 728-753.	1.4	19
57	Analysis of the two-dimensional dynamics of a Mach 1.6 shock wave/transitional boundary layer interaction using a RANS based resolvent approach. <i>Journal of Fluid Mechanics</i> , 2019, 862, 1166-1202.	1.4	19
58	Nonlinear model-order reduction for compressible flow solvers using the Discrete Empirical Interpolation Method. <i>Journal of Computational Physics</i> , 2016, 324, 194-209.	1.9	18
59	Linear control of oscillator and amplifier flows. <i>Physical Review Fluids</i> , 2016, 1, .	1.0	18
60	Nonlinear model reduction: A comparison between POD-Galerkin and POD-DEIM methods. <i>Computers and Fluids</i> , 2020, 208, 104628.	1.3	17
61	Elephant modes and low frequency unsteadiness in a high Reynolds number, transonic afterbody wake. <i>Physics of Fluids</i> , 2009, 21, .	1.6	15
62	Eddy viscosity for resolvent-based jet noise models. , 2019, , .		15
63	Linear dynamics of the Lamb-Chaplygin dipole in the two-dimensional limit. <i>Physics of Fluids</i> , 2014, 26, .	1.6	13
64	On the receptivity of aerofoil tonal noise: an adjoint analysis. <i>Journal of Fluid Mechanics</i> , 2017, 812, 771-791.	1.4	13
65	Time-delayed feedback technique for suppressing instabilities in time-periodic flow. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	12
66	Mixing induced by Rayleigh-Taylor instability in a vortex. <i>Physics of Fluids</i> , 2005, 17, 021703.	1.6	10
67	Near-critical swirling flow in a contracting duct: The case of plug axial flow with solid body rotation. <i>Physics of Fluids</i> , 2007, 19, 091701.	1.6	10
68	Vortex pairing in jets as a global Floquet instability: modal and transient dynamics. <i>Journal of Fluid Mechanics</i> , 2019, 862, 951-989.	1.4	10
69	Mean and Unsteady Flow Reconstruction Using Data-Assimilation and Resolvent Analysis. <i>AIAA Journal</i> , 2020, 58, 575-588.	1.5	10
70	On the linear receptivity of trailing vortices. <i>Journal of Fluid Mechanics</i> , 2021, 908, .	1.4	10
71	Multiple Timescale and Sensitivity Analysis for the Passive Control of the Cylinder Flow. , 2008, , .		9
72	Accurate low dimensional models for deterministic fluid systems driven by uncertain forcing. <i>Physics of Fluids</i> , 2011, 23, .	1.6	8

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73	Bifurcation scenario for a two-dimensional static airfoil exhibiting trailing edge stall. Journal of Fluid Mechanics, 2021, 928, .	1.4	8
74	Eigenvalue sensitivity, singular values and discrete frequency selection mechanism in noise amplifiers: the case of flow induced by radial wall injection. Journal of Fluid Mechanics, 2014, 757, 770-799.	1.4	7
75	Parametric reduced order dynamical model construction of a fluid flow control problem**Indeed, except adjoin methods of Sipp et al. (2010), most of the analysis and control tools are not tailored to this kind of models.. IFAC-PapersOnLine, 2015, 48, 133-138.	0.5	7
76	Optimal triggering of jet bifurcation: an example of optimal forcing applied to a time-periodic base flow. Journal of Fluid Mechanics, 2020, 885, .	1.4	7
77	Pressure wave generation from perturbed premixed flames. Journal of Fluid Mechanics, 2016, 797, 231-246.	1.4	6
78	Criticality of compressible rotating flows. Physics of Fluids, 2007, 19, 018101.	1.6	5
79	Recovery of the inherent dynamics of noise-driven amplifier flows. Journal of Fluid Mechanics, 2016, 797, 130-145.	1.4	5
80	Global Optimal Perturbations in a Separated Flow over a Backward-Rounded Step. , 2006, , .		4
81	Reduced-order model of a reacting, turbulent supersonic jet based on proper orthogonal decomposition. Theoretical and Computational Fluid Dynamics, 2020, 34, 49-77.	0.9	4
82	Global sustained perturbations in a backward-facing step flow. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 525-528.	0.1	4
83	Dynamics of a shock-induced separation in a transonic flow: a linearized approach. , 2013, , .		3
84	Uncertainty propagation in model extraction by system identification and its implication for control design. Journal of Fluid Mechanics, 2016, 791, 214-236.	1.4	3
85	Identification and reconstruction of high-frequency fluctuations evolving on a low-frequency periodic limit cycle: application to turbulent cylinder flow. Journal of Fluid Mechanics, 2022, 942, .	1.4	3
86	Numerical Study of a Double Stream Jet: ZDES Simulation, Stability Analysis and Noise Reduction. , 2016, , .		2
87	Effets d'une tuyère convergente sur un écoulement tournant. Mecanique Et Industries, 2005, 6, 263-268.	0.2	1
88	Effects of a Contraction on a Uniformly Rotating Flow. , 2005, , .		1
89	The Influence of Upstream Boundary Conditions on the Onset of Axisymmetric Vortex Breakdown in a Duct. , 2008, , .		1
90	Matrix extraction technique for global stability of compressible flows and applications. , 2011, , .		1

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91	Open-loop control of compressible afterbody flows using adjoint methods. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 283-288.	0.1	1
92	Closed-Loop Control of an Unstable Open Cavity. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 275-289.	0.2	1
93	Wave-packets in a reacting, imperfectly-expanded supersonic jet. Aerospace Science and Technology, 2022, 123, 107471.	2.5	1
94	A Theoretical Study Of The Frequency Selection Mechanisms In Afterbody Unsteadiness. , 2007, , .		0
95	Optimal Perturbation of a Vortex Sheet for Fast Destabilization of the Trailing Vortices. , 2008, , .		0
96	Optimal control of amplifier flows using system identification. , 2011, , .		0
97	Sensitivity analysis and passive control of a compressible turbulent flow in a deep cavity. , 2013, , .		0
98	Nonlinear Model-order Reduction for Oscillator Flows Using POD-DEIM. Procedia IUTAM, 2015, 14, 329-336.	1.2	0
99	A Dynamic Observer to Capture and Control Perturbation Energy in Noise Amplifier Flows. Procedia IUTAM, 2015, 14, 337-343.	1.2	0
100	Interpolatory-Based Data-Driven Pulsed Fluidic Actuator Control Design and Experimental Validation. IEEE Transactions on Control Systems Technology, 2022, 30, 852-859.	3.2	0
101	Strategies for Optimal Control of Global Modes. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2008, , 353-357.	0.1	0
102	Model reduction using Balanced Proper Orthogonal Decomposition with frequential snapshots. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 477-480.	0.1	0