

Philip Hall

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78
papers

2,167
citations

23
h-index

45
g-index

86
ext. papers

2,465
ext. citations

3.4
avg, IF

5.15
L-index

#	Paper	IF	Citations
78	The linear development of Görtler vortices in growing boundary layers. <i>Journal of Fluid Mechanics</i> , 1983 , 130, 41	3.7	253
77	Taylor-Görtler vortices in fully developed or boundary-layer flows: linear theory. <i>Journal of Fluid Mechanics</i> , 1982 , 124, 475	3.7	168
76	On strongly nonlinear vortex/wave interactions in boundary-layer transition. <i>Journal of Fluid Mechanics</i> , 1991 , 227, 641-666	3.7	159
75	The linear inviscid secondary instability of longitudinal vortex structures in boundary layers. <i>Journal of Fluid Mechanics</i> , 1991 , 232, 357	3.7	133
74	Streamwise vortices in shear flows: harbingers of transition and the skeleton of coherent structures. <i>Journal of Fluid Mechanics</i> , 2010 , 661, 178-205	3.7	99
73	Görtler vortices in growing boundary layers: The leading edge receptivity problem, linear growth and the nonlinear breakdown stage. <i>Mathematika</i> , 1990 , 37, 151-189	0.6	97
72	The nonlinear development of Görtler vortices in growing boundary layers. <i>Journal of Fluid Mechanics</i> , 1988 , 193, 243	3.7	97
71	On the stability of the unsteady boundary layer on a cylinder oscillating transversely in a viscous fluid. <i>Journal of Fluid Mechanics</i> , 1984 , 146, 347-367	3.7	93
70	On the instability of a three-dimensional attachment-line boundary layer: weakly nonlinear theory and a numerical approach. <i>Journal of Fluid Mechanics</i> , 1986 , 163, 257-282	3.7	76
69	The stability of unsteady cylinder flows. <i>Journal of Fluid Mechanics</i> , 1975 , 67, 29-63	3.7	64
68	Unsteady viscous flow in a pipe of slowly varying cross-section. <i>Journal of Fluid Mechanics</i> , 1974 , 64, 209-226	3.7	61
67	On the Non-linear Evolution of Görtler Vortices in Non-parallel Boundary Layers. <i>IMA Journal of Applied Mathematics</i> , 1982 , 29, 173-196	1	58
66	On the instability of hypersonic flow past a wedge. <i>Journal of Fluid Mechanics</i> , 1990 , 214, 17	3.7	53
65	Alternating bar instabilities in unsteady channel flows over erodible beds. <i>Journal of Fluid Mechanics</i> , 2004 , 499, 49-73	3.7	47
64	The emergence of localized vortex-wave interaction states in plane Couette flow. <i>Journal of Fluid Mechanics</i> , 2013 , 721, 58-85	3.7	38
63	On the instability of hypersonic flow past a flat plate. <i>Journal of Fluid Mechanics</i> , 1993 , 247, 369-416	3.7	35
62	Lower branch equilibria in Couette flow: the emergence of canonical states for arbitrary shear flows. <i>Journal of Fluid Mechanics</i> , 2013 , 726,	3.7	28

61	On the nonlinear stability of slowly varying time-dependent viscous flows. <i>Journal of Fluid Mechanics</i> , 1983 , 126, 357-368	3.7	27
60	The high-Reynolds-number asymptotic development of nonlinear equilibrium states in plane Couette flow. <i>Journal of Fluid Mechanics</i> , 2014 , 750, 99-112	3.7	26
59	Free-stream coherent structures in parallel boundary-layer flows. <i>Journal of Fluid Mechanics</i> , 2014 , 752, 602-625	3.7	26
58	B̄ard convection in a finite box: secondary and imperfect bifurcations. <i>Journal of Fluid Mechanics</i> , 1979 , 90, 377-395	3.7	26
57	The strong nonlinear interaction of Tollmien-Schlichting waves and Taylor-Görtler vortices in curved channel flow. <i>Journal of Fluid Mechanics</i> , 1991 , 223, 475	3.7	24
56	On the instability of boundary layers on heated flat plates. <i>Journal of Fluid Mechanics</i> , 1992 , 245, 367	3.7	23
55	Spatial stability of the incompressible corner flow. <i>Theoretical and Computational Fluid Dynamics</i> , 2005 , 19, 77-113	2.3	22
54	Nonlinear oscillations of non-spherical cavitation bubbles in acoustic fields. <i>Journal of Fluid Mechanics</i> , 1980 , 101, 423-444	3.7	22
53	The onset of chaos in a class of Navier-Stokes solutions. <i>Journal of Fluid Mechanics</i> , 1999 , 393, 59-87	3.7	21
52	On the onset of three-dimensionality and time-dependence in Görtler vortices. <i>Journal of Fluid Mechanics</i> , 1989 , 204, 405	3.7	21
51	Vortex instabilities in three-dimensional boundary layers: the relationship between Görtler and crossflow vortices. <i>Journal of Fluid Mechanics</i> , 1991 , 232, 647	3.7	20
50	Centrifugal instabilities in finite containers: a periodic model. <i>Journal of Fluid Mechanics</i> , 1980 , 99, 575-596	3.7	20
49	The behaviour of Tollmien-Schlichting waves undergoing small-scale localised distortions. <i>Journal of Fluid Mechanics</i> , 2016 , 792, 499-525	3.7	20
48	On the instability of Stokes layers at high Reynolds numbers. <i>Journal of Fluid Mechanics</i> , 2003 , 482, 1-15	3.7	17
47	Optimum Suction Distribution for Transition Control. <i>Theoretical and Computational Fluid Dynamics</i> , 1999 , 13, 1-19	2.3	17
46	Effects of Görtler vortices, wall cooling and gas dissociation on the Rayleigh instability in a hypersonic boundary layer. <i>Journal of Fluid Mechanics</i> , 1993 , 247, 503-525	3.7	17
45	Wave interactions in a three-dimensional attachment-line boundary layer. <i>Journal of Fluid Mechanics</i> , 1990 , 217, 367-390	3.7	14
44	Canonical exact coherent structures embedded in high Reynolds number flows. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014 , 372,	3	13

43	On the secondary instability of Taylor-Görtler vortices to Tollmien-Schlichting waves in fully developed flows. <i>Journal of Fluid Mechanics</i> , 1988 , 186, 445-469	3-7	13
42	Taylor-Görtler instabilities of Tollmien-Schlichting waves and other flows governed by the interactive boundary-layer equations. <i>Journal of Fluid Mechanics</i> , 1986 , 171, 441	3-7	13
41	Non-axisymmetric viscous lower-branch modes in axisymmetric supersonic flows. <i>Journal of Fluid Mechanics</i> , 1990 , 213, 191	3-7	12
40	Free-stream coherent structures in growing boundary layers: a link to near-wall streaks. <i>Journal of Fluid Mechanics</i> , 2015 , 778, 451-484	3-7	10
39	Crossflow effects on the growth rate of inviscid Görtler vortices in a hypersonic boundary layer. <i>Journal of Fluid Mechanics</i> , 1994 , 276, 343-367	3-7	10
38	Chaotic flows in pulsating cylindrical tubes: a class of exact Navier-Stokes solutions. <i>Journal of Fluid Mechanics</i> , 2003 , 481, 187-213	3-7	9
37	A phase-equation approach to boundary-layer instability theory: Tollmien-Schlichting waves. <i>Journal of Fluid Mechanics</i> , 1995 , 304, 185-212	3-7	9
36	Vortex-wave interaction arrays: a sustaining mechanism for the log layer?. <i>Journal of Fluid Mechanics</i> , 2018 , 850, 46-82	3-7	9
35	Asymptotic descriptions of oblique coherent structures in shear flows. <i>Journal of Fluid Mechanics</i> , 2015 , 782, 356-367	3-7	8
34	ON SPATIAL EVOLUTION OF LONG-WAVELENGTH GÖRTLER VORTICES GOVERNED BY A VISCOUS-INVISCID INTERACTION PART 1: THE LINEAR CASE. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 1994 , 47, 207-229	1	8
33	On a class of unsteady three-dimensional Navier-Stokes solutions relevant to rotating disc flows: threshold amplitudes and finite-time singularities. <i>Journal of Fluid Mechanics</i> , 1992 , 238, 297-323	3-7	8
32	On the nonlinear interaction of Görtler vortices and Tollmien-Schlichting waves in curved channel flows at finite Reynolds numbers. <i>Journal of Fluid Mechanics</i> , 1988 , 193, 569	3-7	8
31	On the instability of vortex-wave interaction states. <i>Journal of Fluid Mechanics</i> , 2016 , 802, 634-666	3-7	8
30	Travelling wave states in pipe flow. <i>Journal of Fluid Mechanics</i> , 2016 , 791, 284-328	3-7	8
29	Localized vortex/Tollmien-Schlichting wave interaction states in plane Poiseuille flow. <i>Journal of Fluid Mechanics</i> , 2016 , 791, 97-121	3-7	8
28	The excitation of Görtler vortices by free stream coherent structures. <i>Journal of Fluid Mechanics</i> , 2017 , 826, 60-96	3-7	7
27	On the stabilization of the most amplified Görtler vortex on a concave surface by spanwise oscillations. <i>Journal of Fluid Mechanics</i> , 2005 , 527, 265-283	3-7	7
26	The effect of wall compliance on the Goertler vortex instability. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991 , 3, 2000-2002		7

25	On the nonlinear stability of the oscillatory viscous flow of an incompressible fluid in a curved pipe. <i>Journal of Fluid Mechanics</i> , 1999 , 379, 145-163	3-7	6
24	On the nonlinear development of the most unstable Görtler vortex mode. <i>Journal of Fluid Mechanics</i> , 1993 , 247, 1-16	3-7	6
23	Centrifugal instability of a Stokes layer: subharmonic destabilization of the Taylor vortex mode. <i>Journal of Fluid Mechanics</i> , 1981 , 105, 523	3-7	6
22	On the non-parallel instability of sediment-carrying channels of slowly varying width. <i>Journal of Fluid Mechanics</i> , 2005 , 529, 1-32	3-7	5
21	The stability of two-phase flow over a swept wing. <i>Journal of Fluid Mechanics</i> , 1996 , 329, 247-273	3-7	5
20	An instability mechanism for channel flows in the presence of wall roughness. <i>Journal of Fluid Mechanics</i> , 2020 , 899,	3-7	5
19	Vortex-wave interactions: long-wavelength streaks and spatial localization in natural convection. <i>Journal of Fluid Mechanics</i> , 2012 , 703, 99-110	3-7	4
18	Absolute instability of Rayleigh-Bénard convection in a time-periodic shear flow. <i>Physics of Fluids</i> , 1997 , 9, 1273-1276	4-4	4
17	Nonlinear exact coherent structures in pipe flow and their instabilities. <i>Journal of Fluid Mechanics</i> , 2019 , 868, 341-368	3-7	3
16	The evolution of finite-amplitude wavetrains in plane channel flow. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 1998 , 356, 2413-2446	3	3
15	On the Control of the Fastest Growing Görtler Vortex. <i>Theoretical and Computational Fluid Dynamics</i> , 1999 , 13, 21-31	2-3	3
14	Finite-amplitude convection in the presence of an unsteady shear flow. <i>Journal of Fluid Mechanics</i> , 1995 , 287, 225-249	3-7	3
13	On the initial stages of vortex wave interactions in highly curved boundary layer flows. <i>Mathematika</i> , 1994 , 41, 40-67	0.6	3
12	Centrifugal/elliptic instabilities in slowly varying channel flows. <i>Journal of Fluid Mechanics</i> , 2020 , 903,	3-7	3
11	The relationship between free-stream coherent structures and near-wall streaks at high Reynolds numbers. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017 , 375,	3	2
10	Free-stream coherent structures in a planar jet. <i>Journal of Fluid Mechanics</i> , 2018 , 837, 916-930	3-7	2
9	Stability of the flow in a slowly diverging rectangular duct. <i>Journal of Fluid Mechanics</i> , 2006 , 555, 43	3-7	2
8	Nonlinear effects on the receptivity of cross-flow in the swept Hiemenz flow. <i>Journal of Fluid Mechanics</i> , 2015 , 763, 433-459	3-7	1

- 7 On the breakdown of Rayleigh's criterion for curved shear flows: a destabilization mechanism for a class of inviscidly stable flows. *Journal of Fluid Mechanics*, **2013**, 734, 36-82 3.7 1
- 6 On the instability of the flow in an oscillating tank of fluid. *Journal of Fluid Mechanics*, **1994**, 268, 315-331 3.7 1
- 5 Poiseuille flow in rough pipes: linear instability induced by vortex-wave interactions. *Journal of Fluid Mechanics*, **2021**, 913, 1-12 3.7 1
- 4 Long wavelength streamwise vortices caused by wall curvature or roughness. *Journal of Engineering Mathematics*, **2021**, 128, 1 1.2 1
- 3 Free-stream coherent structures in the unsteady Rayleigh boundary layer. *IMA Journal of Applied Mathematics*, **2020**, 85, 1021-1040 1 0
- 2 Centre modes in pipe flow. *IMA Journal of Applied Mathematics*, **2019**, 84, 854-872 1 0
- 1 The nonlinear evolution of inviscid Görtler vortices in three-dimensional boundary layers. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **1997**, 355, 975-1016³ 1 0