

Sudhir Gai

List of Publications by Year in descending order

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83
papers

881
citations

471509

17
h-index

580821

25
g-index

85
all docs

85
docs citations

85
times ranked

326
citing authors

#	ARTICLE	IF	CITATIONS
1	The interaction of a shock wave with a laminar boundary layer at a compression corner in high-enthalpy flows including real gas effects. <i>Journal of Fluid Mechanics</i> , 1997, 342, 1-35.	3.4	48
2	Hypersonic Fluid-Structure Interaction on a Cantilevered Plate with Shock Impingement. <i>AIAA Journal</i> , 2019, 57, 4819-4834.	2.6	46
3	Laminar Near Wake of a Circular Cylinder at Hypersonic Speeds. <i>AIAA Journal</i> , 2010, 48, 236-248.	2.6	45
4	Free piston shock tunnels: developments and capabilities. <i>Progress in Aerospace Sciences</i> , 1992, 29, 1-41.	12.1	39
5	Influence of Trailing-Edge Flow Control on Airfoil Performance. <i>Journal of Aircraft</i> , 2003, 40, 332-337.	2.4	35
6	Hypersonic compression corner flow with large separated regions. <i>Journal of Fluid Mechanics</i> , 2019, 877, 471-494.	3.4	35
7	Measurements of heat transfer in separated highenthalpy dissociated laminar hypersonic flow behind a step. <i>Journal of Fluid Mechanics</i> , 1989, 199, 541-561.	3.4	30
8	Hypersonic Transitional Shock-Wave-Boundary-Layer Interaction on a Flat Plate. <i>AIAA Journal</i> , 2020, 58, 814-829.	2.6	30
9	High-enthalpy, hypersonic compression corner flow. <i>AIAA Journal</i> , 1996, 34, 1130-1137.	2.6	26
10	Flow around circular- and square-section models of finite height in a turbulent shear flow. <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 1981, 8, 223-230.	3.9	24
11	Mole-Fraction-Sensitive Imaging of Hypermixing Shear Layers. <i>Journal of Propulsion and Power</i> , 2001, 17, 284-292.	2.2	24
12	Supersonic Flow over a Shallow Open Rectangular Cavity. <i>Journal of Aircraft</i> , 2015, 52, 609-616.	2.4	23
13	A method for the accurate determination of the thermal product $(\dot{q}k)^{1/2}$ for thin film heat transfer or surface thermocouple gauges. <i>Journal of Physics E: Scientific Instruments</i> , 1988, 21, 445-448.	0.7	22
14	Stagnation point heat flux in hypersonic high enthalpy flow. <i>Shock Waves</i> , 1992, 2, 43-47.	1.9	19
15	Laminar heat transfer to blunt cones in high-enthalpy hypervelocity flows. <i>Journal of Thermophysics and Heat Transfer</i> , 1992, 6, 433-438.	1.6	18
16	High-enthalpy flow over a rearward-facing step – a computational study. <i>Journal of Fluid Mechanics</i> , 2012, 695, 405-438.	3.4	18
17	Laminar hypersonic leading edge separation – a numerical study. <i>Journal of Fluid Mechanics</i> , 2017, 821, 624-646.	3.4	18
18	Subsonic axisymmetric base flow experiments with base modifications. <i>Journal of Spacecraft and Rockets</i> , 1980, 17, 42-46.	1.9	17

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19	Bluff body wakes with free, fixed, and discontinuous separation at low Reynolds numbers and low aspect ratio. Experiments in Fluids, 1996, 20, 189-198.	2.4	16
20	Establishment of steady separated flow over a compression-corner in a free-piston shock tunnel. Shock Waves, 1997, 7, 249-253.	1.9	16
21	Simulations of hypersonic, high-enthalpy separated flow over a 'tick' configuration. , 2012, , .		16
22	Base Flow of Circular Cylinder at Hypersonic Speeds. AIAA Journal, 2016, 54, 458-468.	2.6	16
23	Leading-edge bluntness effects in high enthalpy, hypersonic compression corner flow. AIAA Journal, 1996, 34, 2284-2290.	2.6	15
24	Interaction Between a Conical Shock Wave and a Plane Turbulent Boundary Layer. AIAA Journal, 2000, 38, 804-811.	2.6	14
25	Large-Scale Structures and Growth of a Flat Plate Compressible Wake. AIAA Journal, 2002, 40, 1164-1169.	2.6	13
26	Aerothermodynamics Behind a Blunt Body at Superorbital Speeds. AIAA Journal, 2010, 48, 1804-1816.	2.6	13
27	Measurement of Heat Transfer Rate on Backward-Facing Steps at Hypersonic Mach Number. Journal of Thermophysics and Heat Transfer, 2011, 25, 321-328.	1.6	12
28	Vortex interaction and breakdown over double-delta wings. Aeronautical Journal, 2004, 108, 27-34.	1.6	11
29	Boundary Layers on a Flat Plate at Sub- and Superorbital Speeds. Journal of Thermophysics and Heat Transfer, 2007, 21, 772-779.	1.6	11
30	Visualization of wave propagation within a supersonic two-dimensional cavity by digital streak schlieren. Experiments in Fluids, 2015, 56, 1.	2.4	11
31	Oscillatory Characteristics of Shallow Open Cavities in Supersonic Flow. AIAA Journal, 2016, 54, 3495-3508.	2.6	11
32	Upstream influence and peak heating in hypervelocity shock wave/boundary-layer interaction. Journal of Propulsion and Power, 1996, 12, 984-990.	2.2	10
33	Pressure distributions behind a rearward facing segmented step. Experiments in Fluids, 1987, 5, 154-158.	2.4	9
34	A computational investigation of laminar shock/wave boundary layer interactions. Aeronautical Journal, 2013, 117, 27-56.	1.6	9
35	Hypersonic separated flows about "tick" configurations with sensitivity to model design. AIP Conference Proceedings, 2014, , .	0.4	9
36	Direct simulation Monte Carlo computations and experiments on leading-edge separation in rarefied hypersonic flow. Journal of Fluid Mechanics, 2019, 879, 633-681.	3.4	9

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37	Subsonic turbulent flow over a rearward facing segmented step. <i>Physics of Fluids</i> , 1984, 27, 544.	1.4	8
38	Flow behind castellated blunt-trailing-edge aerofoils at supersonic speeds. <i>Journal of Fluid Mechanics</i> , 1998, 375, 85-111.	3.4	8
39	Heat Transfer Behind a Step in High-Enthalpy Laminar Hypersonic Flow. <i>Journal of Thermophysics and Heat Transfer</i> , 2010, 24, 839-841.	1.6	8
40	Numerical study of bluntness effects on laminar leading edge separation in hypersonic flow. <i>Journal of Fluid Mechanics</i> , 2019, 878, 386-419.	3.4	8
41	Leading-edge bluntness effects in hypervelocity flat plate flow. <i>Physics of Fluids</i> , 2020, 32, 046106.	4.0	8
42	Shock Wave/Boundary Layer Interaction in High-Enthalpy Compression Corner Flow. , 1995, , 87-92.		8
43	Separated high enthalpy dissociated laminar hypersonic flow behind a step - Pressure measurements. <i>AIAA Journal</i> , 1992, 30, 1915-1918.	2.6	7
44	Active control of swept shock wave/turbulent boundary-layer interactions. <i>Aeronautical Journal</i> , 2004, 108, 93-101.	1.6	7
45	Wall temperature and bluntness effects on hypersonic laminar separation at a compression corner. <i>Journal of Fluid Mechanics</i> , 2021, 922, .	3.4	7
46	A new high-speed electromechanical shutter. <i>Journal of Physics E: Scientific Instruments</i> , 1984, 17, 108-110.	0.7	5
47	Supersonic base pressure and lipshock. <i>AIAA Journal</i> , 1988, 26, 370-372.	2.6	5
48	Flow establishment behind blunt bodies at hypersonic speeds in a shock tunnel. <i>Proceedings of SPIE</i> , 2008, , .	0.8	5
49	Jet effects on near wake of an axisymmetric bluff body. <i>Journal of Spacecraft and Rockets</i> , 1981, 18, 540-544.	1.9	4
50	Shock Shape over a Sphere Cone in Hypersonic High Enthalpy Flow. <i>AIAA Journal</i> , 1984, 22, 1007-1010.	2.6	4
51	Normal shock wave/turbulent boundary-layer interaction control using "smart" piezoelectric actuators. <i>Aeronautical Journal</i> , 2005, 109, 577-583.	1.6	4
52	Investigation of Unswept Normal Shock Wave/Turbulent-Boundary-Layer Interaction Control. <i>Journal of Aircraft</i> , 2009, 46, 1634-1641.	2.4	4
53	Laser-induced fluorescence velocimetry for a hypersonic leading-edge separation. <i>Physics of Fluids</i> , 2020, 32, .	4.0	4
54	Investigation of active control of swept shock wave/turbulent boundary-layer interactions "PSP results. <i>Aeronautical Journal</i> , 2004, 108, 483-490.	1.6	3

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55	Shallow Rectangular Cavities at Low Speeds Including Effects of Yaw. Journal of Aircraft, 2008, 45, 2145-2150.	2.4	3
56	An investigation into supersonic shallow swept cavity flows. Aeronautical Journal, 2008, 112, 581-592.	1.6	3
57	Flow Behind a Step in High-Enthalpy Laminar Hypersonic Flow. AIAA Journal, 2010, 48, 1563-1567.	2.6	3
58	Numerical Study of Hypersonic Separated Flow over an Expansion-Compression Surface. , 2015, , .		3
59	Comparison of density-sensitive and fluorescence visualization in low-density separated flow. AIP Conference Proceedings, 2016, , .	0.4	3
60	Visualization and Thermometry in Hypersonic Wedge and Leading-Edge Separated Flows. , 2017, , .		3
61	Design of "Smart" flap actuators for swept shock wave/turbulent boundary layer interaction control. Structural Engineering and Mechanics, 2003, 16, 519-532.	1.0	2
62	Incipient separation of leeward flow past a lifting plate in viscous hypersonic flow. AIAA Journal, 1977, 15, 122-124.	2.6	1
63	Surface pressures and their corrections for the flow past a finite-length plate in supersonic low density flow. Journal of Fluid Mechanics, 1979, 95, 177-187.	3.4	1
64	Shock standoff from blunt cones in high-enthalpy nonequilibrium nitrogen flow. AIAA Journal, 1989, 27, 918-920.	2.6	1
65	An experimental investigation of hypervelocity flow in a conical nozzle. Flow, Turbulence and Combustion, 1996, 57, 81-93.	0.2	1
66	Unsteady pressures on a blunt trailing edge - End plate and boundary layer effects. , 1998, , .		1
67	Title is missing!. Flow, Turbulence and Combustion, 2002, 68, 195-226.	2.6	1
68	PSP Measurements of Supersonic Flow Across an Open Cavity with Serrations. , 2010, , .		1
69	Some Numerical Studies of Rectangular Open Cavities at Mach 2. , 2013, , .		1
70	DSMC Computations of Separation over a 'Tick' model in Hypersonic High Enthalpy Transitional Flows. , 2017, , .		1
71	Flow Steadiness Over a Double Wedge at Mach 7 Including Effect of Trailing Edge Expansion. , 2018, , .		1
72	Investigation of Heat-Flux in High Enthalpy Hypersonic Flow Over a Rearward-Facing Step. International Journal of Hypersonics, 2010, 1, 115-134.	0.2	1

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73	GSW0058 Structural design of "smart" actuator flaps for control of shock wave/boundary layer interaction. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _GSW0058-1-_GSW0058-6.	0.0	1
74	Real gas effects on flows over rearward-facing steps in high enthalpy flows. , 2005, , 251-256.		1
75	Effect of suction on the upstream influence in shockwave-boundary layer interactions. Zeitschrift Fur Angewandte Mathematik Und Physik, 1969, 20, 265-272.	1.4	0
76	Shock wave asymmetry of sphere cones at angles of attack. Journal of Spacecraft and Rockets, 1989, 26, 198-200.	1.9	0
77	An experimental investigation of strong three-dimensional disturbances to a compressible wake. , 1998, , .		0
78	Some features of steady separated flow from low speed to hypersonic. Aeronautical Journal, 2008, 112, 109-113.	1.6	0
79	A Computational Study of High Enthalpy Flow Over a Rearward Facing Step. , 2010, , .		0
80	Numerical Investigation of Bluntness Effects on Hypersonic Leading Edge Separation. , 2015, , .		0
81	DSMC computations of hypersonic flow separation and re-attachment in the transition to continuum regime. AIP Conference Proceedings, 2016, , .	0.4	0
82	Large scale hypersonic separated flows at moderate Reynolds numbers and moderate density. AIP Conference Proceedings, 2019, , .	0.4	0
83	Rotational temperature imaging of a leading-edge separation in hypervelocity flow. AIP Conference Proceedings, 2019, , .	0.4	0