Song Fu

List of Publications by Year
in descending order

143 papers	2,156 citations	236925 25 h-index	302126 39 g-index
145 all docs	145 docs citations	145 times ranked	927 citing authors

#	Article	IF	Citations
1	RANS modeling of high-speed aerodynamic flow transition with consideration of stability theory. Progress in Aerospace Sciences, 2013, 58, 36-59.	12.1	102
2	A high-order gas-kinetic Navier–Stokes flow solver. Journal of Computational Physics, 2010, 229, 6715-6731.	3.8	86
3	Development of an Intermittency Equation for the Modeling of the Supersonic/Hypersonic Boundary Layer Flow Transition. Flow, Turbulence and Combustion, 2011, 87, 165-187.	2.6	82
4	Secondary instabilities of Görtler vortices in high-speed boundary layer flows. Journal of Fluid Mechanics, 2015, 781, 388-421.	3.4	75
5	Modelling flow transition in a hypersonic boundary layer with Reynolds-averaged Navier-Stokes approach. Science in China Series G: Physics, Mechanics and Astronomy, 2009, 52, 768-774.	0.2	70
6	Numerical Dissipation Effects on Massive Separation Around Tandem Cylinders. AIAA Journal, 2012, 50, 1119-1136.	2.6	63
7	Simulation of shock wave buffet and its suppression on an OAT15A supercritical airfoil by IDDES. Science China: Physics, Mechanics and Astronomy, 2012, 55, 260-271.	5.1	59
8	Numerical simulation of compressible mixing layers. International Journal of Heat and Fluid Flow, 2006, 27, 895-901.	2.4	58
9	A modular RANS approach for modelling laminar–turbulent transition in turbomachinery flows. International Journal of Heat and Fluid Flow, 2012, 34, 62-69.	2.4	56
10	Investigation of Flows Around a Rudimentary Landing Gear with Advanced Detached-Eddy-Simulation Approaches. AIAA Journal, 2013, 51, 107-125.	2.6	55
11	Feature selection and processing of turbulence modeling based on an artificial neural network. Physics of Fluids, 2020, 32, .	4.0	52
12	Improved-Delayed-Detached-Eddy Simulation of cavity-induced transition in hypersonic boundary layer. International Journal of Heat and Fluid Flow, 2015, 51, 138-150.	2.4	49
13	Simulation of wing-body junction flows with hybrid RANS/LES methods. International Journal of Heat and Fluid Flow, 2007, 28, 1379-1390.	2.4	47
14	Application of Gas-Kinetic Scheme with Kinetic Boundary Conditions in Hypersonic Flow. AIAA Journal, 2005, 43, 2170-2176.	2.6	44
15	Numerical simulation of high-speed planar mixing layer. Computers and Fluids, 2003, 32, 1357-1377.	2.5	37
16	A compressible Navier–Stokes flow solver with scalar transport. Journal of Computational Physics, 2005, 204, 692-714.	3.8	34
17	Numerical study of an airfoil with riblets installed based on large eddy simulation. Aerospace Science and Technology, 2018, 78, 661-670.	4.8	34
18	A Computational Fluid Dynamics Study of Circumferential Groove Casing Treatment in a Transonic Axial Compressor. Journal of Turbomachinery, 2014, 136, .	1.7	30

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19	Competition of the multiple GÃ¶rtler modes in hypersonic boundary layer flows. Science China: Physics, Mechanics and Astronomy, 2014, 57, 1178-1193.	5.1	29
20	Drag reduction via turbulent boundary layer flow control. Science China Technological Sciences, 2017, 60, 1281-1290.	4.0	29
21	The secondary instabilities of stationary cross-flow vortices in a Mach 6 swept wing flow. Journal of Fluid Mechanics, 2019, 873, 914-941.	3.4	28
22	An efficient Bayesian uncertainty quantification approach with application to k-Ï‰-Î³ transition modeling. Computers and Fluids, 2018, 161, 211-224.	2.5	27
23	An efficient approach for quantifying parameter uncertainty in the SST turbulence model. Computers and Fluids, 2019, 181, 173-187.	2.5	27
24	Investigation of the coherent structures in flow behind a backward-facing step. International Journal of Numerical Methods for Heat and Fluid Flow, 2016, 26, 1050-1068.	2.8	26
25	Stabilization of the hypersonic boundary layer by finite-amplitude streaks. Physics of Fluids, 2016, 28, .	4.0	26
26	Improvement to Patched Grid Technique with High-Order Conservative Remapping Method. Journal of Aircraft, 2011, 48, 884-893.	2.4	25
27	Implicit Large-Eddy Simulation for the High-Order Flux Reconstruction Method. AIAA Journal, 2016, 54, 2721-2733.	2.6	25
28	Study of Delayed-Detached Eddy Simulation with Weakly Nonlinear Turbulence Model. Journal of Aircraft, 2006, 43, 1377-1385.	2.4	24
29	A modular RANS approach for modeling hypersonic flow transition on a scramjet-forebody configuration. Aerospace Science and Technology, 2016, 56, 112-124.	4.8	24
30	Study of the Discrete Spectrum in a Mach 4.5 GÃ¶rtler Flow. Flow, Turbulence and Combustion, 2015, 94, 339-357.	2.6	23
31	Prediction of separation flows around a 6:1 prolate spheroid using RANS/LES hybrid approaches. Acta Mechanica Sinica/Lixue Xuebao, 2007, 23, 369-382.	3.4	22
32	Studies of the unsteady supersonic base flows around three afterbodies. Acta Mechanica Sinica/Lixue Xuebao, 2009, 25, 471-479.	3.4	22
33	Navier-Stokes Simulations for Transport Aircraft Wing/Body High-Lift Configurations. Journal of Aircraft, 2003, 40, 883-890.	2.4	21
34	CFD Investigation on Stall Mechanisms and Casing Treatment of a Transonic Compressor. , 2006, , .		21
35	Performance Prediction of Conical Nozzle Using Navierâ€"Stokes Computation. Journal of Propulsion and Power, 2015, 31, 192-203.	2.2	21
36	Detached-eddy simulation of flow past a pitching NACA 0015 airfoil with pulsed actuation. Aerospace Science and Technology, 2017, 69, 123-135.	4.8	21

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37	CFD Investigation on the Circumferential Grooves Casing Treatment of Transonic Compressor. , 2008, , .		20
38	Unsteady Transition Studies over a Pitching Airfoil Using a k-ï‰-î³ Transition Model. AIAA Journal, 2018, 56, 3776-3781.	2.6	20
39	A third-order gas-kinetic CPR method for the Euler and Navierâ€"Stokes equations on triangular meshes. Journal of Computational Physics, 2018, 363, 329-353.	3.8	18
40	Vortex-Induced Vibration (VIV) hydrokinetic energy harvesting based on nonlinear damping. Renewable Energy, 2022, 195, 1050-1063.	8.9	18
41	Modelling of pressureâ€"strain correlation in compressible turbulent flow. Acta Mechanica Sinica/Lixue Xuebao, 2008, 24, 37-43.	3.4	17
42	Direct numerical simulation of hypersonic transition induced by an isolated cylindrical roughness element. Science China: Physics, Mechanics and Astronomy, 2014, 57, 2330-2345.	5.1	17
43	On the multidimensional gas-kinetic BGK scheme. Journal of Computational Physics, 2006, 220, 532-548.	3.8	16
44	Analysis of flow structures in supersonic plane mixing layers using the POD method. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 541-558.	0.2	16
45	An analysis of the Circumferential Grooves Casing Treatment for transonic compressor flow. Science China: Physics, Mechanics and Astronomy, 2010, 53, 353-359.	5.1	16
46	Drag prediction method of powered-on civil aircraft based on thrust drag bookkeeping. Chinese Journal of Aeronautics, 2015, 28, 1023-1033.	5.3	16
47	Linear instability of Poiseuille flows with highly non-ideal fluids. Journal of Fluid Mechanics, 2019, 859, 89-125.	3.4	16
48	Flow separation control in a conical diffuser with a Karman-vortex generator. Aerospace Science and Technology, 2020, 106, 106076.	4.8	16
49	Floquet analysis of fundamental, subharmonic and detuned secondary instabilities of GÃ¶rtler vortices. Science China: Physics, Mechanics and Astronomy, 2014, 57, 555-561.	5.1	15
50	Improved delayed detached-eddy simulations of sawtooth spoiler control before supersonic cavity. International Journal of Heat and Fluid Flow, 2017, 63, 172-189.	2.4	15
51	Improved k-ï‰-î³ transition model by introducing the local effects of nose bluntness for hypersonic heat transfer. International Journal of Heat and Mass Transfer, 2018, 119, 185-198.	4.8	15
52	Detached-eddy simulation of supersonic flow past a spike-tipped blunt nose. Chinese Journal of Aeronautics, 2018, 31, 1815-1821.	5.3	15
53	Secondary instability control of compressible flow by suction for a swept wing. Science China: Physics, Mechanics and Astronomy, 2011, 54, 2040-2052.	5.1	14
54	A Karman-Vortex Generator for passive separation control in a conical diffuser. Science China: Physics, Mechanics and Astronomy, 2012, 55, 828-836.	5.1	14

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55	Control of stationary crossflow modes in swept Hiemenz flows with dielectric barrier discharge plasma actuators. Physics of Fluids, 2017, 29, .	4.0	13
56	Drag Reduction and Aerodynamic Shape Optimization for Spike-Tipped Supersonic Blunt Nose. Journal of Spacecraft and Rockets, 2018, 55, 552-560.	1.9	13
57	Large-scale vortices in high-speed mixing layers. Physics of Fluids, 2003, 15, 3240.	4.0	12
58	Drag reduction in turbulent channel flows by a spanwise traveling wave of wall blowing and suction. Physics of Fluids, 2021, 33, .	4.0	12
59	POSITIVITY OF k-EPSILON TURBULENCE MODELS FOR INCOMPRESSIBLE FLOW. Mathematical Models and Methods in Applied Sciences, 2002, 12, 393-406.	3.3	11
60	Computations with k-g Model for Complex Configurations at High-Incidence. Journal of Aircraft, 2005, 42, 462-468.	2.4	11
61	Applications of implicit BGK scheme in near-continuum flow. International Journal of Computational Fluid Dynamics, 2006, 20, 453-461.	1.2	11
62	Secondary instability of the hypersonic high-enthalpy boundary layers with thermal–chemical nonequilibrium effects. Physics of Fluids, 2021, 33, .	4.0	11
63	Study of control effects of vortex generators on a supercritical wing. Science China Technological Sciences, 2010, 53, 2038-2048.	4.0	10
64	Study of Separation Control of Vortex Generators on Transonic Wings. Journal of Fluid Science and Technology, 2011, 6, 85-97.	0.6	10
65	On the orbital motion of a rotating inner cylinder in annular flow. International Journal for Numerical Methods in Fluids, 2007, 54, 155-173.	1.6	9
66	Analysis of the secondary instability of the incompressible flows over a swept wing. Science China: Physics, Mechanics and Astronomy, 2011, 54, 724-736.	5.1	9
67	A gas-kinetic BGK scheme for gas–water flow. Computers and Mathematics With Applications, 2011, 61, 3639-3652.	2.7	9
68	Role of Freestream Slow Acoustic Waves in a Hypersonic Three-Dimensional Boundary Layer. AIAA Journal, 2018, 56, 3570-3584.	2.6	9
69	Numerical investigation of separation-induced transition in a low-pressure turbine cascade in a low-disturbance environment. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	5.1	9
70	Parabolized Stability Analysis of Hypersonic Thermal–Chemical Nonequilibrium Boundary-Layer Flows. AIAA Journal, 2021, 59, 2382-2395.	2.6	9
71	A PNPM-CPR Method for Navier-Stokes Equations. , 2012, , .		8
72	Numerical investigation of the casing treatment mechanism with a single circumferential groove. Science China: Physics, Mechanics and Astronomy, 2013, 56, 353-365.	5.1	8

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73	Control of crossflow instability over a swept wing using dielectric-barrier-discharge plasma actuators. International Journal of Heat and Fluid Flow, 2018, 73, 209-222.	2.4	8
74	Predictions of Transition on a Hovering Tilt-Rotor Blade. Journal of Aircraft, 2014, 51, 1904-1913.	2.4	7
75	Linear spatial instability analysis in 3D boundary layers using plane-marching 3D-LPSE. Applied Mathematics and Mechanics (English Edition), 2016, 37, 1013-1030.	3.6	7
76	Forward-facing steps induced transition in a subsonic boundary layer. Science China: Physics, Mechanics and Astronomy, 2017, 60, 1.	5.1	7
77	A unified gas-kinetic scheme for axisymmetric flow in all Knudsen number regimes. Journal of Computational Physics, 2018, 366, 144-169.	3.8	7
78	Review of backward-facing step flow and separation reduction. Scientia Sinica: Physica, Mechanica Et Astronomica, 2015, 45, 124704-124704.	0.4	7
79	Generation of vortices by a streamwise oscillating cylinder. Journal of Visualization, 2007, 10, 65-73.	1.8	6
80	A CFD Study of Circumferential Groove Casing Treatments in a Transonic Axial Compressor. , 2010, , .		6
81	Numerical Investigation of Shock Buffet on an OAT15A Airfoil and Control Effects of Vortex Generators. , 2012, , .		6
82	Nonlinear Development of the Multiple Gortler Modes in Hypersonic Boundary Layer Flows. , 2013, , .		6
83	A comparative study of DES type methods for mild flow separation prediction on a NACA0015 airfoil. International Journal of Numerical Methods for Heat and Fluid Flow, 2017, 27, 2528-2543.	2.8	6
84	Convergence acceleration for high-order shock-fitting methods in hypersonic flow applications with efficient implicit time-stepping schemes. Computers and Fluids, 2020, 210, 104668.	2.5	6
85	Image-based flow decomposition using empirical wavelet transform. Journal of Fluid Mechanics, 2021, 906, .	3.4	6
86	Hypersonic attachment-line instabilities with large sweep Mach numbers. Journal of Fluid Mechanics, 2021, 915, .	3.4	6
87	Receptivity and stability of hypersonic leading-edge sweep flows around a blunt body. Journal of Fluid Mechanics, 2021, 916, .	3.4	6
88	Energy transfer of hypersonic and high-enthalpy boundary layer instabilities and transition. Physical Review Fluids, 2022, 7, .	2.5	6
89	Multiple GÃ¶rtler Modes in Compressible Boundary Layer Flows. , 2012, , .		5
90	Modifications to the SIMPLE algorithm with the MDCD approach for incompressible flow simulation. International Journal of Numerical Methods for Heat and Fluid Flow, 2018, 28, 2208-2230.	2.8	5

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91	Investigations of an enclosed annular rotor-stator system with LES method. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	5.1	5
92	Drag increment induced by a small-scale forward-facing step in Mach number 5 turbulent boundary layer flows. Chinese Journal of Aeronautics, 2020, 33, 2491-2498.	5.3	5
93	Monochromatic Carbon Nanotube Tangles Grown by Microfluidic Switching between Chaos and Fractals. ACS Nano, 2021, 15, 5129-5137.	14.6	5
94	Investigation on spatial evolutions of two- and three-dimensional modes in a laminar separation bubble over a low-pressure turbine cascade. Physics of Fluids, 2022, 34, .	4.0	5
95	Numerical investigation of fire smoke transport in the Tsinghua University Sports Center. Tsinghua Science and Technology, 2005, 10, 618-622.	6.1	4
96	Calculations of massive separation around landing-gear-like geometries. Journal of Hydrodynamics, 2010, 22, 883-888.	3.2	4
97	Simulation of Transition Triggered by Isolated Roughness in Hypersonic Boundary Layer. , 2012, , .		4
98	Numerical Investigation of Active Flow Control on a Pitching NACA 0015 Airfoil Using Detached-eddy Simulation. Procedia Engineering, 2014, 79, 49-54.	1.2	4
99	Grid-Convergence Study of Two-Dimensional Euler Solutions. Journal of Aircraft, 2016, 53, 294-299.	2.4	4
100	An intelligent algorithm for coherent sound source localization based on a strong tracking filter. Chinese Journal of Aeronautics, 2019, 32, 1895-1902.	5.3	4
101	Two typical phenomena from the numerical simulation of fire and smoke transport in a gymnasium fire. Science Bulletin, 2006, 51, 1521-1525.	9.0	3
102	Analysis of the dominant frequency in a subsonic compressor stator at near stall condition. Science Bulletin, 2014, 59, 23-28.	1.7	3
103	The high performance parallel algorithm for Unified Gas-Kinetic Scheme. AIP Conference Proceedings, 2016, , .	0.4	3
104	Computational study of drag increase due to wall roughness for hypersonic flight. Aeronautical Journal, 2017, 121, 395-415.	1.6	3
105	Unsteady flow control of a plane diffuser based on a Karman-vortex generator. AIP Advances, 2020, 10, .	1.3	3
106	Oblique-mode breakdown in hypersonic and high-enthalpy boundary layers over a blunt cone. Advances in Aerodynamics, 2021, 3, .	2.5	3
107	Pattern formation in Rayleigh-Bénard convection: numerical simulation with a coupled-map-lattice model. Science Bulletin, 2005, 50, 399-406.	1.7	2
108	The effect of filtering on truncated Navier–Stokes equations. Journal of Turbulence, 2007, 8, N8.	1.4	2

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109	Research of the rapid pressure-strain correlation model in the rapid distortion limit. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 1380-1389.	0.2	2
110	Intermittent Gas Resonance in Stage Separation Flow Field of Multistage Rocket. Engineering Applications of Computational Fluid Mechanics, 2012, 6, 163-172.	3.1	2
111	Delayed-Detached-Eddy Simulation of Near-Stall Axial Compressor Flow with Varying Passage Numbers. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2012, , 439-448.	0.3	2
112	Effect of pressure gradient on the stability of hypersonic boundary layer flows. , 2017, , .		2
113	Detached-Eddy Simulations for Active Flow Control. AIAA Journal, 2018, 56, 1447-1462.	2.6	2
114	Gap-induced transition via oblique breakdown at Mach 6. Shock Waves, 2019, 29, 1181-1190.	1.9	2
115	A two-stage fourth-order gas-kinetic CPR method for the Navier-Stokes equations on triangular meshes. Journal of Computational Physics, 2021, 451, 110830.	3.8	2
116	Stability of flow between rotating cylinders with axial buoyancy effect. Science in China Series G: Physics, Mechanics and Astronomy, 2006, 49, 564-575.	0.2	1
117	Study of numerical errors in direct numerical simulation and large eddy simulation. Applied Mathematics and Mechanics (English Edition), 2008, 29, 871-880.	3.6	1
118	Application of Gas-Kinetic BGK Scheme in Three-Dimensional Flow. , 2011, , .		1
119	Investigation of the Influence of Hub Gap Size to the Performance of a Subsonic Compressor Stator. , 2012, , .		1
120	A modular RANS approach for modeling hypersonic flow transition on an air-breathing configuration. , 2013, , .		1
121	The role of GÃ¶rtler vortices in the hypersonic boundary layer transition. , 2014, , .		1
122	A Four-Equation Eddy-Viscosity Approach for Modeling Bypass Transition. Advances in Applied Mathematics and Mechanics, 2014, 6, 523-538.	1.2	1
123	Secondary instabilities of GÃ¶rtler vortices in high-speed boundary layer flows. , 2016, , .		1
124	Studies of flight-velocity effects on near-field and intermittent properties of a subsonic jet. Computers and Fluids, 2020, 196, 104351.	2.5	1
125	Investigation of Practical Flow Control Methodologies with RANS/LES Hybrid Methods. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 41-58.	0.3	1
126	Modelling of pressure-strain correlations for Taylor-Proudman turbulence. Science in China Series A: Mathematics, 1998, 41, 638-646.	0.5	0

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127	On the Internal Energy Relaxation Model For Nonequilibrium Flow. , 2010, , .		0
128	Numerical Investigation of Massively Separated Flows past RLG Using Advanced DES Approaches. , 2012, , .		0
129	Numerical Investigations of Massively Separated Flows past Rudimentary Landing Gear using SST-DDES. , 2012, , .		0
130	A Thrust Drag Bookkeeping Method based on Computational Fluid Dynamics. , 2014, , .		0
131	The effects of vortex breakdown on the static rolling aerodynamics of finned slender body. Science China: Physics, Mechanics and Astronomy, 2014, 57, 2174-2176.	5.1	0
132	A $$P_N P_M{-}$ CPR $$ P N P M - C P R Framework for Hyperbolic Conservation Laws. Journal of Scientific Computing, 2014, 61, 281-307.	2.3	0
133	Numerical Aspects of Including Crossflow Effects in the Recently Proposed Transition Models. , 2016, , .		0
134	Sensitivity analysis of crossflow boundary layer and transition delay using plasma actuator. , 2016, , .		0
135	Stabilization of the Hypersonic Boundary Layer by Finite-Amplitude Streaks. , 2016, , .		0
136	Numerical Investigation of Drag Increase due to Roughness Elements in Hypersonic Boundary Layers. , 2017, , .		0
137	Modeling of Hypersonic Flow Transition with Consideration of High Temperature Gas Effects. , 2017, , .		0
138	Improved Delayed Detached-Eddy Simulations of Actively Controlled Flow. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2018, , 53-75.	0.3	0
139	Computational fluid dynamics investigation on effects of uvulopalatopharyngoplasty on upper airway stability. AIP Advances, 2021, 11, 065225.	1.3	0
140	A recursive approach for aeroacoustic phased array measurements in wind tunnels. Journal of the Acoustical Society of America, 2021, 150, 417-427.	1.1	0
141	Numerical Simulation of Compressible Mixing Layers. , 2005, , 227-235.		0
142	Study into Effects of Vortex Generators on a Supercritical Wing. , 2011, , 309-314.		0
143	Numerical investigations of boundary-layer flow transition control with Plasma Actuators. , 2017, , .		0