Zhi Jian Wang

List of Publications by Year
in descending order

139	8,237	81900	48315
papers	citations	39 h-index	88 g-index

141	141	141	2165
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A preconditioned pâ€multigrid solution approach for the highâ€order flux reconstruction method. International Journal for Numerical Methods in Fluids, 2022, 94, 1379-1397.	1.6	1
2	Implicit large Eddy simulation of the NASA CRM high-lift configuration near stall. Computers and Fluids, 2021, 220, 104887.	2.5	6
3	Benchmark for scale-resolving simulation with curved walls: the Taylor Couette flow. Advances in Aerodynamics, 2021, 3, .	2.5	5
4	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
5	Flux Reconstruction Implementation of an Algebraic Wall Model for Large-Eddy Simulation. AIAA Journal, 2020, 58, 3051-3062.	2.6	10
6	A high-order flux reconstruction method for 3D mixed overset meshes. Computers and Fluids, 2020, 205, 104535.	2.5	5
7	High-Order Overset Flux Reconstruction Method for Dynamic Moving Grids. AIAA Journal, 2020, 58, 4534-4547.	2.6	6
8	Gap-induced transition via oblique breakdown at Mach 6. Shock Waves, 2019, 29, 1181-1190.	1.9	2
9	Accuracy, efficiency and scalability of explicit and implicit FR/CPR schemes in large eddy simulation. Computers and Fluids, 2019, 195, 104316.	2.5	21
10	Evaluation of Second- and High-Order Solvers in Wall-Resolved Large-Eddy Simulation. AIAA Journal, 2019, 57, 1636-1648.	2.6	13
11	Automated low-order to high-order mesh conversion. Engineering With Computers, 2019, 35, 323-335.	6.1	3
12	On the mesh resolution of industrial LES based on the DNS of flow over the T106C turbine. Advances in Aerodynamics, 2019, 1, .	2.5	12
13	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
14	An exponential time-integrator scheme for steady and unsteady inviscid flows. Journal of Computational Physics, 2018, 365, 206-225.	3.8	20
15	Evolution of vortex structures over flapping foils in shear flows and its impact on aerodynamic performance. Journal of Fluids and Structures, 2018, 76, 116-134.	3.4	17
16	Fourier analysis and evaluation of DG, FD and compact difference methods for conservation laws. Journal of Computational Physics, 2018, 373, 835-862.	3.8	38
17	Towards industrial large eddy simulation using the FR/CPR method. Computers and Fluids, 2017, 156, 579-589.	2.5	64
18	A Mathematical Analysis of Scale Similarity. Communications in Computational Physics, 2017, 21, 149-161.	1.7	3

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19	Towards High-Order Large Eddy Simulation of Aero-Thermal Flows for Turbomachinery Applications. , 2017, , .		10
20	Adaptive high-order discretization of the Reynolds-averaged Navier-Stokes equations. Computers and Fluids, 2017, 159, 137-155.	2.5	3
21	Implicit Large-Eddy Simulation for the High-Order Flux Reconstruction Method. AIAA Journal, 2016, 54, 2721-2733.	2.6	25
22	A review of flux reconstruction or correction procedure via reconstruction method for the Navier-Stokes equations. Mechanical Engineering Reviews, 2016, 3, 15-00475-15-00475.	4.7	43
23	A priori and a posteriori evaluations of sub-grid scale models for the Burgersâ€™ equation. Computers and Fluids, 2016, 139, 92-104.	2.5	34
24	Spectral Volume and Spectral Difference Methods. Handbook of Numerical Analysis, 2016, , 199-226.	1.8	2
25	Homotopy continuation of the high-order flux reconstruction/correction Procedure via reconstruction (FR/CPR) method for steady flow simulation. Computers and Fluids, 2016, 131, 16-28.	2.5	4
26	A perspective on high-order methods in computational fluid dynamics. Science China: Physics, Mechanics and Astronomy, 2016, 59, 1.	5.1	33
27	Adjoint-based error estimation and mesh adaptation for the correction procedure via reconstruction method. Journal of Computational Physics, 2015, 295, 261-284.	3.8	27
28	Localized Artificial Viscosity Stabilization of Discontinuous Galerkin Methods for Nonhydrostatic Mesoscale Atmospheric Modeling. Monthly Weather Review, 2015, 143, 4823-4845.	1.4	25
29	High-order methods for computational fluid dynamics: A brief review of compact differential formulations on unstructured grids. Computers and Fluids, 2014, 98, 209-220.	2.5	172
30	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
31	On the accuracy and efficiency of discontinuous Galerkin, spectral difference and correction procedure via reconstruction methods. Journal of Computational Physics, 2014, 259, 70-95.	3.8	93
32	High-order computational fluid dynamics tools for aircraft design. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130318.	3.4	32
33	The efficient implementation of correction procedure via reconstruction with graphics processing unit computing. Computers and Fluids, 2014, 101, 263-272.	2.5	3
34	Formation of Bifurcated Wakes Behind Finite Span Flapping Wings. AIAA Journal, 2013, 51, 2040-2044.	2.6	9
35	High fidelity numerical simulation of airfoil thickness and kinematics effects on flapping airfoil propulsion. Journal of Fluids and Structures, 2013, 42, 166-186.	3.4	34
36	On the Connection Between the Correction and Weighting Functions in the Correction Procedure via Reconstruction Method. Journal of Scientific Computing, 2013, 54, 227-244.	2.3	22

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37	Realizable high-order finite-volume schemes for quadrature-based moment methods applied to diffusion population balance equations. Journal of Computational Physics, 2013, 249, 162-179.	3.8	27
38	Radiation transport modeling using extended quadrature method of moments. Journal of Computational Physics, 2013, 246, 221-241.	3.8	25
39	Highâ€order CFD methods: current status and perspective. International Journal for Numerical Methods in Fluids, 2013, 72, 811-845.	1.6	704
40	A conservative correction procedure via reconstruction formulation with the Chain-Rule divergence evaluation. Journal of Computational Physics, 2013, 232, 7-13.	3.8	59
41	Differential Formulation of Discontinuous Galerkin and Related Methods for the Navier-Stokes Equations. Communications in Computational Physics, 2013, 13, 1013-1044.	1.7	38
42	An Optimized Correction Procedure via Reconstruction Formulation for Broadband Wave Computation. Communications in Computational Physics, 2013, 13, 1265-1291.	1.7	3
43	Improving the High Order Spectral Volume Formulation Using a Diffusion Regulator. Communications in Computational Physics, 2012, 12, 247-260.	1.7	9
44	Effects of Surface Roughness on Separated and Transitional Flows over a Wing. AIAA Journal, 2012, 50, 593-609.	2.6	33
45	Airfoil Thickness Effects on the Thrust Generation of Plunging Airfoils. Journal of Aircraft, 2012, 49, 1434-1439.	2.4	16
46	A high order spectral volume solution to the Burgers' equation using the Hopfâ€“Cole transformation. International Journal for Numerical Methods in Fluids, 2012, 69, 781-801.	1.6	22
47	A Residual-Based Procedure for Hp-Adaptation on 2-D Hybrid Meshes. , 2011, , .		11
48	Validation of Arbitrary Unstructured CFD Code for Aerodynamic Analyses. Transactions of the Japan Society for Aeronautical and Space Sciences, 2011, 53, 311-319.	0.7	25
49	Performance of Low-Dissipation Euler Fluxes and Preconditioned LU-SGS at Low Speeds. Communications in Computational Physics, 2011, 10, 90-119.	1.7	54
50	LDG2: AÂVariant of the LDG Flux Formulation forÂtheÂSpectral Volume Method. Journal of Scientific Computing, 2011, 46, 314-328.	2.3	32
51	Realizable high-order finite-volume schemes for quadrature-based moment methods. Journal of Computational Physics, 2011, 230, 5328-5352.	3.8	88
52	Modeling of bubble-column flows with quadrature-based moment methods. Chemical Engineering Science, 2011, 66, 3058-3070.	3.8	23
53	High-order accurate simulations of unsteady flow past plunging and pitching airfoils. Computers and Fluids, 2011, 40, 236-248.	2.5	67
54	Curvature and entropy based wall boundary condition for the high order spectral volume Euler solver. Computers and Fluids, 2011, 44, 79-88.	2.5	7

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55	A high-order spectral difference method for unstructured dynamic grids. Computers and Fluids, 2011, 48, 84-97.	2.5	46
56	Unstructured grid applications on GPU. , 2011, , .		13
57	A High-Order Unifying Discontinuous Formulation for the Navier-Stokes Equations on 3D Mixed Grids. Mathematical Modelling of Natural Phenomena, 2011, 6, 28-56.	2.4	109
58	Adaptive High-Order Methods in Computational Fluid Dynamics. Advances in Computational Fluid Dynamics, 2011, , .	0.1	51
59	A UNIFYING DISCONTINUOUS FORMULATION FOR HYBRID MESHES. Advances in Computational Fluid Dynamics, 2011, , 423-453.	0.1	20
60	Absorbing boundary conditions for the Euler and Navierâ€“Stokes equations with the spectral difference method. Journal of Computational Physics, 2010, 229, 8733-8749.	3.8	40
61	A Study of Curved Boundary Representations for 2D High Order Euler Solvers. Journal of Scientific Computing, 2010, 44, 323-336.	2.3	18
62	The direct discontinuous Galerkin (DDG) viscous flux scheme for the high order spectral volume method. Computers and Fluids, 2010, 39, 2007-2021.	2.5	32
63	Development of High-Order Realizable Finite-Volume Schemes for Quadrature-Based Moment Method. , 2010, , .		6
64	A high order Spectral Volume method for moving boundary problems. , 2010, , .		3
65	A High-Order Unifying Discontinuous Formulation for 3-D Mixed Grids. , 2010, , .		18
66	Partition Design and Optimization for High-Order Spectral Volume Schemes on Tetrahedral Grids. , 2010, , .		1
67	Simulation of CAA Benchmark Problems Using High-Order Spectral Difference Method and Perfectly Matched Layers. , 2010, , .		7
68	Large Eddy Simulation of Flow over a Cylinder Using High-Order Spectral Difference Method. Advances in Applied Mathematics and Mechanics, 2010, 2, 451-466.	1.2	29
69	High-order adaptive quadrature-free spectral volume method on unstructured grids. Computers and Fluids, 2009, 38, 2006-2025.	2.5	23
70	A Study of Viscous Flux Formulations for a p-Multigrid Spectral Volume Navier Stokes Solver. Journal of Scientific Computing, 2009, 41, 165-199.	2.3	60
71	Spectral difference method for compressible flow on unstructured grids with mixed elements. Journal of Computational Physics, 2009, 228, 2847-2858.	3.8	78
72	A unifying lifting collocation penalty formulation including the discontinuous Galerkin, spectral volume/difference methods for conservation laws on mixed grids. Journal of Computational Physics, 2009, 228, 8161-8186.	3.8	352

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73	A p-multigrid spectral difference method with explicit and implicit smoothers on unstructured triangular grids. Computers and Fluids, 2009, 38, 254-265.	2.5	65
74	Partition Design and Optimization for High Order Spectral Volume Schemes. , 2009, , .		4
75	A High-Order Lifting Collocation Penalty Formulation for the Navier-Stokes Equations on 2-D Mixed Grids. , 2009, , .		31
76	A Unifying Lifting Collocation Penalty Formulation for the Euler Equations on Mixed Grids. , 2009, , .		29
77	Large Eddy Simulation of Compressible Turbulent Channel Flow with Spectral Difference method. , 2009, , .		46
78	Extension of the SD Method to Viscous Flow on Unstructured Grids. , 2009, , 119-124.		5
79	A Parameter-Free Generalized Moment Limiter for High-Order Methods on Unstructured Grids. Advances in Applied Mathematics and Mechanics, 2009, 1, 451-480.	1.2	46
80	An Implicit LU-SGS Scheme for the Spectral Volume Method on Unstructured Tetrahedral Grids. Communications in Computational Physics, 2009, 6, 978-996.	1.7	27
81	Efficient quadrature-free high-order spectral volume method on unstructured grids: Theory and 2D implementation. Journal of Computational Physics, 2008, 227, 1620-1642.	3.8	41
82	On the Stability and Accuracy of the Spectral Difference Method. Journal of Scientific Computing, 2008, 37, 162-188.	2.3	137
83	High-Order Adaptive Quadrature-Free Spectral Volume Method on Unstructured Grids. , 2008, , .		1
84	A Study of Viscous Flux Formulations for an Implicit P-Multigrid Spectral Volume Navier Stokes Solver. , 2008, , .		8
85	A Comparison of Approximate Versus Exact Geometrical Representations of Roughness for CFD Calculations of cf and St. Journal of Turbomachinery, 2008, 130, .	1.7	16
86	Overset Adaptive Cartesian/Prism Grid Method for Stationary and Moving-Boundary Flow Problems. AIAA Journal, 2007, 45, 1774-1779.	2.6	22
87	Efficient Implicit LU-SGS Algorithm for High-Order Spectral Difference Method on Unstructured Hexahedral Grids. , 2007, , .		16
88	Efficient Implicit Non-linear LU-SGS Approach for Viscous Flow Computation Using High-Order Spectral Difference Method. , 2007, , .		13
89	A p-Multigrid Spectral Difference method with explicit and implicit smoothers on unstructured grids. , 2007, , .		5
90	Efficient Implementation of High-Order Spectral Volume Method for Multidimensional Conservation Laws on Unstructured Grids. , 2007, , .		2

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91	High-order methods for the Euler and Navierâ€“Stokes equations on unstructured grids. Progress in Aerospace Sciences, 2007, 43, 1-41.	12.1	255
92	On the connection between the spectral volume and the spectral difference method. Journal of Computational Physics, 2007, 227, 877-885.	3.8	36
93	Spectral Difference Method for Unstructured Grids II: Extension to the Euler Equations. Journal of Scientific Computing, 2007, 32, 45-71.	2.3	224
94	High-Order Multidomain Spectral Difference Method for the Navier-Stokes Equations. , 2006, , .		20
95	Extension of the spectral volume method to high-order boundary representation. Journal of Computational Physics, 2006, 211, 154-178.	3.8	85
96	Spectral (finite) volume method for conservation laws on unstructured grids V: Extension to three-dimensional systems. Journal of Computational Physics, 2006, 212, 454-472.	3.8	160
97	Spectral (finite) volume method for conservation laws on unstructured grids VI: Extension to viscous flow. Journal of Computational Physics, 2006, 215, 41-58.	3.8	391
98	An efficient parallel/unstructured-multigrid preconditioned implicit method for simulating 3D unsteady compressible flows with moving objects. Journal of Computational Physics, 2006, 215, 661-690.	3.8	27
99	Spectral difference method for unstructured grids I: Basic formulation. Journal of Computational Physics, 2006, 216, 780-801.	3.8	716
100	Discontinuous Spectral Difference Method for Conservation Laws on Unstructured Grids. , 2006, , 449-454.		24
101	Computation of Aeroacoustic Waves with High Order Spectral Volume Method. , 2006, , 441-447.		0
102	Evaluation of High-Order Spectral Volume Method for Benchmark Computational Aeroacoustic Problems. AIAA Journal, 2005, 43, 337-348.	2.6	3
103	NUMERICAL EXPERIMENTS OF THE SPECTRAL VOLUME METHOD FOR VISCOUS FLOWS. Modern Physics Letters B, 2005, 19, 1439-1442.	1.9	0
104	Multi-Dimensional Spectral Difference Method for Unstructured Grids. , 2005, , .		14
105	An Overset Adaptive Cartesian/Prism Grid Method for Moving Boundary Flow Problems. , 2005, , .		7
106	The Spectral Difference Method for 2D Euler Equations on Unstructured Grids. , 2005, , .		20
107	A Comparison of Approximate vs. Exact Geometrical Representations of Roughness for CFD Calculations of CF and ST. , 2005, , .		0
108	Title is missing!. Journal of Scientific Computing, 2004, 20, 137-157.	2.3	149

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109	Evaluation of discontinuous Galerkin and spectral volume methods for scalar and system conservation laws on unstructured grids. International Journal for Numerical Methods in Fluids, 2004, 45, 819-838.	1.6	35
110	Formulations and analysis of the spectral volume method for the diffusion equation. Communications in Numerical Methods in Engineering, 2004, 20, 927-937.	1.3	13
111	Spectral (finite) volume method for conservation laws on unstructured grids IV: extension to two-dimensional systems. Journal of Computational Physics, 2004, 194, 716-741.	3.8	491
112	A block LU-SGS implicit dual time-stepping algorithm for hybrid dynamic meshes. Computers and Fluids, 2004, 33, 891-916.	2.5	134
113	Direct Simulation of Surface Roughness Effects with a RANS and DES Approach on Viscous Adaptive Cartesian Grids. , 2004, , .		6
114	High-Order Spectral Volume Method for the Navier-Stokes Equations on Unstructured Grids. , 2004, , .		5
115	The Level Set Method on Adaptive Cartesian Grid for Interface Capturing. , 2004, , .		6
116	Evaluation of Discontinuous Galerkin and Spectral Volume Methods for 2D Euler Equations on Unstructured Grids. , 2003, , .		1
117	High-Order Spectral Volume Method for 2D Euler Equations. , 2003, , .		5
118	Evaluation of Discontinuous Galerkin and Spectral Volume Methods for 2D Euler Equations on Unstructured Grids. , 2003, , .		3
119	Three-Dimensional High-Order Spectral Finite Volume Method for Unstructured Grids. , 2003, , .		5
120	A Block LU-SGS Implicit Dual Time-Stepping Algorithm for Hybrid Dynamic Meshes. , 2003, , .		1
121	High-Order Spectral Volume Method for Benchmark Aeroacoustic Problems. , 2003, , .		2
122	Curvature-Based Wall Boundary Condition for the Euler Equations on Unstructured Grids. AIAA Journal, 2003, 41, 27-33.	2.6	16
123	The spectral volume method for the Euler equations with high-order boundary representations. , 2003, , 1193-1196.		0
124	Spectral (Finite) Volume Method for the One Dimensional Euler Equations. , 2003, , 235-240.		0
125	Anisotropic Solution-Adaptive Viscous Cartesian Grid Method for Turbulent Flow Simulation. AIAA Journal, 2002, 40, 1969-1978.	2.6	56
126	Spectral (Finite) Volume Method for Conservation Laws on Unstructured Grids. Basic Formulation. Journal of Computational Physics, 2002, 178, 210-251.	3.8	696

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127	Spectral (Finite) Volume Method for Conservation Laws on Unstructured Grids. Journal of Computational Physics, 2002, 179, 665-697.	3.8	474
128	An adaptive Cartesian grid generation method for ?Dirty? geometry. International Journal for Numerical Methods in Fluids, 2002, 39, 703-717.	1.6	43
129	A FV-TD electromagnetic solver using adaptive Cartesian grids. Computer Physics Communications, 2002, 148, 17-29.	7.5	22
130	Optimized Weighted Essentially Nonoscillatory Schemes for Linear Waves with Discontinuity. Journal of Computational Physics, 2001, 174, 381-404.	3.8	101
131	Recent Development on the Conservation Property of Chimera. International Journal of Computational Fluid Dynamics, 2001, 15, 265-278.	1.2	19
132	A fast nested multi-grid viscous flow solver for adaptive Cartesian/Quad grids. International Journal for Numerical Methods in Fluids, 2000, 33, 657-680.	1.6	61
133	A fully automated Chimera methodology for multiple moving body problems. International Journal for Numerical Methods in Fluids, 2000, 33, 919-938.	1.6	71
134	Fast, Block Lower-Upper Symmetric Gauss-Seidel Scheme for Arbitrary Grids. AIAA Journal, 2000, 38, 2238-2245.	2.6	156
135	Improved Formulation for Geometric Properties of Arbitrary Polyhedra. AIAA Journal, 1999, 37, 1326-1327.	2.6	20
136	A Quadtree-based adaptive Cartesian/Quad grid flow solver for Navier-Stokes equations. Computers and Fluids, 1998, 27, 529-549.	2.5	93
137	Computational Fluid Dynamics, 1998, 10, 255-265.	1.2	11
138	A Fully Conservative Interface Algorithm for Overlapped Grids. Journal of Computational Physics, 1995, 122, 96-106.	3.8	78
139	Numerical simulation of acoustic waves in a combustor using total-variation-diminishing schemes. AIAA Journal, 1994, 32, 875-878.	2.6	0