Xisheng Luo

List of Publications by Year
in descending order

146 papers	2,585 citations	172457 29 h-index	276875 41 g-index
154 all docs	154 docs citations	154 times ranked	857 citing authors

#	Article	IF	Citations
1	On the evolution of spherical gas interfaces accelerated by a planar shock wave. Physics of Fluids, 2011, 23, .	4.0	87
2	On the interaction of a planar shock with a lightÂpolygonal interface. Journal of Fluid Mechanics, 2014, 757, 800-816.	3.4	71
3	Generation of cylindrical converging shock waves based on shock dynamics theory. Physics of Fluids, 2010, 22, .	4.0	69
4	On the interaction of a planar shock with an polygon. Journal of Fluid Mechanics, 2015, 773, 366-394.	3.4	63
5	Measurement of a Richtmyer-Meshkov Instability at an Air- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow><mml:mi>SF</mml:mi></mml:mrow><mml:mn>6</mml:mn></mml:msub></mml:math> Interface in a Semiannular Shock Tube. Physical Review Letters, 2017, 119, 014501.	7.8	59
6	An elaborate experiment on the single-mode Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2018, 853, .	3.4	58
7	MD simulation on nano-scale heat transfer mechanism of sub-cooled boiling on nano-structured surface. International Journal of Heat and Mass Transfer, 2016, 100, 276-286.	4.8	55
8	On phase transition in compressible flows: modelling and validation. Journal of Fluid Mechanics, 2006, 548, 403.	3.4	54
9	On the interaction of a planar shock with a three-dimensional light gas cylinder. Journal of Fluid Mechanics, 2017, 828, 289-317.	3.4	52
10	Experimental investigation of reshocked spherical gas interfaces. Physics of Fluids, 2012, 24, .	4.0	48
11	Generation of polygonal gas interfaces by soap film for Richtmyerâ€“Meshkov instability study. Experiments in Fluids, 2013, 54, 1.	2.4	47
12	Interaction of two parallel rectangular fires. Proceedings of the Combustion Institute, 2019, 37, 3833-3841.	3.9	47
13	Effects of homogeneous condensation in compressible flows: Ludwieg-tube experiments and simulations. Journal of Fluid Mechanics, 2007, 572, 339-366.	3.4	46
14	The Richtmyerâ€“Meshkov instability of a three-dimensional interface with a minimum-surface feature. Journal of Fluid Mechanics, 2013, 722, .	3.4	46
15	Helmholtz-Like Resonator Self-Sustained Oscillations, Part 1: Acoustical Measurements and Analytical Models. AIAA Journal, 2003, 41, 408-415.	2.6	45
16	An investigation of premixed flame propagation in a closed combustion duct with a 90Â° bend. Applied Energy, 2014, 134, 248-256.	10.1	40
17	Large-eddy simulation of a pulsed jet into a supersonic crossflow. Computers and Fluids, 2016, 140, 320-333.	2.5	40
18	Characteristics of aerosol size distribution and vertical backscattering coefficient profile during 2014 APEC in Beijing. Atmospheric Environment, 2017, 148, 30-41.	4.1	40

#	Article	IF	Citations
19	Long-term effect of Rayleighâ€“Taylor stabilization on converging Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2018, 849, 231-244.	3.4	40
20	Richtmyerâ€“Meshkov instability on a quasi-single-mode interface. Journal of Fluid Mechanics, 2019, 872, 729-751.	3.4	40
21	Experimental investigation of cylindrical converging shock waves interacting with a polygonal heavy gas cylinder. Journal of Fluid Mechanics, 2015, 784, 225-251.	3.4	38
22	Review of experimental Richtmyerâ€“Meshkov instability in shock tube: From simple to complex. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 2830-2849.	2.1	37
23	Experimental study of Richtmyer-Meshkov instability in a cylindrical converging shock tube. Laser and Particle Beams, 2014, 32, 343-351.	1.0	35
24	Interaction of a weak shock wave with a discontinuous heavy-gas cylinder. Physics of Fluids, 2015, 27, .	4.0	35
25	Optical droplet vaporization of nanoparticle-loaded stimuli-responsive microbubbles. Applied Physics Letters, 2016, 108, .	3.3	34
26	Parametric study of cylindrical converging shock waves generated based on shock dynamics theory. Physics of Fluids, 2012, 24, .	4.0	32
27	Heterogeneous condensation on insoluble spherical particles: Modeling and parametric study. Chemical Engineering Science, 2013, 102, 387-396.	3.8	32
28	Formation of steady compound cone-jet modes and multilayered droplets in a tri-axial capillary flow focusing device. Microfluidics and Nanofluidics, 2015, 18, 967-977.	2.2	31
29	The Richtmyerâ€“Meshkov instability of a â€˜Vâ€™ shaped air/ interface. Journal of Fluid Mechanics, 2016, 802, 186-202.	3.4	30
30	Interaction of planar shock wave with three-dimensional heavy cylindrical bubble. Physics of Fluids, 2018, 30, .	4.0	29
31	A cylindrical converging shock tube for shock-interface studies. Review of Scientific Instruments, 2014, 85, 015107.	1.3	28
32	A semi-annular shock tube for studying cylindrically converging Richtmyer-Meshkov instability. Physics of Fluids, 2015, 27, .	4.0	27
33	Experimental study on a sinusoidal air/SF interface accelerated by a cylindrically converging shock. Journal of Fluid Mechanics, 2017, 826, 819-829.	3.4	27
34	On interaction of shock wave with elliptic gas cylinder. Journal of Visualization, 2010, 13, 347-353.	1.8	26
35	Jet formation in shock-heavy gas bubble interaction. Acta Mechanica Sinica/Lixue Xuebao, 2013, 29, 24-35.	3.4	25
36	Nonlinear behaviour of convergent Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2019, 877, 130-141.	3.4	25

#	Article	IF	Citations
37	Convergent Richtmyerâ€"Meshkov instability of a heavy gas layer with perturbed outer interface. Journal of Fluid Mechanics, 2019, 878, 277-291.	3.4	25
38	The Richtmyer-Meshkov instability of a â€œVâ€•shaped air/helium interface subjected to a weak shock. Physics of Fluids, 2016, 28, .	4.0	24
39	Richtmyer-Meshkov instability of a flat interface subjected to a rippled shock wave. Physical Review E, 2017, 95, 013107.	2.1	24
40	Flame length of buoyant turbulent slot flame. Proceedings of the Combustion Institute, 2019, 37, 3851-3858.	3.9	24
41	Effects of non-periodic portions of interface on Richtmyerâ€"Meshkov instability. Journal of Fluid Mechanics, 2019, 861, 309-327.	3.4	24
42	Convergent Richtmyerâ€"Meshkov instability of heavy gas layer with perturbed inner surface. Journal of Fluid Mechanics, 2020, 902, .	3.4	24
43	A kinetic model for heterogeneous condensation of vapor on an insoluble spherical particle. Journal of Chemical Physics, 2014, 140, 024708.	3.0	23
44	Richtmyerâ€"Meshkov instability of an unperturbed interface subjected to a diffractedÂconvergent shock. Journal of Fluid Mechanics, 2019, 879, 448-467.	3.4	23
45	On shock-induced heavy-fluid-layer evolution. Journal of Fluid Mechanics, 2021, 920, .	3.4	23
46	Convergent Richtmyerâ€"Meshkov instability of light gas layer with perturbed outer surface. Journal of Fluid Mechanics, 2020, 884, .	3.4	22
47	Interfacial instability at a heavy/light interface induced by rarefaction waves. Journal of Fluid Mechanics, 2020, 885, .	3.4	21
48	Numerical study on the evolution of the shock-accelerated SF6 interface: Influence of the interface shape. Science China: Physics, Mechanics and Astronomy, 2012, 55, 284-296.	5.1	19
49	Interaction of cylindrically converging diffracted shock with uniform interface. Physics of Fluids, 2017, 29, .	4.0	19
50	Interaction of rippled shock wave with flat fast-slow interface. Physics of Fluids, 2018, 30, .	4.0	19
51	Microscopic Richtmyerâ€"Meshkov instability under strong shock. Physics of Fluids, 2020, 32, .	4.0	19
52	On Type VIâ€"V transition in hypersonic double-wedge flows with thermo-chemical non-equilibrium effects. Physics of Fluids, 2014, 26, 086104.	4.0	18
53	Refraction of cylindrical converging shock wave at an air/helium gaseous interface. Physics of Fluids, 2017, 29, .	4.0	18
54	Richtmyerâ€"Meshkov instability on two-dimensional multi-mode interfaces. Journal of Fluid Mechanics, 2021, 928, .	3.4	18

#	Article	IF	Citations
55	On shock-induced light-fluid-layer evolution. Journal of Fluid Mechanics, 2022, 933, .	3.4	18
56	Temporal instability of coflowing liquid-gas jets under an electric field. Physics of Fluids, 2014, 26, .	4.0	17
57	Single- and dual-mode Rayleighâ€“Taylor instability at microscopic scale. Physics of Fluids, 2021, 33, .	4.0	17
58	Experimental study on a heavy-gas cylinder accelerated by cylindrical converging shock waves. Shock Waves, 2014, 24, 3-9.	1.9	16
59	Flame length of non-buoyant turbulent slot flame. Proceedings of the Combustion Institute, 2019, 37, 3843-3850.	3.9	16
60	Mode coupling in converging Richtmyerâ€“Meshkov instability of dual-mode interface. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 356-366.	3.4	16
61	Effects of transverse shock waves on early evolution of multi-mode chevron interface. Physics of Fluids, 2020, 32, .	4.0	16
62	Effects of Atwood number on shock focusing in shockâ€“cylinder interaction. Experiments in Fluids, 2018, 59, 1.	2.4	15
63	Effects of the intrinsic curvature of elastic filaments on the propulsion of a flagellated microrobot. Physics of Fluids, 2020, 32, .	4.0	15
64	Shock-tube studies of single- and quasi-single-mode perturbation growth in Richtmyerâ€“Meshkov flows with reshock. Journal of Fluid Mechanics, 2022, 941, .	3.4	15
65	A modified expression for the steady-state heterogeneous nucleation rate. Journal of Aerosol Science, 2015, 87, 17-27.	3.8	14
66	Experimental study on the interaction of planar shock wave with polygonal helium cylinders. Shock Waves, 2015, 25, 347-355.	1.9	14
67	Manipulation of three-dimensional Richtmyer-Meshkov instability by initial interfacial principal curvatures. Physics of Fluids, 2017, 29, .	4.0	14
68	Shock-induced dual-layer evolution. Journal of Fluid Mechanics, 2021, 929, .	3.4	14
69	Numerical Studies of the Application of Shock Tube Technology for Cold Gas Dynamic Spray Process. Journal of Thermal Spray Technology, 2007, 16, 729-735.	3.1	13
70	Richtmyer-Meshkov instability of a three-dimensional<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">SF</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:math>-air interface with a minimum-surface feature. Physical Review E, 2016, 93, 013101.	2.1	13
71	A specially curved wedge for eliminating wedge angle effect in unsteady shock reflection. Physics of Fluids, 2017, 29, 086103.	4.0	13
72	Interaction of strong converging shock wave with SF6 gas bubble. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	5.1	13

#	Article	IF	Citations
73	Numerical study on dusty shock reflection over a double wedge. Physics of Fluids, 2018, 30, 013304.	4.0	12
74	Molecular dynamics simulation of cylindrical Richtmyer-Meshkov instability. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	5.1	12
75	On divergent Richtmyerâ€"Meshkov instability of a light/heavy interface. Journal of Fluid Mechanics, 2020, 901, .	3.4	12
76	Universal perturbation growth of Richtmyerâ€"Meshkov instability for minimum-surface featured interface induced by weak shock waves. Physics of Fluids, 2021, 33, .	4.0	12
77	Evolution of shock-accelerated double-layer gas cylinder. Physics of Fluids, 2021, 33, .	4.0	12
78	Instability of a heavy gas layer induced by a cylindrical convergent shock. Physics of Fluids, 2022, 34, .	4.0	12
79	The spaceâ€"time CESE method applied to phase transition of water vapor in compressible flows. Computers and Fluids, 2007, 36, 1247-1258.	2.5	11
80	On condensation-induced waves. Journal of Fluid Mechanics, 2010, 651, 145-164.	3.4	11
81	A new model for the processes of droplet condensation and evaporation on solid surface. International Journal of Heat and Mass Transfer, 2016, 100, 208-214.	4.8	11
82	Thermal effects on the instability of coaxial liquid jets in the core of a gas stream. Physics of Fluids, 2019, 31, 032106.	4.0	11
83	GPU accelerated CESE method for 1D shock tube problems. Journal of Computational Physics, 2011, 230, 8797-8812.	3.8	10
84	Evolution of heavy gas cylinder under reshock conditions. Journal of Visualization, 2014, 17, 123-129.	1.8	10
85	On nitrogen condensation in hypersonic nozzle flows: numerical method and parametric study. Shock Waves, 2014, 24, 179-189.	1.9	10
86	Principal curvature effects on the early evolution of three-dimensional single-mode Richtmyer-Meshkov instabilities. Physical Review E, 2016, 93, 023110.	2.1	10
87	RRâ€"MR transition of a Type V shock interaction in inviscid double-wedge flow with high-temperature gas effects. Shock Waves, 2018, 28, 751-763.	1.9	10
88	Numerical investigation of effects of curvature and wettability of particles on heterogeneous condensation. Journal of Chemical Physics, 2018, 149, 134306.	3.0	10
89	Parametric investigation of particle acceleration in high enthalpy conical nozzle flows for coating applications. Shock Waves, 2008, 17, 351-362.	1.9	9
90	Shock-wave-based density down ramp for electron injection. Physical Review Special Topics: Accelerators and Beams, 2012, 15, .	1.8	9

#	Article	IF	Citations
91	On the Evolution of Double Shock-Accelerated Elliptic Gas Cylinders. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	1.5	9
92	On transition of type V interaction in double-wedge flow with non-equilibrium effects. Theoretical and Applied Mechanics Letters, 2016, 6, 282-285.	2.8	9
93	Molecular-dynamics simulation of Richtmyer-Meshkov instability on a Li-H2 interface at extreme compressing conditions. Physics of Plasmas, 2018, 25, 062705.	1.9	9
94	Richtmyerâ€“Meshkov instability on a dual-mode interface. Journal of Fluid Mechanics, 2020, 905, .	3.4	9
95	Evolution of a shocked multimode interface with sharp corners. Physical Review Fluids, 2018, 3, .	2.5	9
96	Convergent Richtmyerâ€“Meshkov instability on a light gas layer with perturbed inner and outer surfaces. Physics of Fluids, 2021, 33, .	4.0	9
97	Reflection of cylindrical converging shock wave over a plane wedge. Physics of Fluids, 2016, 28, 086101.	4.0	8
98	Moment method for unsteady flows with heterogeneous condensation. Computers and Fluids, 2017, 146, 51-58.	2.5	8
99	Mach stem deformation in pseudo-steady shock wave reflections. Journal of Fluid Mechanics, 2019, 861, 407-421.	3.4	8
100	Smoothed particle hydrodynamics simulation of converging Richtmyerâ€“Meshkov instability. Physics of Fluids, 2020, 32, 086102.	4.0	8
101	Effect of Atwood number on convergent Richtmyerâ€“Meshkov instability. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 434-446.	3.4	8
102	Establishing a data-based scattering kernel model for gasâ€“solid interaction by molecular dynamics simulation. Journal of Fluid Mechanics, 2021, 928, .	3.4	8
103	Bubble merger in initial Richtmyer-Meshkov instability on inverse-chevron interface. Physical Review Fluids, 2019, 4, .	2.5	8
104	Instability and energy budget analysis of viscous coaxial jets under a radial thermal field. Physics of Fluids, 2020, 32, .	4.0	8
105	On shock-induced evolution of a gas layer with two fast/slow interfaces. Journal of Fluid Mechanics, 2022, 939, .	3.4	7
106	Numerical analysis of homogeneous condensation in rarefaction wave in a shock tube by the space-time CESE method. Computers and Fluids, 2010, 39, 294-300.	2.5	6
107	High temperature effects in moving shock reflection with protruding Mach stem. Theoretical and Applied Mechanics Letters, 2016, 6, 222-225.	2.8	6
108	The slip effect of micro-droplets in Rankine vortex. Scientia Sinica: Physica, Mechanica Et Astronomica, 2017, 47, 124702.	0.4	6

#	Article	IF	Citations
109	Theoretical analysis of effects of viscosity, surface tension, and magnetic field on the bubble evolution of Rayleigh-Taylor instability. Wuli Xuebao/Acta Physica Sinica, 2014, 63, 085203.	0.5	6
110	Influence of vibrating wall on microswimmer migration in a channel. Physics of Fluids, 2022, 34, .	4.0	5
111	Richtmyer--Meshkov instability with ionization at extreme impact conditions. Physics of Fluids, 2022, 34, .	4.0	5
112	Numerical investigation of homogeneous condensation in Prandtlâ€"Meyer expansion flows. Shock Waves, 2017, 27, 271-279.	1.9	4
113	Mach number effect on the instability of a planar interface subjected to a rippled shock. Physical Review E, 2018, 98, .	2.1	4
114	Ultrasonic behavior in La2â^'xBaxCuO4â^'y polycrystalline superconductor. Physica C: Superconductivity and Its Applications, 1997, 282-287, 1593-1594.	1.2	3
115	Gas Dynamic Principles and Experimental Investigations of Shock Tunnel Produced Coatings. Journal of Thermal Spray Technology, 2009, 18, 546-554.	3.1	3
116	Numerical Study on Distorted Mach Reflection of Strong Moving Shock involving Laminar Transport. , 2017, , .		3
117	Reflection of a converging shock over a double curved wedge. Shock Waves, 2021, 31, 439-455.	1.9	3
118	Interaction of a shock with two concentric/eccentric cylinders. Experiments in Fluids, 2021, 62, 1.	2.4	3
119	Interaction of a planar shock wave with two heavy/light interfaces. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	3.4	3
120	Wave induced thermal boundary layers in a compressible fluid: analysis and numerical simulations. Shock Waves, 2007, 16, 339-347.	1.9	2
121	GPU accelerated cell-based adaptive mesh refinement on unstructured quadrilateral grid. Computer Physics Communications, 2016, 207, 114-122.	7.5	2
122	The Richtmyerâ€"Meshkov instability of a â€˜Vâ€™ shaped air/helium interface subjected to a weak shock. Theoretical and Applied Mechanics Letters, 2016, 6, 226-229.	2.8	2
123	Numerical simulations of interface with different shape accelerated by a planar shock. Scientia Sinica: Physica, Mechanica Et Astronomica, 2011, 41, 862-869.	0.4	2
124	Numerical Study on Homogeneous Condensation in a Vortex. Procedia Engineering, 2015, 126, 607-611.	1.2	1
125	Richtmyerâ€"Meshkov instability of a sinusoidal interface driven by a cylindrical shock. Shock Waves, 2019, 29, 263-271.	1.9	1
126	Study on Richtmyer-Meshkov instability at heavy/lightsingle-mode interface. Scientia Sinica: Physica, Mechanica Et Astronomica, 2020, 50, 104705.	0.4	1

#	Article	IF	Citations
127	Experimental Study on a Heavy-Gas Cylinder Accelerated by Cylindrical Converging Shock Waves. , 2012, , 345-350.		1
128	Estimation of Saturated Vapor Pressure from Nucleation Data. Chinese Journal of Chemical Physics, 2006, 19, 416-422.	1.3	0
129	Microencapsulation of curcumin in PLGA microcapsules by coaxial flow focusing. Proceedings of SPIE, 2014, , .	0.8	0
130	One-step production of multilayered microparticles by tri-axial electro-flow focusing. , 2014, , .		0
131	A Semi-annular Cylindrically Converging Shock Tube for Richtmyer-Meshkov Instability Studies. , 2017, , 1079-1083.		0
132	Experimental Study on the Interaction of Cylindrical Converging Shock Waves with Sinusoidal Light-Heavy Interface. , 2017, , 1085-1089.		0
133	A phase-slip moment method for condensing flows. International Journal of Heat and Mass Transfer, 2018, 118, 1257-1263.	4.8	0
134	A reduced theoretical model for estimating condensation effects in combustion-heated hypersonic tunnel. Shock Waves, 2018, 28, 321-333.	1.9	0
135	Numerical study on shockâ€"dusty gas cylinder interaction. Acta Mechanica Sinica/Lixue Xuebao, 2019, 35, 740-749.	3.4	0
136	Experimental Study on a Single-Mode Interface Impacted by a Converging Shock. , 2019, , 613-620.		0
137	10.1063/5.0067223.1. , 2021, , .		0
138	Investigations on a Gaseous Interface Accelerated by a Converging Shock Wave. , 2012, , 365-370.		0
139	Simulation of 1D Condensing Flows with CESE Method on GPU Cluster. Lecture Notes in Earth System Sciences, 2013, , 173-185.	0.6	0
140	One-step microencapulation of nanoparticles and perfluorocarbon in microbubbles for potential application in controlled activation. Proceedings of SPIE, 2014, , .	0.8	0
141	On the Evolution of Reshocked Gas Cylinder Under Planar and Converging Shock Conditions. , 2015, , 1053-1058.		0
142	Reflection of Cylindrical Converging Shock Wave Over Wedge. , 2017, , 563-567.		0
143	Effects of Density Distribution on Reshocked Gas Cylinder. , 2017, , 1091-1096.		0
144	On the Richtmyer-Meshkov Instability of a Three-Dimensional Single-Mode Interface: Effect of Initial Interfacial Principal Curvatures. , 2017, , 1103-1107.		0

#	Article	IF	Citations
145	Interaction of Cylindrical Converging Shock Wave with SF6 Gas Bubble. , 2019, , 575-584.		0
146	Numerical Study on the Single-Mode Richtmyer-Meshkov Instability in a Cylindrical Geometry. , 2019, , 585-593.		0