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 shock-induced evolution of a gas layer with two fast/slow interfaces. Journal of Fluid Mechanics, 2022, 939, .	3.4	7
2	On shock-induced light-fluid-layer evolution. Journal of Fluid Mechanics, 2022, 933, .	3.4	18
3	Instability of a heavy gas layer induced by a cylindrical convergent shock. Physics of Fluids, 2022, 34, .	4.0	12
4	Influence of vibrating wall on microswimmer migration in a channel. Physics of Fluids, 2022, 34, .	4.0	5
5	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
6	Interaction of a planar shock wave with two heavy/light interfaces. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	3.4	3
7	Richtmyer--Meshkov instability with ionization at extreme impact conditions. Physics of Fluids, 2022, 34, .	4.0	5
8	Effect of Atwood number on convergent Richtmyerâ€“Meshkov instability. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 434-446.	3.4	8
9	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
10	Single- and dual-mode Rayleighâ€“Taylor instability at microscopic scale. Physics of Fluids, 2021, 33, .	4.0	17
11	On shock-induced heavy-fluid-layer evolution. Journal of Fluid Mechanics, 2021, 920, .	3.4	23
12	Reflection of a converging shock over a double curved wedge. Shock Waves, 2021, 31, 439-455.	1.9	3
13	Evolution of shock-accelerated double-layer gas cylinder. Physics of Fluids, 2021, 33, .	4.0	12
14	Interaction of a shock with two concentric/eccentric cylinders. Experiments in Fluids, 2021, 62, 1.	2.4	3
15	10.1063/5.0067223.1. , 2021, , .		0
16	Richtmyerâ€“Meshkov instability on two-dimensional multi-mode interfaces. Journal of Fluid Mechanics, 2021, 928, .	3.4	18
17	Establishing a data-based scattering kernel model for gasâ€“solid interaction by molecular dynamics simulation. Journal of Fluid Mechanics, 2021, 928, .	3.4	8
18	Convergent Richtmyerâ€“Meshkov instability on a light gas layer with perturbed inner and outer surfaces. Physics of Fluids, 2021, 33, .	4.0	9

#	Article	IF	Citations
19	Shock-induced dual-layer evolution. Journal of Fluid Mechanics, 2021, 929, .	3.4	14
20	Convergent Richtmyerâ€"Meshkov instability of light gas layer with perturbed outer surface. Journal of Fluid Mechanics, 2020, 884, .	3.4	22
21	Mode coupling in converging Richtmyerâ€"Meshkov instability of dual-mode interface. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 356-366.	3.4	16
22	Interfacial instability at a heavy/light interface induced by rarefaction waves. Journal of Fluid Mechanics, 2020, 885, .	3.4	21
23	Richtmyerâ€"Meshkov instability on a dual-mode interface. Journal of Fluid Mechanics, 2020, 905, .	3.4	9
24	Effects of transverse shock waves on early evolution of multi-mode chevron interface. Physics of Fluids, 2020, 32, .	4.0	16
25	Convergent Richtmyerâ€"Meshkov instability of heavy gas layer with perturbed inner surface. Journal of Fluid Mechanics, 2020, 902, .	3.4	24
26	On divergent Richtmyerâ€"Meshkov instability of a light/heavy interface. Journal of Fluid Mechanics, 2020, 901, .	3.4	12
27	Smoothed particle hydrodynamics simulation of converging Richtmyerâ€"Meshkov instability. Physics of Fluids, 2020, 32, 086102.	4.0	8
28	Microscopic Richtmyerâ€"Meshkov instability under strong shock. Physics of Fluids, 2020, 32, .	4.0	19
29	Effects of the intrinsic curvature of elastic filaments on the propulsion of a flagellated microrobot. Physics of Fluids, 2020, 32, .	4.0	15
30	Study on Richtmyer-Meshkov instability at heavy/lightsingle-mode interface. Scientia Sinica: Physica, Mechanica Et Astronomica, 2020, 50, 104705.	0.4	1
31	Instability and energy budget analysis of viscous coaxial jets under a radial thermal field. Physics of Fluids, 2020, 32, .	4.0	8
32	Flame length of buoyant turbulent slot flame. Proceedings of the Combustion Institute, 2019, 37, 3851-3858.	3.9	24
33	Interaction of two parallel rectangular fires. Proceedings of the Combustion Institute, 2019, 37, 3833-3841.	3.9	47
34	Flame length of non-buoyant turbulent slot flame. Proceedings of the Combustion Institute, 2019, 37, 3843-3850.	3.9	16
35	Nonlinear behaviour of convergent Richtmyerâ€"Meshkov instability. Journal of Fluid Mechanics, 2019, 877, 130-141.	3.4	25
36	Convergent Richtmyerâ€"Meshkov instability of a heavy gas layer with perturbed outer interface. Journal of Fluid Mechanics, 2019, 878, 277-291.	3.4	25

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37	Richtmyerâ€“Meshkov instability of an unperturbed interface subjected to a diffractedÂconvergent shock. Journal of Fluid Mechanics, 2019, 879, 448-467.	3.4	23
38	Richtmyerâ€“Meshkov instability on a quasi-single-mode interface. Journal of Fluid Mechanics, 2019, 872, 729-751.	3.4	40
39	Numerical study on shockâ€“dusty gas cylinder interaction. Acta Mechanica Sinica/Lixue Xuebao, 2019, 35, 740-749.	3.4	0
40	Experimental Study on a Single-Mode Interface Impacted by a Converging Shock. , 2019, , 613-620.		0
41	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
42	Mach stem deformation in pseudo-steady shock wave reflections. Journal of Fluid Mechanics, 2019, 861, 407-421.	3.4	8
43	Effects of non-periodic portions of interface on Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2019, 861, 309-327.	3.4	24
44	Richtmyerâ€“Meshkov instability of a sinusoidal interface driven by a cylindrical shock. Shock Waves, 2019, 29, 263-271.	1.9	1
45	Interaction of Cylindrical Converging Shock Wave with SF6 Gas Bubble. , 2019, , 575-584.		0
46	Numerical Study on the Single-Mode Richtmyer-Meshkov Instability in a Cylindrical Geometry. , 2019, , 585-593.		0
47	Bubble merger in initial Richtmyer-Meshkov instability on inverse-chevron interface. Physical Review Fluids, 2019, 4, .	2.5	8
48	Interaction of strong converging shock wave with SF6 gas bubble. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	5.1	13
49	Interaction of rippled shock wave with flat fast-slow interface. Physics of Fluids, 2018, 30, .	4.0	19
50	A phase-slip moment method for condensing flows. International Journal of Heat and Mass Transfer, 2018, 118, 1257-1263.	4.8	0
51	Numerical study on dusty shock reflection over a double wedge. Physics of Fluids, 2018, 30, 013304.	4.0	12
52	Effects of Atwood number on shock focusing in shockâ€“cylinder interaction. Experiments in Fluids, 2018, 59, 1.	2.4	15
53	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
54	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

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55	A reduced theoretical model for estimating condensation effects in combustion-heated hypersonic tunnel. Shock Waves, 2018, 28, 321-333.	1.9	0
56	Mach number effect on the instability of a planar interface subjected to a rippled shock. Physical Review E, 2018, 98, .	2.1	4
57	Interaction of planar shock wave with three-dimensional heavy cylindrical bubble. Physics of Fluids, 2018, 30, .	4.0	29
58	Numerical investigation of effects of curvature and wettability of particles on heterogeneous condensation. Journal of Chemical Physics, 2018, 149, 134306.	3.0	10
59	Long-term effect of Rayleighâ€“Taylor stabilization on converging Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2018, 849, 231-244.	3.4	40
60	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
61	Molecular dynamics simulation of cylindrical Richtmyer-Meshkov instability. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	5.1	12
62	An elaborate experiment on the single-mode Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2018, 853, .	3.4	58
63	Evolution of a shocked multimode interface with sharp corners. Physical Review Fluids, 2018, 3, .	2.5	9
64	Moment method for unsteady flows with heterogeneous condensation. Computers and Fluids, 2017, 146, 51-58.	2.5	8
65	Numerical Study on Distorted Mach Reflection of Strong Moving Shock involving Laminar Transport. , 2017, , .		3
66	Refraction of cylindrical converging shock wave at an air/helium gaseous interface. Physics of Fluids, 2017, 29, .	4.0	18
67	Manipulation of three-dimensional Richtmyer-Meshkov instability by initial interfacial principal curvatures. Physics of Fluids, 2017, 29, .	4.0	14
68	A Semi-annular Cylindrically Converging Shock Tube for Richtmyer-Meshkov Instability Studies. , 2017, , 1079-1083.		0
69	Experimental Study on the Interaction of Cylindrical Converging Shock Waves with Sinusoidal Light-Heavy Interface. , 2017, , 1085-1089.		0
70	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
71	Interaction of cylindrically converging diffracted shock with uniform interface. Physics of Fluids, 2017, 29, .	4.0	19
72	A specially curved wedge for eliminating wedge angle effect in unsteady shock reflection. Physics of Fluids, 2017, 29, 086103.	4.0	13

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73	Richtmyer-Meshkov instability of a flat interface subjected to a rippled shock wave. Physical Review E, 2017, 95, 013107.	2.1	24
74	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
75	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
76	Characteristics of aerosol size distribution and vertical backscattering coefficient profile during 2014 APEC in Beijing. Atmospheric Environment, 2017, 148, 30-41.	4.1	40
77	Numerical investigation of homogeneous condensation in Prandtlâ€“Meyer expansion flows. Shock Waves, 2017, 27, 271-279.	1.9	4
78	The slip effect of micro-droplets in Rankine vortex. Scientia Sinica: Physica, Mechanica Et Astronomica, 2017, 47, 124702.	0.4	6
79	Reflection of Cylindrical Converging Shock Wave Over Wedge. , 2017, , 563-567.		0
80	Effects of Density Distribution on Reshocked Gas Cylinder. , 2017, , 1091-1096.		0
81	On the Richtmyer-Meshkov Instability of a Three-Dimensional Single-Mode Interface: Effect of Initial Interfacial Principal Curvatures. , 2017, , 1103-1107.		0
82	The Richtmyerâ€“Meshkov instability of a â€˜Vâ€™ shaped air/ interface. Journal of Fluid Mechanics, 2016, 802, 186-202.	3.4	30
83	Optical droplet vaporization of nanoparticle-loaded stimuli-responsive microbubbles. Applied Physics Letters, 2016, 108, .	3.3	34
84	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
85	High temperature effects in moving shock reflection with protruding Mach stem. Theoretical and Applied Mechanics Letters, 2016, 6, 222-225.	2.8	6
86	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
87	GPU accelerated cell-based adaptive mesh refinement on unstructured quadrilateral grid. Computer Physics Communications, 2016, 207, 114-122.	7.5	2
88	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
89	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
90	Principal curvature effects on the early evolution of three-dimensional single-mode Richtmyer-Meshkov instabilities. Physical Review E, 2016, 93, 023110.	2.1	10

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91	Large-eddy simulation of a pulsed jet into a supersonic crossflow. Computers and Fluids, 2016, 140, 320-333.	2.5	40
92	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
93	Reflection of cylindrical converging shock wave over a plane wedge. Physics of Fluids, 2016, 28, 086101.	4.0	8
94	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
95	On the interaction of a planar shock with an polygon. Journal of Fluid Mechanics, 2015, 773, 366-394.	3.4	63
96	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
97	Interaction of a weak shock wave with a discontinuous heavy-gas cylinder. Physics of Fluids, 2015, 27, .	4.0	35
98	A semi-annular shock tube for studying cylindrically converging Richtmyer-Meshkov instability. Physics of Fluids, 2015, 27, .	4.0	27
99	Numerical Study on Homogeneous Condensation in a Vortex. Procedia Engineering, 2015, 126, 607-611.	1.2	1
100	A modified expression for the steady-state heterogeneous nucleation rate. Journal of Aerosol Science, 2015, 87, 17-27.	3.8	14
101	Experimental study on the interaction of planar shock wave with polygonal helium cylinders. Shock Waves, 2015, 25, 347-355.	1.9	14
102	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
103	On the Evolution of Reshocked Gas Cylinder Under Planar and Converging Shock Conditions. , 2015, , 1053-1058.		0
104	A cylindrical converging shock tube for shock-interface studies. Review of Scientific Instruments, 2014, 85, 015107.	1.3	28
105	A kinetic model for heterogeneous condensation of vapor on an insoluble spherical particle. Journal of Chemical Physics, 2014, 140, 024708.	3.0	23
106	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
107	Temporal instability of coflowing liquid-gas jets under an electric field. Physics of Fluids, 2014, 26, .	4.0	17
108	Microencapsulation of curcumin in PLGA microcapsules by coaxial flow focusing. Proceedings of SPIE, 2014, , .	0.8	0

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109	On the interaction of a planar shock with a lightÂpolygonal interface. Journal of Fluid Mechanics, 2014, 757, 800-816.	3.4	71
110	Experimental study of Richtmyer-Meshkov instability in a cylindrical converging shock tube. Laser and Particle Beams, 2014, 32, 343-351.	1.0	35
111	Experimental study on a heavy-gas cylinder accelerated by cylindrical converging shock waves. Shock Waves, 2014, 24, 3-9.	1.9	16
112	Evolution of heavy gas cylinder under reshock conditions. Journal of Visualization, 2014, 17, 123-129.	1.8	10
113	On nitrogen condensation in hypersonic nozzle flows: numerical method and parametric study. Shock Waves, 2014, 24, 179-189.	1.9	10
114	An investigation of premixed flame propagation in a closed combustion duct with a 90Â° bend. Applied Energy, 2014, 134, 248-256.	10.1	40
115	On the Evolution of Double Shock-Accelerated Elliptic Gas Cylinders. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	1.5	9
116	One-step production of multilayered microparticles by tri-axial electro-flow focusing. , 2014, , .		0
117	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
118	One-step microencapulation of nanoparticles and perfluorocarbon in microbubbles for potential application in controlled activation. Proceedings of SPIE, 2014, , .	0.8	0
119	Generation of polygonal gas interfaces by soap film for Richtmyerâ€"Meshkov instability study. Experiments in Fluids, 2013, 54, 1.	2.4	47
120	Heterogeneous condensation on insoluble spherical particles: Modeling and parametric study. Chemical Engineering Science, 2013, 102, 387-396.	3.8	32
121	Jet formation in shock-heavy gas bubble interaction. Acta Mechanica Sinica/Lixue Xuebao, 2013, 29, 24-35.	3.4	25
122	The Richtmyerâ€"Meshkov instability of a three-dimensional interface with a minimum-surface feature. Journal of Fluid Mechanics, 2013, 722, .	3.4	46
123	Simulation of 1D Condensing Flows with CESE Method on GPU Cluster. Lecture Notes in Earth System Sciences, 2013, , 173-185.	0.6	0
124	Parametric study of cylindrical converging shock waves generated based on shock dynamics theory. Physics of Fluids, 2012, 24, .	4.0	32
125	Experimental investigation of reshocked spherical gas interfaces. Physics of Fluids, 2012, 24, .	4.0	48
126	Shock-wave-based density down ramp for electron injection. Physical Review Special Topics: Accelerators and Beams, 2012, 15, .	1.8	9

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127	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
128	Experimental Study on a Heavy-Gas Cylinder Accelerated by Cylindrical Converging Shock Waves. , 2012, , 345-350.		1
129	Investigations on a Gaseous Interface Accelerated by a Converging Shock Wave. , 2012, , 365-370.		0
130	GPU accelerated CESE method for 1D shock tube problems. Journal of Computational Physics, 2011, 230, 8797-8812.	3.8	10
131	On the evolution of spherical gas interfaces accelerated by a planar shock wave. Physics of Fluids, 2011, 23, .	4.0	87
132	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
133	On condensation-induced waves. Journal of Fluid Mechanics, 2010, 651, 145-164.	3.4	11
134	On interaction of shock wave with elliptic gas cylinder. Journal of Visualization, 2010, 13, 347-353.	1.8	26
135	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
136	Generation of cylindrical converging shock waves based on shock dynamics theory. Physics of Fluids, 2010, 22, .	4.0	69
137	Gas Dynamic Principles and Experimental Investigations of Shock Tunnel Produced Coatings. Journal of Thermal Spray Technology, 2009, 18, 546-554.	3.1	3
138	Parametric investigation of particle acceleration in high enthalpy conical nozzle flows for coating applications. Shock Waves, 2008, 17, 351-362.	1.9	9
139	Effects of homogeneous condensation in compressible flows: Ludwieg-tube experiments and simulations. Journal of Fluid Mechanics, 2007, 572, 339-366.	3.4	46
140	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
141	Wave induced thermal boundary layers in a compressible fluid: analysis and numerical simulations. Shock Waves, 2007, 16, 339-347.	1.9	2
142	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
143	On phase transition in compressible flows: modelling and validation. Journal of Fluid Mechanics, 2006, 548, 403.	3.4	54
144	Estimation of Saturated Vapor Pressure from Nucleation Data. Chinese Journal of Chemical Physics, 2006, 19, 416-422.	1.3	0

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145	Helmholtz-Like Resonator Self-Sustained Oscillations, Part 1: Acoustical Measurements and Analytical Models. AIAA Journal, 2003, 41, 408-415.	2.6	45
146	Ultrasonic behavior in La2âˆ'xBaxCuO4âˆ'y polycrystalline superconductor. Physica C: Superconductivity and Its Applications, 1997, 282-287, 1593-1594.	1.2	3