Hongyu Liu

List of Publications by Year
in descending order

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139	2,780	147801	276875
papers	citations	31 h-index	41 g-index

142	142	142	442
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Uniqueness in an inverse acoustic obstacle scattering problem for both sound-hard and sound-soft polyhedral scatterers. Inverse Problems, 2006, 22, 515-524.	2.0	116
2	Virtual reshaping and invisibility in obstacle scattering. Inverse Problems, 2009, 25, 045006.	2.0	73
3	Reflection principle for the Maxwell equations and its application to inverse electromagnetic scattering. Inverse Problems, 2007, 23, 2357-2366.	2.0	67
4	Strengthened Linear Sampling Method with a Reference Ball. SIAM Journal of Scientific Computing, 2010, 31, 4013-4040.	2.8	62
5	Determining both sound speed and internal source in thermo- and photo-acoustic tomography. Inverse Problems, 2015, 31, 105005.	2.0	56
6	Plasmon Resonance with Finite Frequencies: a Validation of the Quasi-static Approximation for Diametrically Small Inclusions. SIAM Journal on Applied Mathematics, 2016, 76, 731-749.	1.8	50
7	A neural network scheme for recovering scattering obstacles with limited phaseless far-field data. Journal of Computational Physics, 2020, 417, 109594.	3.8	49
8	Locating Multiple Multiscale Acoustic Scatterers. Multiscale Modeling and Simulation, 2014, 12, 927-952.	1.6	47
9	Scattering by Curvatures, Radiationless Sources, Transmission Eigenfunctions, and Inverse Scattering Problems. SIAM Journal on Mathematical Analysis, 2021, 53, 3801-3837.	1.9	47
10	Simultaneously recovering potentials and embedded obstacles for anisotropic fractional SchrÃ¶dinger operators. Inverse Problems and Imaging, 2019, 13, 197-210.	1.1	43
11	On the geometric structures of transmission eigenfunctions with a conductive boundary condition and applications. Communications in Partial Differential Equations, 2021, 46, 630-679.	2.2	42
12	Multilevel Linear Sampling Method for Inverse Scattering Problems. SIAM Journal of Scientific Computing, 2008, 30, 1228-1250.	2.8	41
13	On vanishing near corners of transmission eigenfunctions. Journal of Functional Analysis, 2017, 273, 3616-3632.	1.4	41
14	Zeros of the Bessel and spherical Bessel functions and their applications for uniqueness in inverse acoustic obstacle scattering. IMA Journal of Applied Mathematics, 2007, 72, 817-831.	1.6	40
15	Nearly cloaking the full Maxwell equations: Cloaking active contents with general conducting layers. Journal Des Mathematiques Pures Et Appliquees, 2014, 101, 716-733.	1.6	40
16	Recovering piecewise constant refractive indices by a single far-field pattern. Inverse Problems, 2020, 36, 085005.	2.0	40
17	Stable determination of sound-hard polyhedral scatterers by a minimal number of scattering measurements. Journal of Differential Equations, 2017, 262, 1631-1670.	2.2	39
18	Mosco convergence for H (curl) spaces, higher integrability for Maxwell's equations, and stability in direct and inverse EM scattering problems. Journal of the European Mathematical Society, 2019, 21, 2945-2993.	1.4	39

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19	Fourier method for recovering acoustic sources from multi-frequency far-field data. Inverse Problems, 2017, 33, 035001.	2.0	37
20	Two Single-Shot Methods for Locating Multiple Electromagnetic Scatterers. SIAM Journal on Applied Mathematics, 2013, 73, 1721-1746.	1.8	36
21	Surface-Localized Transmission Eigenstates, Super-resolution Imaging, and Pseudo Surface Plasmon Modes. SIAM Journal on Imaging Sciences, 2021, 14, 946-975.	2.2	36
22	On an artificial neural network for inverse scattering problems. Journal of Computational Physics, 2022, 448, 110771.	3.8	36
23	On unique determination of partially coated polyhedral scatterers with far field measurements. Inverse Problems, 2007, 23, 297-308.	2.0	35
24	A global uniqueness for formally determined inverse electromagnetic obstacle scattering. Inverse Problems, 2008, 24, 035018.	2.0	34
25	Enhanced near-cloak by FSH lining. Journal Des Mathematiques Pures Et Appliquees, 2013, 99, 17-42.	1.6	34
26	Recovering multiscale buried anomalies in a two-layered medium. Inverse Problems, 2015, 31, 105006.	2.0	34
27	On Approximate Electromagnetic Cloaking by Transformation Media. SIAM Journal on Applied Mathematics, 2011, 71, 218-241.	1.8	33
28	Recovering an electromagnetic obstacle by a few phaseless backscattering measurements. Inverse Problems, 2017, 33, 035011.	2.0	33
29	On vanishing and localizing of transmission eigenfunctions near singular points: a numerical study. Inverse Problems, 2017, 33, 105001.	2.0	33
30	Retrieval of acoustic sources from multi-frequency phaseless data. Inverse Problems, 2018, 34, 094001.	2.0	33
31	Enhanced multilevel linear sampling methods for inverse scattering problems. Journal of Computational Physics, 2014, 257, 554-571.	3.8	32
32	On Quasi-Static Cloaking Due to Anomalous Localized Resonance in $mathbb{R}^3$. SIAM Journal on Applied Mathematics, 2015, 75, 1245-1260.	1.8	31
33	Recovering a polyhedral obstacle by a few backscattering measurements. Journal of Differential Equations, 2015, 259, 2101-2120.	2.2	30
34	On local and global structures of transmission eigenfunctions and beyond. Journal of Inverse and Ill-Posed Problems, 2022, 30, 287-305.	1.0	30
35	On generalized Holmgrenâ€™s principle to the LamÃ© operator with applications to inverse elastic problems. Calculus of Variations and Partial Differential Equations, 2020, 59, 1.	1.7	29
36	Determining a Random SchrÃ¶dinger Equation with Unknown Source and Potential. SIAM Journal on Mathematical Analysis, 2019, 51, 3465-3491.	1.9	28

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37	Determining a Random SchrÃ¶dinger Operator: Both Potential and Source are Random. Communications in Mathematical Physics, 2021, 381, 527-556.	2.2	28
38	On corners scattering stably and stable shape determination by a single far-field pattern. Indiana University Mathematics Journal, 2021, 70, 907-947.	0.9	28
39	Some new additive Rungeâ€“Kutta methods and their applications. Journal of Computational and Applied Mathematics, 2006, 190, 74-98.	2.0	27
40	Determining a fractional Helmholtz equation with unknown source and scattering potential. Communications in Mathematical Sciences, 2019, 17, 1861-1876.	1.0	27
41	On nodal and generalized singular structures of Laplacian eigenfunctions and applications to inverse scattering problems. Journal Des Mathematiques Pures Et Appliquees, 2020, 143, 116-161.	1.6	26
42	On a local geometric property of the generalized elastic transmission eigenfunctions and application. Inverse Problems, 2021, 37, 105015.	2.0	25
43	Locating Multiple Multipolar Acoustic Sources Using the Direct Sampling Method. Communications in Computational Physics, 2019, 25, .	1.7	24
44	A time domain sampling method for inverse acoustic scattering problems. Journal of Computational Physics, 2016, 314, 647-660.	3.8	23
45	Mathematical design of a novel input/instruction device using a moving acoustic emitter. Inverse Problems, 2017, 33, 105009.	2.0	23
46	Full and Partial Cloaking in Electromagnetic Scattering. Archive for Rational Mechanics and Analysis, 2017, 223, 265-299.	2.4	23
47	Stable determination of polygonal inclusions in CalderÃ³nâ€™s problem by a single partial boundary measurement. Inverse Problems, 2020, 36, 085010.	2.0	23
48	Locating Multiple Multiscale Electromagnetic Scatterers by a Single Far-Field Measurement. SIAM Journal on Imaging Sciences, 2013, 6, 2285-2309.	2.2	22
49	On spectral properties of Neumanâ€“PoincarÃ© operator and plasmonic resonances in 3D elastostatics. Journal of Spectral Theory, 2018, 9, 767-789.	0.8	22
50	On an electromagnetic problem in a corner and its applications. Analysis and PDE, 2021, 14, 2207-2224.	1.4	22
51	On near-cloak in acoustic scattering. Journal of Differential Equations, 2013, 254, 1230-1246.	2.2	21
52	On novel elastic structures inducing polariton resonances with finite frequencies and cloaking due to anomalous localized resonances. Journal Des Mathematiques Pures Et Appliquees, 2018, 120, 195-219.	1.6	21
53	On Identifying Magnetized Anomalies Using Geomagnetic Monitoring. Archive for Rational Mechanics and Analysis, 2019, 231, 153-187.	2.4	21
54	On Identifying Magnetized Anomalies Using Geomagnetic Monitoring Within a Magnetohydrodynamic model. Archive for Rational Mechanics and Analysis, 2020, 235, 691-721.	2.4	21

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55	Nearly Cloaking the Electromagnetic Fields. SIAM Journal on Applied Mathematics, 2014, 74, 724-742.	1.8	20
56	On Anomalous Localized Resonance for the Elastostatic System. SIAM Journal on Mathematical Analysis, 2016, 48, 3322-3344.	1.9	20
57	On anomalous localized resonance and plasmonic cloaking beyond the quasi-static limit. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180165.	2.1	20
58	On an inverse boundary problem arising in brain imaging. Journal of Differential Equations, 2019, 267, 2471-2502.	2.2	20
59	On Localizing and Concentrating Electromagnetic Fields. SIAM Journal on Applied Mathematics, 2018, 78, 2558-2574.	1.8	19
60	Analysis of Surface Polariton Resonance for Nanoparticles in Elastic System. SIAM Journal on Mathematical Analysis, 2020, 52, 1786-1805.	1.9	18
61	Mathematical analysis of plasmon resonances for curved nanorods. Journal Des Mathematiques Pures Et Appliquees, 2021, 153, 248-280.	1.6	18
62	Regularized Transformation-Optics Cloaking for the Helmholtz Equation: From Partial Cloak to Full Cloak. Communications in Mathematical Physics, 2015, 335, 671-712.	2.2	17
63	Decoupling elastic waves and its applications. Journal of Differential Equations, 2017, 263, 4442-4480.	2.2	17
64	On Electromagnetic Scattering from a Penetrable Corner. SIAM Journal on Mathematical Analysis, 2017, 49, 5207-5241.	1.9	17
65	Spectral Properties of Neumann-PoincarÃ© Operator and Anomalous Localized Resonance in Elasticity Beyond Quasi-Static Limit. Journal of Elasticity, 2020, 140, 213-242.	1.9	17
66	Minnaert Resonances for Bubbles in Soft Elastic Materials. SIAM Journal on Applied Mathematics, 2022, 82, 119-141.	1.8	17
67	Inverse Elastic Scattering for Multiscale Rigid Bodies with a Single Far-Field Pattern. SIAM Journal on Imaging Sciences, 2014, 7, 1799-1825.	2.2	16
68	On Novel Geometric Structures of Laplacian Eigenfunctions in $mathbb{R}^3$ and Applications to Inverse Problems. SIAM Journal on Mathematical Analysis, 2021, 53, 1263-1294.	1.9	16
69	Multi-symplectic Rungeâ€“Kutta-type methods for Hamiltonian wave equations. IMA Journal of Numerical Analysis, 2006, 26, 252-271.	2.9	15
70	Enhanced approximate cloaking by SH and FSH lining. Inverse Problems, 2012, 28, 075011.	2.0	15
71	Singular Perturbation of Reduced Wave Equation and Scattering from an Embedded Obstacle. Journal of Dynamics and Differential Equations, 2012, 24, 803-821.	1.9	15
72	On three-dimensional plasmon resonances in elastostatics. Annali Di Matematica Pura Ed Applicata, 2017, 196, 1113-1135.	1.0	15

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73	On regularized full- and partial-cloaks in acoustic scattering. Communications in Partial Differential Equations, 2017, 42, 821-851.	2.2	15
74	Localization and geometrization in plasmon resonances and geometric structures of Neumann-PoincarÃ© eigenfunctions. ESAIM: Mathematical Modelling and Numerical Analysis, 2020, 54, 957-976.	1.9	15
75	Unique determinations in inverse scattering problems with phaseless near-field measurements. Inverse Problems and Imaging, 2020, 14, 569-582.	1.1	15
76	On Geometrical Properties of Electromagnetic Transmission Eigenfunctions and Artificial Mirage. SIAM Journal on Applied Mathematics, 2022, 82, 1-24.	1.8	15
77	Recovering complex elastic scatterers by a single far-field pattern. Journal of Differential Equations, 2014, 257, 469-489.	2.2	14
78	Nearly cloaking the elastic wave fields. Journal Des Mathematiques Pures Et Appliquees, 2015, 104, 1045-1074.	1.6	14
79	The interior inverse scattering problem for a two-layered cavity using the Bayesian method. Inverse Problems and Imaging, 2022, 16, 673.	1.1	14
80	Further results on generalized Holmgren's principle to the LamÃ© operator and applications. Journal of Differential Equations, 2022, 309, 841-882.	2.2	14
81	POLARIZATION-INVARIANT DIRECTIONAL CLOAKING BY TRANSFORMATION OPTICS. Progress in Electromagnetics Research, 2011, 118, 415-423.	4.4	13
82	Analysis of electromagnetic scattering from plasmonic inclusions beyond the quasi-static approximation and applications. ESAIM: Mathematical Modelling and Numerical Analysis, 2019, 53, 1351-1371.	1.9	13
83	Two dimensional invisibility cloaking via transformation optics. Discrete and Continuous Dynamical Systems, 2011, 31, 525-543.	0.9	12
84	An inverse scattering approach for geometric body generation: a machine learning perspective. Mathematics in Engineering, 2019, 1, 800-823.	0.9	12
85	Stable determination of an elastic medium scatterer by a single far-field measurement and beyond. Calculus of Variations and Partial Differential Equations, 2022, 61, .	1.7	12
86	On new surface-localized transmission eigenmodes. Inverse Problems and Imaging, 2021, .	1.1	11
87	Regular scattering patterns from near-cloaking devices and their implications for invisibility cloaking. Inverse Problems, 2013, 29, 045005.	2.0	10
88	On isotropic cloaking and interior transmission eigenvalue problems. European Journal of Applied Mathematics, 2018, 29, 253-280.	2.9	10
89	Recovery of an embedded obstacle and the surrounding medium for Maxwell's system. Journal of Differential Equations, 2019, 267, 2192-2209.	2.2	10
90	Unique continuation from a generalized impedance edge-corner for Maxwellâ€™s system and applications to inverse problems. Inverse Problems, 2021, 37, 035004.	2.0	10

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91	Determining scattering support of anisotropic acoustic mediums and obstacles. Communications in Mathematical Sciences, 2015, 13, 987-1000.	1.0	10
92	Plasmon resonances of nanorods in transverse electromagnetic scattering. Journal of Differential Equations, 2022, 318, 502-536.	2.2	10
93	On a Hybrid Approach for Recovering Multiple Obstacles. Communications in Computational Physics, 2022, 31, 869-892.	1.7	10
94	Effective Medium Theory for Embedded Obstacles in Elasticity with Applications to Inverse Problems. SIAM Journal on Applied Mathematics, 2022, 82, 720-749.	1.8	10
95	On Acoustic Cloaking Devices by Transformation Media and Their Simulation. SIAM Journal on Applied Mathematics, 2010, 70, 2996-3021.	1.8	9
96	Recovery of an embedded obstacle and its surrounding medium from formally determined scattering data. Inverse Problems, 2017, 33, 065001.	2.0	9
97	Fourier method for identifying electromagnetic sources with multi-frequency far-field data. Journal of Computational and Applied Mathematics, 2019, 358, 279-292.	2.0	9
98	On CalderÃ³nâ€™s inverse inclusion problem with smooth shapes by a single partial boundary measurement. Inverse Problems, 2021, 37, 055005.	2.0	9
99	Identifying varying magnetic anomalies using geomagnetic monitoring. Discrete and Continuous Dynamical Systems, 2020, 40, 6411-6440.	0.9	9
100	On a gesture-computing technique using electromagnetic waves. Inverse Problems and Imaging, 2018, 12, 677-696.	1.1	9
101	On vanishing and localizing around corners of electromagnetic transmission resonances. SN Partial Differential Equations and Applications, 2021, 2, 1.	0.6	9
102	Localized Sensitivity Analysis at High-Curvature Boundary Points of Reconstructing Inclusions in Transmission Problems. SIAM Journal on Mathematical Analysis, 2022, 54, 1543-1592.	1.9	9
103	Implicit Rungeâ€“Kutta methods based on Lobatto quadrature formula. International Journal of Computer Mathematics, 2005, 82, 77-88.	1.8	8
104	Uniqueness in determining refractive indices by formally determined far-field data. Applicable Analysis, 2015, 94, 1259-1269.	1.3	8
105	Mathematical Design of a Novel Gesture-Based Instruction/Input Device Using Wave Detection. SIAM Journal on Imaging Sciences, 2016, 9, 822-841.	2.2	8
106	Electromagnetic interior transmission eigenvalue problem for inhomogeneous media containing obstacles and its applications to near cloaking. IMA Journal of Applied Mathematics, 2017, 82, 1013-1042.	1.6	8
107	Sharp estimate of electric field from a conductive rod and application. Studies in Applied Mathematics, 2021, 146, 279-297.	2.4	8
108	Two gesture-computing approaches by using electromagnetic waves. Inverse Problems and Imaging, 2019, 13, 879-901.	1.1	8

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109	Stable determination by a single measurement, scattering bound and regularity of transmission eigenfunctions. Calculus of Variations and Partial Differential Equations, 2022, 61, 1.	1.7	8
110	Nearly non-scattering electromagnetic wave set and its application. Zeitschrift Fur Angewandte Mathematik Und Physik, 2017, 68, 1.	1.4	7
111	Recovery of polyhedral scatterers by a single electromagnetic far-field measurement. Journal of Mathematical Physics, 2009, 50, .	1.1	6
112	On a novel inverse scattering scheme using resonant modes with enhanced imaging resolution. Inverse Problems, 2019, 35, 125012.	2.0	6
113	Uniqueness in determining multiple polygonal scatterers of mixed type. Discrete and Continuous Dynamical Systems - Series B, 2008, 9, 375-396.	0.9	6
114	Numerical Methods for Semilinear Fractional Diffusion Equations with Time Delay. Advances in Applied Mathematics and Mechanics, 2022, 14, 56-78.	1.2	6
115	Shape reconstructions by using plasmon resonances. ESAIM: Mathematical Modelling and Numerical Analysis, 2022, 56, 705-726.	1.9	6
116	Spurious behavior of a symplectic integrator. Computers and Mathematics With Applications, 2005, 50, 519-528.	2.7	5
117	Efficient symplectic Rungeâ€“Kutta methods. Applied Mathematics and Computation, 2006, 172, 908-924.	2.2	5
118	State feedback design for nonlinear quadratic systems with randomly occurring actuator saturation. International Journal of Control, Automation and Systems, 2017, 15, 1117-1124.	2.7	5
119	On a Novel Numerical Scheme for Riesz Fractional Partial Differential Equations. Mathematics, 2021, 9, 2014.	2.2	5
120	Imaging acoustic obstacles by singular and hypersingular point sources. Inverse Problems and Imaging, 2013, 7, 545-563.	1.1	5
121	On vanishing near corners of conductive transmission eigenfunctions. Research in Mathematical Sciences, 2022, 9, 1.	1.0	5
122	Two single-measurement uniqueness results for inverse scattering problems within polyhedral geometries. Inverse Problems and Imaging, 2022, 16, 1501-1528.	1.1	5
123	A CLASS OF POLARIZATION-INVARIANT DIRECTIONAL CLOAKS BY CONCATENATION VIA TRANSFORMATION OPTICS. Progress in Electromagnetics Research, 2012, 123, 175-187.	4.4	4
124	Simultaneous recovery of surface heat flux and thickness of a solid structure by ultrasonic measurements. Electronic Research Archive, 2021, 29, 3081-3096.	0.9	4
125	Three-Dimensional Elastic Scattering Coefficients and Enhancement of the Elastic Near Cloaking. Journal of Elasticity, 2021, 143, 111-146.	1.9	4
126	Reconstructing acoustic obstacles by planar and cylindrical waves. Journal of Mathematical Physics, 2012, 53, 103705.	1.1	3

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127	Optimal shape for a nozzle design problem using an arbitrary Lagrangianâ€“Eulerian finite element method. Journal of Inverse and Ill-Posed Problems, 2014, 22, .	1.0	3
128	A Numerical Study of Complex Reconstruction in Inverse Elastic Scattering. Communications in Computational Physics, 2016, 19, 1265-1286.	1.7	3
129	On an inverse elastic wave imaging scheme for nearly incompressible materials. IMA Journal of Applied Mathematics, 2019, 84, 229-257.	1.6	3
130	Fast imaging of electromagnetic scatterers by a two-stage multilevel sampling method. Discrete and Continuous Dynamical Systems - Series S, 2015, 8, 547-561.	1.1	3
131	Preservation of stability properties near fixed points of linear Hamiltonian systems by symplectic integrators. Applied Mathematics and Computation, 2011, 217, 6105-6114.	2.2	2
132	Approximate acoustic cloaking in inhomogeneous isotropic space. Science China Mathematics, 2013, 56, 2631-2644.	1.7	2
133	Ground detection by a single electromagnetic far-field measurement. Journal of Computational Physics, 2014, 273, 472-487.	3.8	2
134	Design and finite element simulation of information-open cloaking devices. Journal of Computational Physics, 2021, 426, 109944.	3.8	2
135	Boundary localization of transmission eigenfunctions in spherically stratified media. Asymptotic Analysis, 2022, , 1-19.	0.5	2
136	Gradient Estimates for Electric Fields with MultiScale Inclusions in the Quasi-Static Regime. Multiscale Modeling and Simulation, 2022, 20, 641-656.	1.6	1
137	RESTARTED NONLINEAR CONJUGATE GRADIENT METHOD FOR PARAMETER IDENTIFICATION IN ELLIPTIC SYSTEM. Eurasian Journal of Mathematical and Computer Applications, 2013, 1, 62-77.	0.4	0
138	An Efficient Multilevel Algorithm for Inverse Scattering Problem. , 2007, , 234-242.		0
139	Symmetric-Adjoint and Symplectic-Adjoint Runge-Kutta Methods and Their Applications. Numerical Mathematics, 2022, 15, 304-335.	1.3	0