Hongyu Liu

List of Publications by Year in Descending Order

134 papers	1,549 citations	21 h-index	29 g-index
142 ext. papers	1,964 ext. citations	1.8 avg, IF	5.86 L-index

#	Paper	IF	Citations
134	Minnaert Resonances for Bubbles in Soft Elastic Materials. *SIAM Journal on Applied Mathematics*, **2022**, 82, 119-141	1.8	2
133	On Geometrical Properties of Electromagnetic Transmission Eigenfunctions and Artificial Mirage. *SIAM Journal on Applied Mathematics*, **2022**, 82, 1-24	1.8	4
132	Numerical Methods for Semilinear Fractional Diffusion Equations with Time Delay. *Advances in Applied Mathematics and Mechanics*, **2022**, 14, 56-78	2.1	3
131	Further results on generalized Holmgren's principle to the Lam operator and applications. *Journal of Differential Equations*, **2022**, 309, 841-882	2.1	3
130	On an artificial neural network for inverse scattering problems. *Journal of Computational Physics*, **2022**, 448, 110771	4.1	7
129	Localized Sensitivity Analysis at High-Curvature Boundary Points of Reconstructing Inclusions in Transmission Problems. *SIAM Journal on Mathematical Analysis*, **2022**, 54, 1543-1592	1.7	1
128	Shape reconstructions by using plasmon resonances. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2022**, 56, 705-726	1.8	0
127	Stable determination by a single measurement, scattering bound and regularity of transmission eigenfunctions. *Calculus of Variations and Partial Differential Equations*, **2022**, 61, 1	1.5	1
126	Plasmon resonances of nanorods in transverse electromagnetic scattering. *Journal of Differential Equations*, **2022**, 318, 502-536	2.1	1
125	On vanishing near corners of conductive transmission eigenfunctions. *Research in Mathematical Sciences*, **2022**, 9, 1	1.5	2
124	Effective Medium Theory for Embedded Obstacles in Elasticity with Applications to Inverse Problems. *SIAM Journal on Applied Mathematics*, **2022**, 82, 720-749	1.8	3
123	Two single-measurement uniqueness results for inverse scattering problems within polyhedral geometries. *Inverse Problems and Imaging*, **2022**,	2.1	
122	On vanishing and localizing around corners of electromagnetic transmission resonances. *SN Partial Differential Equations and Applications*, **2021**, 2, 1	0.7	3
121	On an electromagnetic problem in a corner and its applications. *Analysis and PDE*, **2021**, 14, 2207-2224	1.7	8
120	On new surface-localized transmission eigenmodes. *Inverse Problems and Imaging*, **2021**,	2.1	4
119	The interior inverse scattering problem for a two-layered cavity using the Bayesian method. *Inverse Problems and Imaging*, **2021**,	2.1	0
118	On Calderón inverse inclusion problem with smooth shapes by a single partial boundary measurement. *Inverse Problems*, **2021**, 37, 055005	2.3	4

117	Sharp estimate of electric field from a conductive rod and application. *Studies in Applied Mathematics*, **2021**, 146, 279-297	2.1	3
116	Determining a Random Schr□inger Operator: Both Potential and Source are Random. *Communications in Mathematical Physics*, **2021**, 381, 527-556	2	8
115	Design and finite element simulation of information-open cloaking devices. *Journal of Computational Physics*, **2021**, 426, 109944	4.1	0
114	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	1.7	6
113	On the geometric structures of transmission eigenfunctions with a conductive boundary condition and applications. *Communications in Partial Differential Equations*, **2021**, 46, 630-679	1.6	22
112	Simultaneous recovery of surface heat flux and thickness of a solid structure by ultrasonic measurements. *Electronic Research Archive*, **2021**,	1.9	1
111	Scattering by Curvatures, Radiationless Sources, Transmission Eigenfunctions, and Inverse Scattering Problems. *SIAM Journal on Mathematical Analysis*, **2021**, 53, 3801-3837	1.7	16
110	Three-Dimensional Elastic Scattering Coefficients and Enhancement of the Elastic Near Cloaking. *Journal of Elasticity*, **2021**, 143, 111-146	1.5	0
109	Unique continuation from a generalized impedance edge-corner for Maxwell□ system and applications to inverse problems. *Inverse Problems*, **2021**, 37, 035004	2.3	4
108	On a Novel Numerical Scheme for Riesz Fractional Partial Differential Equations. *Mathematics*, **2021**, 9, 2014	2.3	4
107	On a local geometric property of the generalized elastic transmission eigenfunctions and application. *Inverse Problems*, **2021**, 37, 105015	2.3	9
106	Mathematical analysis of plasmon resonances for curved nanorods. *Journal Des Mathematiques Pures Et Appliquees*, **2021**, 153, 248-280	1.7	6
105	On corners scattering stably and stable shape determination by a single far-field pattern. *Indiana University Mathematics Journal*, **2021**, 70, 907-947	0.6	12
104	Surface-Localized Transmission Eigenstates, Super-resolution Imaging, and Pseudo Surface Plasmon Modes. *SIAM Journal on Imaging Sciences*, **2021**, 14, 946-975	1.9	19
103	Recovering piecewise constant refractive indices by a single far-field pattern. *Inverse Problems*, **2020**, 36, 085005	2.3	22
102	A neural network scheme for recovering scattering obstacles with limited phaseless far-field data. *Journal of Computational Physics*, **2020**, 417, 109594	4.1	19
101	Spectral Properties of Neumann-Poincar□ Operator and Anomalous Localized Resonance in Elasticity Beyond Quasi-Static Limit. *Journal of Elasticity*, **2020**, 140, 213-242	1.5	8
100	On local and global structures of transmission eigenfunctions and beyond. *Journal of Inverse and Ill-Posed Problems*, **2020**,	1.3	11

99	Unique determinations in inverse scattering problems with phaseless near-field measurements. *Inverse Problems and Imaging*, **2020**, 14, 569-582	2.1	7
98	Localization and geometrization in plasmon resonances and geometric structures of Neumann-Poincar eigenfunctions. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2020**, 54, 957-976	1.8	6
97	Stable determination of polygonal inclusions in Calder problem by a single partial boundary measurement. *Inverse Problems*, **2020**, 36, 085010	2.3	12
96	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	1.7	13
95	Analysis of Surface Polariton Resonance for Nanoparticles in Elastic System. *SIAM Journal on Mathematical Analysis*, **2020**, 52, 1786-1805	1.7	6
94	On generalized Holmgren principle to the Lam operator with applications to inverse elastic problems. *Calculus of Variations and Partial Differential Equations*, **2020**, 59, 1	1.5	14
93	On Identifying Magnetized Anomalies Using Geomagnetic Monitoring Within a Magnetohydrodynamic model. *Archive for Rational Mechanics and Analysis*, **2020**, 235, 691-721	2.3	5
92	Analysis of electromagnetic scattering from plasmonic inclusions beyond the quasi-static approximation and applications. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2019**, 53, 1351-1371	1.8	5
91	Determining a Random Schringer Equation with Unknown Source and Potential. *SIAM Journal on Mathematical Analysis*, **2019**, 51, 3465-3491	1.7	11
90	On a novel inverse scattering scheme using resonant modes with enhanced imaging resolution. *Inverse Problems*, **2019**, 35, 125012	2.3	3
89	Recovery of an embedded obstacle and the surrounding medium for Maxwell's system. *Journal of Differential Equations*, **2019**, 267, 2192-2209	2.1	5
88	On an inverse boundary problem arising in brain imaging. *Journal of Differential Equations*, **2019**, 267, 2471-2502	2.1	6
87	Fourier method for identifying electromagnetic sources with multi-frequency far-field data. *Journal of Computational and Applied Mathematics*, **2019**, 358, 279-292	2.4	4
86	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	1.8	13
85	Simultaneously recovering potentials and embedded obstacles for anisotropic fractional Schringer operators. *Inverse Problems and Imaging*, **2019**, 13, 197-210	2.1	24
84	Two gesture-computing approaches by using electromagnetic waves. *Inverse Problems and Imaging*, **2019**, 13, 879-901	2.1	4
83	An inverse scattering approach for geometric body generation: a machine learning perspective. *Mathematics in Engineering*, **2019**, 1, 800-823	1.2	3
82	Locating Multiple Multipolar Acoustic Sources Using the Direct Sampling Method. *Communications in Computational Physics*, **2019**, 25,	2.4	11

81	Determining a fractional Helmholtz equation with unknown source and scattering potential. *Communications in Mathematical Sciences*, **2019**, 17, 1861-1876	1	11
80	On spectral properties of Neumann-Poincaré operator and plasmonic resonances in 3D elastostatics. *Journal of Spectral Theory*, **2019**, 9, 767-789	0.9	12
79	On Identifying Magnetized Anomalies Using Geomagnetic Monitoring. *Archive for Rational Mechanics and Analysis*, **2019**, 231, 153-187	2.3	6
78	On an inverse elastic wave imaging scheme for nearly incompressible materials. *IMA Journal of Applied Mathematics*, **2019**, 84, 229-257	1	1
77	On isotropic cloaking and interior transmission eigenvalue problems. *European Journal of Applied Mathematics*, **2018**, 29, 253-280	1	7
76	Retrieval of acoustic sources from multi-frequency phaseless data. *Inverse Problems*, **2018**, 34, 094001	2.3	20
75	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	1.7	10
74	On a gesture-computing technique using electromagnetic waves. *Inverse Problems and Imaging*, **2018**, 12, 677-696	2.1	4
73	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	2.4	11
72	On Localizing and Concentrating Electromagnetic Fields. *SIAM Journal on Applied Mathematics*, **2018**, 78, 2558-2574	1.8	13
71	Fourier method for recovering acoustic sources from multi-frequency far-field data. *Inverse Problems*, **2017**, 33, 035001	2.3	23
70	Stable determination of sound-hard polyhedral scatterers by a minimal number of scattering measurements. *Journal of Differential Equations*, **2017**, 262, 1631-1670	2.1	18
69	On three-dimensional plasmon resonances in elastostatics. *Annali Di Matematica Pura Ed Applicata*, **2017**, 196, 1113-1135	0.8	9
68	On regularized full- and partial-cloaks in acoustic scattering. *Communications in Partial Differential Equations*, **2017**, 42, 821-851	1.6	8
67	State feedback design for nonlinear quadratic systems with randomly occurring actuator saturation. *International Journal of Control, Automation and Systems*, **2017**, 15, 1117-1124	2.9	4
66	Recovering an electromagnetic obstacle by a few phaseless backscattering measurements. *Inverse Problems*, **2017**, 33, 035011	2.3	20
65	Recovery of an embedded obstacle and its surrounding medium from formally determined scattering data. *Inverse Problems*, **2017**, 33, 065001	2.3	4
64	On vanishing near corners of transmission eigenfunctions. *Journal of Functional Analysis*, **2017**, 273, 3616-3632	1.4	23

63	On vanishing and localizing of transmission eigenfunctions near singular points: a numerical study. *Inverse Problems*, **2017**, 33, 105001	2.3	17
62	Mathematical design of a novel input/instruction device using a moving acoustic emitter. *Inverse Problems*, **2017**, 33, 105009	2.3	11
61	Decoupling elastic waves and its applications. *Journal of Differential Equations*, **2017**, 263, 4442-4480	2.1	11
60	Nearly non-scattering electromagnetic wave set and its application. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **2017**, 68, 1	1.6	3
59	Full and Partial Cloaking in Electromagnetic Scattering. *Archive for Rational Mechanics and Analysis*, **2017**, 223, 265-299	2.3	14
58	On Electromagnetic Scattering from a Penetrable Corner. *SIAM Journal on Mathematical Analysis*, **2017**, 49, 5207-5241	1.7	10
57	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	5
56	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	39
55	A Numerical Study of Complex Reconstruction in Inverse Elastic Scattering. *Communications in Computational Physics*, **2016**, 19, 1265-1286	2.4	2
54	A time domain sampling method for inverse acoustic scattering problems. *Journal of Computational Physics*, **2016**, 314, 647-660	4.1	15
53	Mathematical Design of a Novel Gesture-Based Instruction/Input Device Using Wave Detection. *SIAM Journal on Imaging Sciences*, **2016**, 9, 822-841	1.9	3
52	On Anomalous Localized Resonance for the Elastostatic System. *SIAM Journal on Mathematical Analysis*, **2016**, 48, 3322-3344	1.7	11
51	Regularized Transformation-Optics Cloaking for the Helmholtz Equation: From Partial Cloak to Full Cloak. *Communications in Mathematical Physics*, **2015**, 335, 671-712	2	12
50	Nearly cloaking the elastic wave fields. *Journal Des Mathematiques Pures Et Appliquees*, **2015**, 104, 1045-1074	1.7	12
49	Uniqueness in determining refractive indices by formally determined far-field data. *Applicable Analysis*, **2015**, 94, 1259-1269	0.8	6
48	On Quasi-Static Cloaking Due to Anomalous Localized Resonance in $mathbb{R}^3$. *SIAM Journal on Applied Mathematics*, **2015**, 75, 1245-1260	1.8	19
47	Recovering multiscale buried anomalies in a two-layered medium. *Inverse Problems*, **2015**, 31, 105006	2.3	19
46	Determining both sound speed and internal source in thermo- and photo-acoustic tomography. *Inverse Problems*, **2015**, 31, 105005	2.3	30

45	Recovering a polyhedral obstacle by a few backscattering measurements. *Journal of Differential Equations*, **2015**, 259, 2101-2120	2.1	20
44	Determining scattering support of anisotropic acoustic mediums and obstacles. *Communications in Mathematical Sciences*, **2015**, 13, 987-1000	1	7
43	Fast imaging of electromagnetic scatterers by a two-stage multilevel sampling method. *Discrete and Continuous Dynamical Systems - Series S*, **2015**, 8, 547-561	2.8	2
42	Recovering complex elastic scatterers by a single far-field pattern. *Journal of Differential Equations*, **2014**, 257, 469-489	2.1	12
41	Inverse Elastic Scattering for Multiscale Rigid Bodies with a Single Far-Field Pattern. *SIAM Journal on Imaging Sciences*, **2014**, 7, 1799-1825	1.9	15
40	Nearly Cloaking the Electromagnetic Fields. *SIAM Journal on Applied Mathematics*, **2014**, 74, 724-742	1.8	19
39	Ground detection by a single electromagnetic far-field measurement. *Journal of Computational Physics*, **2014**, 273, 472-487	4.1	1
38	Locating Multiple Multiscale Acoustic Scatterers. *Multiscale Modeling and Simulation*, **2014**, 12, 927-952	1.8	35
37	Optimal shape for a nozzle design problem using an arbitrary Lagrangian–Eulerian finite element method. *Journal of Inverse and Ill-Posed Problems*, **2014**, 22,	1.3	2
36	Enhanced multilevel linear sampling methods for inverse scattering problems. *Journal of Computational Physics*, **2014**, 257, 554-571	4.1	23
35	Nearly cloaking the full Maxwell equations: Cloaking active contents with general conducting layers. *Journal Des Mathematiques Pures Et Appliquees*, **2014**, 101, 716-733	1.7	30
34	Approximate acoustic cloaking in inhomogeneous isotropic space. *Science China Mathematics*, **2013**, 56, 2631-2644	0.8	1
33	Regular scattering patterns from near-cloaking devices and their implications for invisibility cloaking. *Inverse Problems*, **2013**, 29, 045005	2.3	8
32	On near-cloak in acoustic scattering. *Journal of Differential Equations*, **2013**, 254, 1230-1246	2.1	20
31	Enhanced near-cloak by FSH lining. *Journal Des Mathematiques Pures Et Appliquees*, **2013**, 99, 17-42	1.7	28
30	Two Single-Shot Methods for Locating Multiple Electromagnetic Scatterers. *SIAM Journal on Applied Mathematics*, **2013**, 73, 1721-1746	1.8	29
29	Locating Multiple Multiscale Electromagnetic Scatterers by a Single Far-Field Measurement. *SIAM Journal on Imaging Sciences*, **2013**, 6, 2285-2309	1.9	16
28	Imaging acoustic obstacles by singular and hypersingular point sources. *Inverse Problems and Imaging*, **2013**, 7, 545-563	2.1	4

27	Schiffer's conjecture, interior transmission eigenvalues and invisibility cloaking: Singular problem vs. nonsingular problem. *Contemporary Mathematics*, **2013**, 147-154	1.6	2
26	Singular Perturbation of Reduced Wave Equation and Scattering from an Embedded Obstacle. *Journal of Dynamics and Differential Equations*, **2012**, 24, 803-821	1.3	10
25	Reconstructing acoustic obstacles by planar and cylindrical waves. *Journal of Mathematical Physics*, **2012**, 53, 103705	1.2	2
24	A CLASS OF POLARIZATION-INVARIANT DIRECTIONAL CLOAKS BY CONCATENATION VIA TRANSFORMATION OPTICS. *Progress in Electromagnetics Research*, **2012**, 123, 175-187	3.8	3
23	Enhanced approximate cloaking by SH and FSH lining. *Inverse Problems*, **2012**, 28, 075011	2.3	12
22	POLARIZATION-INVARIANT DIRECTIONAL CLOAKING BY TRANSFORMATION OPTICS. *Progress in Electromagnetics Research*, **2011**, 118, 415-423	3.8	5
21	Preservation of stability properties near fixed points of linear Hamiltonian systems by symplectic integrators. *Applied Mathematics and Computation*, **2011**, 217, 6105-6114	2.7	2
20	On Approximate Electromagnetic Cloaking by Transformation Media. *SIAM Journal on Applied Mathematics*, **2011**, 71, 218-241	1.8	22
19	Two dimensional invisibility cloaking via transformation optics. *Discrete and Continuous Dynamical Systems*, **2011**, 31, 525-543	2	10
18	Transformation optics and approximate cloaking. *Contemporary Mathematics*, **2011**, 65-83	1.6	4
17	Strengthened Linear Sampling Method with a Reference Ball. *SIAM Journal of Scientific Computing*, **2010**, 31, 4013-4040	2.6	47
16	On Acoustic Cloaking Devices by Transformation Media and Their Simulation. *SIAM Journal on Applied Mathematics*, **2010**, 70, 2996-3021	1.8	6
15	Recovery of polyhedral scatterers by a single electromagnetic far-field measurement. *Journal of Mathematical Physics*, **2009**, 50, 123506	1.2	5
14	Virtual reshaping and invisibility in obstacle scattering. *Inverse Problems*, **2009**, 25, 045006	2.3	51
13	Multilevel Linear Sampling Method for Inverse Scattering Problems. *SIAM Journal of Scientific Computing*, **2008**, 30, 1228-1250	2.6	31
12	A global uniqueness for formally determined inverse electromagnetic obstacle scattering. *Inverse Problems*, **2008**, 24, 035018	2.3	18
11	Uniqueness in determining multiple polygonal scatterers of mixed type. *Discrete and Continuous Dynamical Systems - Series B*, **2008**, 9, 375-396	1.3	2
10	Reflection principle for the Maxwell equations and its application to inverse electromagnetic scattering. *Inverse Problems*, **2007**, 23, 2357-2366	2.3	48

9	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	27
8	On unique determination of partially coated polyhedral scatterers with far field measurements. *Inverse Problems*, **2007**, 23, 297-308	2.3	27
7	An Efficient Multilevel Algorithm for Inverse Scattering Problem **2007**, 234-242		
6	Uniqueness in an inverse acoustic obstacle scattering problem for both sound-hard and sound-soft polyhedral scatterers. *Inverse Problems*, **2006**, 22, 515-524	2.3	78
5	Efficient symplectic RungeKutta methods. *Applied Mathematics and Computation*, **2006**, 172, 908-924	2.7	5
4	Some new additive RungeKutta methods and their applications. *Journal of Computational and Applied Mathematics*, **2006**, 190, 74-98	2.4	21
3	Multi-symplectic RungeKutta-type methods for Hamiltonian wave equations. *IMA Journal of Numerical Analysis*, **2006**, 26, 252-271	1.8	12
2	Implicit RungeKutta methods based on Lobatto quadrature formula. *International Journal of Computer Mathematics*, **2005**, 82, 77-88	1.2	8
1	Spurious behavior of a symplectic integrator. *Computers and Mathematics With Applications*, **2005**, 50, 519-528	2.7	4