Matti Lassas

List of Publications by Year
in descending order

91 papers	3,841 citations	185998 28 h-index	133063 59 g-index
95 all docs	95 docs citations	95 times ranked	1359 citing authors

#	Article	IF	Citations
1	On nonuniqueness for Calderón's inverse problem. Mathematical Research Letters, 2003, 10, 685-693.	0.2	350
2	Anisotropic conductivities that cannot be detected by EIT. Physiological Measurement, 2003, 24, 413-419.	1.2	304
3	Electromagnetic Wormholes and Virtual Magnetic Monopoles from Metamaterials. Physical Review Letters, 2007, 99, 183901.	2.9	220
4	Full-Wave Invisibility of Active Devices at All Frequencies. Communications in Mathematical Physics, 2007, 275, 749-789.	1.0	206
5	Cloaking Devices, Electromagnetic Wormholes, and Transformation Optics. SIAM Review, 2009, 51, 3-33.	4.2	206
6	On determining a Riemannian manifold from the Dirichlet-to-Neumann map. Annales Scientifiques De L'Ecole Normale Superieure, 2001, 34, 771-787.	0.2	132
7	Wavelet-based reconstruction for limited-angle X-ray tomography. IEEE Transactions on Medical Imaging, 2006, 25, 210-217.	5.4	124
8	On the existence and convergence of the solution of PML equations. Computing (Vienna/New York), 1998, 60, 229-241.	3.2	116
9	Calderóns' Inverse Problem for Anisotropic Conductivity in the Plane. Communications in Partial Differential Equations, 2005, 30, 207-224.	1.0	116
10	Discretization-invariant Bayesian inversion and Besov space priors. Inverse Problems and Imaging, 2009, 3, 87-122.	0.6	113
11	Learning the invisible: a hybrid deep learning-shearlet framework for limited angle computed tomography. Inverse Problems, 2019, 35, 064002.	1.0	111
12	Invisibility and inverse problems. Bulletin of the American Mathematical Society, 2008, 46, 55-97.	0.8	106
13	The Dirichlet-to-Neumann map for complete Riemannian manifolds with boundary. Communications in Analysis and Geometry, 2003, 11, 207-221.	0.2	99
14	Can one use total variation prior for edge-preserving Bayesian inversion?. Inverse Problems, 2004, 20, 1537-1563.	1.0	88
15	Isotropic transformation optics: approximate acoustic and quantum cloaking. New Journal of Physics, 2008, 10, 115024.	1.2	86
16	Inverse problems for Lorentzian manifolds and non-linear hyperbolic equations. Inventiones Mathematicae, 2018, 212, 781-857.	1.3	83
17	Boundary regularity for the Ricci equation, geometric convergence, and Gel?fand?s inverse boundary problem. Inventiones Mathematicae, 2004, 158, 261-321.	1.3	79
18	Analysis of the PML equations in general convex geometry. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2001, 131, 1183-1207.	0.8	62

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19	The CalderÃ³n problem for conormal potentials I: Global uniqueness and reconstruction. Communications on Pure and Applied Mathematics, 2003, 56, 328-352.	1.2	60
20	Electrical Impedance Tomography Problem With Inaccurately Known Boundary and Contact Impedances. IEEE Transactions on Medical Imaging, 2008, 27, 1404-1414.	5.4	53
21	Inverse Problems for Semilinear Wave Equations on Lorentzian Manifolds. Communications in Mathematical Physics, 2018, 360, 555-609.	1.0	53
22	Semiglobal boundary rigidity for Riemannian metrics. Mathematische Annalen, 2003, 325, 767-793.	0.7	50
23	The CalderÃ³n problem in transversally anisotropic geometries. Journal of the European Mathematical Society, 2016, 18, 2579-2626.	0.7	50
24	Inverse problems for elliptic equations with power type nonlinearities. Journal Des Mathematiques Pures Et Appliquees, 2021, 145, 44-82.	0.8	49
25	Determining a first order perturbation of the biharmonic operator by partial boundary measurements. Journal of Functional Analysis, 2012, 262, 1781-1801.	0.7	37
26	Iterative time-reversal control for inverse problems. Inverse Problems and Imaging, 2008, 2, 63-81.	0.6	36
27	Inverse boundary value problems for the perturbed polyharmonic operator. Transactions of the American Mathematical Society, 2014, 366, 95-112.	0.5	35
28	Inverse problem for the Riemannian wave equation with Dirichlet data and Neumann data on disjoint sets. Duke Mathematical Journal, 2014, 163, .	0.8	31
29	Complex Riemannian metric and absorbing boundary conditions. Journal Des Mathematiques Pures Et Appliquees, 2001, 80, 739-768.	0.8	30
30	Inverse Problems With Partial Data for a Magnetic SchrÃ¶dinger Operator in an Infinite Slab and on a Bounded Domain. Communications in Mathematical Physics, 2012, 312, 87-126.	1.0	28
31	Inverse Scattering Problem for a Two Dimensional Random Potential. Communications in Mathematical Physics, 2008, 279, 669-703.	1.0	25
32	Electromagnetic Wormholes via Handlebody Constructions. Communications in Mathematical Physics, 2008, 281, 369-385.	1.0	25
33	Maxwell's equations with a polarization independent wave velocity: Direct and inverse problems. Journal Des Mathematiques Pures Et Appliquees, 2006, 86, 237-270.	0.8	24
34	The Inverse Conductivity Problem with an Imperfectly Known Boundary in Three Dimensions. SIAM Journal on Applied Mathematics, 2007, 67, 1440-1452.	0.8	23
35	Forward and inverse scattering on manifolds with asymptotically cylindrical ends. Journal of Functional Analysis, 2010, 258, 2060-2118.	0.7	23
36	Rigidity of broken geodesic flow and inverse problems. American Journal of Mathematics, 2010, 132, 529-562.	0.5	21

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37	Hyperbolic inverse boundary-value problem and time-continuation of the non-stationary Dirichlet-to-Neumann map. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2002, 132, 931-949.	0.8	19
38	Recovering boundary shape and conductivity in electrical impedance tomography. Inverse Problems and Imaging, 2013, 7, 217-242.	0.6	19
39	The multidimensional Gel'fand inverse problem for non-self-adjoint operators. Inverse Problems, 1997, 13, 1495-1501.	1.0	18
40	Approximate Quantum and Acoustic Cloaking. Journal of Spectral Theory, 2011, 1, 27-80.	0.4	17
41	Using the fibre structure of paper to determine authenticity of the documents: Analysis of transmitted light images of stamps and banknotes. Forensic Science International, 2014, 244, 252-258.	1.3	17
42	Inverse problems for heat equation and space–time fractional diffusion equation with one measurement. Journal of Differential Equations, 2020, 269, 7498-7528.	1.1	16
43	Inverse problems and index formulae for Dirac operators. Advances in Mathematics, 2009, 221, 170-216.	0.5	15
44	An inverse problem for a wave equation with sources and observations on disjoint sets. Inverse Problems, 2010, 26, 085012.	1.0	15
45	Inverse scattering for a random potential. Analysis and Applications, 2019, 17, 513-567.	1.2	15
46	Posterior consistency and convergence rates for Bayesian inversion with hypoelliptic operators. Inverse Problems, 2016, 32, 085005.	1.0	14
47	Inverse spectral problems on a closed manifold. Journal Des Mathematiques Pures Et Appliquees, 2008, 90, 42-59.	0.8	13
48	The borderlines of invisibility and visibility in Calderón's inverse problem. Analysis and PDE, 2016, 9, 43-98.	0.6	13
49	Stability of the unique continuation for the wave operator via Tataru inequality and applications. Journal of Differential Equations, 2016, 260, 6451-6492.	1.1	13
50	The Poisson embedding approach to the Calderón problem. Mathematische Annalen, 2020, 377, 19-67.	0.7	12
51	Gelf'and Inverse Problem for a Quadratic Operator Pencil. Journal of Functional Analysis, 2000, 176, 247-263.	0.7	11
52	All-optical majority gate based on an injection-locked laser. Scientific Reports, 2019, 9, 14576.	1.6	10
53	Deep Neural Networks for Inverse Problems with Pseudodifferential Operators: An Application to Limited-Angle Tomography. SIAM Journal on Imaging Sciences, 2021, 14, 470-505.	1.3	10
54	Inverse Problem for the Wave Equation with a White Noise Source. Communications in Mathematical Physics, 2014, 332, 933-953.	1.0	9

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55	Inverse problems and invisibility cloaking for FEM models and resistor networks. Mathematical Models and Methods in Applied Sciences, 2015, 25, 309-342.	1.7	9
56	Inverse acoustic scattering problem in half-space with anisotropic random impedance. Journal of Differential Equations, 2017, 262, 3139-3168.	1.1	9
57	Unique recovery of lower order coefficients for hyperbolic equations from data on disjoint sets. Journal of Differential Equations, 2019, 267, 2210-2238.	1.1	9
58	An inverse problem for the wave equation with one measurement and the pseudorandom source. Analysis and PDE, 2012, 5, 887-912.	0.6	8
59	On the Inverse Problem of Finding Cosmic Strings and Other Topological Defects. Communications in Mathematical Physics, 2018, 357, 569-595.	1.0	8
60	Inverse Problem for the Yang–Mills Equations. Communications in Mathematical Physics, 2021, 384, 1187-1225.	1.0	8
61	Curvelet-based method for orientation estimation of particles from optical images. Optical Engineering, 2014, 53, 033109.	0.5	7
62	Propagation and recovery of singularities in the inverse conductivity problem. Analysis and PDE, 2018, 11, 1901-1943.	0.6	7
63	Reconstruction and Interpolation of Manifolds. I: The Geometric Whitney Problem. Foundations of Computational Mathematics, 2020, 20, 1035-1133.	1.5	7
64	The Light Ray Transform on Lorentzian Manifolds. Communications in Mathematical Physics, 2020, 377, 1349-1379.	1.0	7
65	Determination of a Riemannian manifold from the distance difference functions. Asian Journal of Mathematics, 2019, 23, 173-200.	0.3	7
66	Inverse Problems for Differential Forms on Riemannian Manifolds with Boundary. Communications in Partial Differential Equations, 2011, 36, 1475-1509.	1.0	6
67	Regularization strategy for an inverse problem for a 1 + 1 dimensional wave equation. Inverse Problems, 2016, 32, 065001.	1.0	6
68	INVERSE PROBLEMS FOR LINEAR AND NON-LINEAR HYPERBOLIC EQUATIONS. , 2019, , .		6
69	Material-separating regularizer for multi-energy x-ray tomography. Inverse Problems, 2022, 38, 025013.	1.0	6
70	Foreword: inverse problems in biology. Journal of Mathematical Biology, 2013, 67, 1-1.	0.8	5
71	The Linearized Calderón Problem in Transversally Anisotropic Geometries. International Mathematics Research Notices, 2018, , .	0.5	5
72	Reconstruction of a Riemannian Manifold from Noisy Intrinsic Distances. SIAM Journal on Mathematics of Data Science, 2020, 2, 770-808.	1.0	5

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73	Inverse problems for nonlinear hyperbolic equations with disjoint sources and receivers. Forum of Mathematics, Pi, 2021, 9, .	1.1	5
74	Stability of the unique continuation for the wave operator via Tataru inequality: the local case. Journal D'Analyse Mathematique, 2018, 134, 157-199.	0.4	4
75	Conic singularities, generalized scattering matrix, and inverse scattering on asymptotically hyperbolic surfaces. Journal Fur Die Reine Und Angewandte Mathematik, 2017, 2017, 53-103.	0.4	4
76	Reconstruction and stability in Gelfand's inverse interior spectral problem. Analysis and PDE, 2022, 15, 273-326.	0.6	4
77	Bayesian signal restoration and Mumford-Shah functional. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2080013-2080014.	0.2	3
78	Dynamic X-ray tomography with multiple sources. , 2013, , .		3
79	X-ray Transform in Asymptotically Conic Spaces. International Mathematics Research Notices, 2022, 2022, 3918-3976.	0.5	3
80	Calderón's inverse problem with an imperfectly known boundary in two and three dimensions. Journal of Physics: Conference Series, 2007, 73, 012002.	0.3	2
81	Determining Electrical and Heat Transfer Parameters Using Coupled Boundary Measurements. SIAM Journal on Mathematical Analysis, 2011, 43, 2096-2115.	0.9	2
82	Determination of the spacetime from local time measurements. Mathematische Annalen, 2016, 365, 271-307.	0.7	2
83	Reconstruction of Betti numbers of manifolds for anisotropic Maxwell and Dirac systems. Communications in Analysis and Geometry, 2010, 18, 963-985.	0.2	2
84	Analysis of a Dynamical System Modeling Lasers and Applications for Optical Neural Networks. SIAM Journal on Applied Dynamical Systems, 2022, 21, 840-878.	0.7	2
85	Infinite Photography: New Mathematical Model for High-Resolution Images. Journal of Mathematical Imaging and Vision, 2010, 36, 140-158.	0.8	0
86	An inverse problem for a hyperbolic system on a vector bundle and energy measurements. Mathematische Annalen, 2012, 354, 1431-1464.	0.7	0
87	Injection-locked single-mode VCSEL for orthogonal multiplexing and amplitude noise suppression. , 2017, , .		0
88	Correlation imaging in inverse scattering is tomography on probability distributions. Inverse Problems, 2019, 35, 015010.	1.0	0
89	Wave Phenomena. , 2011, , 867-909.		0
90	Wave Phenomena. , 2015, , 1205-1252.		0

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91	Invisibility Cloaking and Transformation Optics for Three Dimensional Manifolds and Applications in Cosmology. SIAM Journal on Mathematical Analysis, 2022, 54, 3420-3456.	0.9	0