Matti Lassas

List of Publications by Year in Descending Order

88 papers	2,878 citations	25 h-index	53 g-index
94 ext. papers	3,251 ext. citations	2.1 avg, IF	5.24 L-index

#	Paper	IF	Citations
88	X-ray Transform in Asymptotically Conic Spaces. *International Mathematics Research Notices*, **2022**, 2022, 3918-3976	0.8	1
87	Material-separating regularizer for multi-energy x-ray tomography. *Inverse Problems*, **2022**, 38, 025013	2.3	0
86	Reconstruction and stability in Gelfand's inverse interior spectral problem. *Analysis and PDE*, **2022**, 15, 273-326	1.7	1
85	Analysis of a Dynamical System Modeling Lasers and Applications for Optical Neural Networks. *SIAM Journal on Applied Dynamical Systems*, **2022**, 21, 840-878	2.8	1
84	Inverse problems for nonlinear hyperbolic equations with disjoint sources and receivers. *Forum of Mathematics, Pi*, **2021**, 9,	2.1	3
83	Inverse Problem for the Yang–Mills Equations. *Communications in Mathematical Physics*, **2021**, 384, 1187-1225	2	2
82	Inverse problems for elliptic equations with power type nonlinearities. *Journal Des Mathematiques Pures Et Appliquees*, **2021**, 145, 44-82	1.7	14
81	Deep Neural Networks for Inverse Problems with Pseudodifferential Operators: An Application to Limited-Angle Tomography. *SIAM Journal on Imaging Sciences*, **2021**, 14, 470-505	1.9	3
80	Inverse problems for heat equation and space-time fractional diffusion equation with one measurement. *Journal of Differential Equations*, **2020**, 269, 7498-7528	2.1	6
79	The Light Ray Transform on Lorentzian Manifolds. *Communications in Mathematical Physics*, **2020**, 377, 1349-1379	2	4
78	Reconstruction and Interpolation of Manifolds. I: The Geometric Whitney Problem. *Foundations of Computational Mathematics*, **2020**, 20, 1035-1133	2.7	2
77	Reconstruction of a Riemannian Manifold from Noisy Intrinsic Distances. *SIAM Journal on Mathematics of Data Science*, **2020**, 2, 770-808	3.1	2
76	The Poisson embedding approach to the Calderón problem. *Mathematische Annalen*, **2020**, 377, 19-67	1	2
75	Learning the invisible: a hybrid deep learning-shearlet framework for limited angle computed tomography. *Inverse Problems*, **2019**, 35, 064002	2.3	72
74	Unique recovery of lower order coefficients for hyperbolic equations from data on disjoint sets. *Journal of Differential Equations*, **2019**, 267, 2210-2238	2.1	6
73	Inverse scattering for a random potential. *Analysis and Applications*, **2019**, 17, 513-567	2.5	9
72	All-optical majority gate based on an injection-locked laser. *Scientific Reports*, **2019**, 9, 14576	4.9	4

71	INVERSE PROBLEMS FOR LINEAR AND NON-LINEAR HYPERBOLIC EQUATIONS **2019**,		4
70	Determination of a Riemannian manifold from the distance difference functions. *Asian Journal of Mathematics*, **2019**, 23, 173-200	0.5	5
69	Correlation imaging in inverse scattering is tomography on probability distributions. *Inverse Problems*, **2019**, 35, 015010	2.3	
68	Stability of the unique continuation for the wave operator via Tataru inequality: the local case. *Journal D'Analyse Mathematique*, **2018**, 134, 157-199	0.8	3
67	Inverse Problems for Semilinear Wave Equations on Lorentzian Manifolds. *Communications in Mathematical Physics*, **2018**, 360, 555-609	2	23
66	Inverse problems for Lorentzian manifolds and non-linear hyperbolic equations. *Inventiones Mathematicae*, **2018**, 212, 781-857	2.2	35
65	Propagation and recovery of singularities in the inverse conductivity problem. *Analysis and PDE*, **2018**, 11, 1901-1943	1.7	5
64	On the Inverse Problem of Finding Cosmic Strings and Other Topological Defects. *Communications in Mathematical Physics*, **2018**, 357, 569-595	2	6
63	The Linearized Calderón Problem in Transversally Anisotropic Geometries. *International Mathematics Research Notices*, **2018**,	0.8	1
62	Inverse acoustic scattering problem in half-space with anisotropic random impedance. *Journal of Differential Equations*, **2017**, 262, 3139-3168	2.1	6
61	Posterior consistency and convergence rates for Bayesian inversion with hypoelliptic operators. *Inverse Problems*, **2016**, 32, 085005	2.3	7
60	Stability of the unique continuation for the wave operator via Tataru inequality and applications. *Journal of Differential Equations*, **2016**, 260, 6451-6492	2.1	11
59	Determination of the spacetime from local time measurements. *Mathematische Annalen*, **2016**, 365, 271-307	1	2
58	The Calderón problem in transversally anisotropic geometries. *Journal of the European Mathematical Society*, **2016**, 18, 2579-2626	1.8	31
57	Regularization strategy for an inverse problem for a 1 + 1 dimensional wave equation. *Inverse Problems*, **2016**, 32, 065001	2.3	4
56	The borderlines of invisibility and visibility in Calderón inverse problem. *Analysis and PDE*, **2016**, 9, 43-98	1.7	8
55	Inverse problems and invisibility cloaking for FEM models and resistor networks. *Mathematical Models and Methods in Applied Sciences*, **2015**, 25, 309-342	3.5	4
54	Wave Phenomena **2015**, 1205-1252		

53	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, 252-8	2.6	11
52	Inverse problem for the Riemannian wave equation with Dirichlet data and Neumann data on disjoint sets. *Duke Mathematical Journal*, **2014**, 163,	1.9	19
51	Curvelet-based method for orientation estimation of particles from optical images. *Optical Engineering*, **2014**, 53, 033109	1.1	6
50	Inverse Problem for the Wave Equation with a White Noise Source. *Communications in Mathematical Physics*, **2014**, 332, 933-953	2	6
49	Foreword: inverse problems in biology. *Journal of Mathematical Biology*, **2013**, 67, 1	2	5
48	Inverse boundary value problems for the perturbed polyharmonic operator. *Transactions of the American Mathematical Society*, **2013**, 366, 95-112	1	23
47	Recovering boundary shape and conductivity in electrical impedance tomography. *Inverse Problems and Imaging*, **2013**, 7, 217-242	2.1	15
46	Determining a first order perturbation of the biharmonic operator by partial boundary measurements. *Journal of Functional Analysis*, **2012**, 262, 1781-1801	1.4	24
45	An inverse problem for a hyperbolic system on a vector bundle and energy measurements. *Mathematische Annalen*, **2012**, 354, 1431-1464	1	
44	Inverse Problems With Partial Data for a Magnetic Schr□inger Operator in an Infinite Slab and on a Bounded Domain. *Communications in Mathematical Physics*, **2012**, 312, 87-126	2	24
43	An inverse problem for the wave equation with one measurement and the pseudorandom source. *Analysis and PDE*, **2012**, 5, 887-912	1.7	7
42	Determining Electrical and Heat Transfer Parameters Using Coupled Boundary Measurements. *SIAM Journal on Mathematical Analysis*, **2011**, 43, 2096-2115	1.7	2
41	Approximate Quantum and Acoustic Cloaking. *Journal of Spectral Theory*, **2011**, 27-80	0.9	13
40	Inverse Problems for Differential Forms on Riemannian Manifolds with Boundary. *Communications in Partial Differential Equations*, **2011**, 36, 1475-1509	1.6	5
39	Wave Phenomena **2011**, 867-909		
38	An inverse problem for a wave equation with sources and observations on disjoint sets. *Inverse Problems*, **2010**, 26, 085012	2.3	10
37	Rigidity of broken geodesic flow and inverse problems. *American Journal of Mathematics*, **2010**, 132, 529-562	1.2	16
36	Infinite Photography: New Mathematical Model for High-Resolution Images. *Journal of Mathematical Imaging and Vision*, **2010**, 36, 140-158	1.6	

35	Forward and inverse scattering on manifolds with asymptotically cylindrical ends. *Journal of Functional Analysis*, **2010**, 258, 2060-2118	1.4	16
34	Reconstruction of Betti numbers of manifolds for anisotropic Maxwell and Dirac systems. *Communications in Analysis and Geometry*, **2010**, 18, 963-985	0.9	2
33	Inverse problems and index formulae for Dirac operators. *Advances in Mathematics*, **2009**, 221, 170-216	1.3	12
32	Cloaking Devices, Electromagnetic Wormholes, and Transformation Optics. *SIAM Review*, **2009**, 51, 3-33	7.4	159
31	Discretization-invariant Bayesian inversion and Besov space priors. *Inverse Problems and Imaging*, **2009**, 3, 87-122	2.1	86
30	Invisibility and inverse problems. *Bulletin of the American Mathematical Society*, **2008**, 46, 55-97	1.3	88
29	Isotropic transformation optics: approximate acoustic and quantum cloaking. *New Journal of Physics*, **2008**, 10, 115024	2.9	74
28	Electrical impedance tomography problem with inaccurately known boundary and contact impedances. *IEEE Transactions on Medical Imaging*, **2008**, 27, 1404-14	11.7	41
27	Inverse Scattering Problem for a Two Dimensional Random Potential. *Communications in Mathematical Physics*, **2008**, 279, 669-703	2	19
26	Electromagnetic Wormholes via Handlebody Constructions. *Communications in Mathematical Physics*, **2008**, 281, 369-385	2	15
25	Inverse spectral problems on a closed manifold. *Journal Des Mathematiques Pures Et Appliquees*, **2008**, 90, 42-59	1.7	8
24	Iterative time-reversal control for inverse problems. *Inverse Problems and Imaging*, **2008**, 2, 63-81	2.1	27
23	Bayesian signal restoration and Mumford-Shah functional. *Proceedings in Applied Mathematics and Mechanics*, **2007**, 7, 2080013-2080014	0.2	1
22	Electromagnetic wormholes and virtual magnetic monopoles from metamaterials. *Physical Review Letters*, **2007**, 99, 183901	7.4	182
21	Full-Wave Invisibility of Active Devices at All Frequencies. *Communications in Mathematical Physics*, **2007**, 275, 749-789	2	176
20	Calderon's inverse problem with an imperfectly known boundary in two and three dimensions. *Journal of Physics: Conference Series*, **2007**, 73, 012002	0.3	1
19	The Inverse Conductivity Problem with an Imperfectly Known Boundary in Three Dimensions. *SIAM Journal on Applied Mathematics*, **2007**, 67, 1440-1452	1.8	21
18	Wavelet-based reconstruction for limited-angle X-ray tomography. *IEEE Transactions on Medical Imaging*, **2006**, 25, 210-7	11.7	95

17	Maxwell's equations with a polarization independent wave velocity: Direct and inverse problems. *Journal Des Mathematiques Pures Et Appliquees*, **2006**, 86, 237-270	1.7	19
16	Calderón's' Inverse Problem for Anisotropic Conductivity in the Plane. *Communications in Partial Differential Equations*, **2005**, 30, 207-224	1.6	83
15	Can one use total variation prior for edge-preserving Bayesian inversion?. *Inverse Problems*, **2004**, 20, 1537-1563	2.3	65
14	Boundary regularity for the Ricci equation, geometric convergence, and Gelfand's inverse boundary problem. *Inventiones Mathematicae*, **2004**, 158, 261-321	2.2	63
13	Semiglobal boundary rigidity for Riemannian metrics. *Mathematische Annalen*, **2003**, 325, 767-793	1	38
12	The Calderón problem for conormal potentials I: Global uniqueness and reconstruction. *Communications on Pure and Applied Mathematics*, **2003**, 56, 328-352	2.5	51
11	Anisotropic conductivities that cannot be detected by EIT. *Physiological Measurement*, **2003**, 24, 413-9	2.9	259
10	The Dirichlet-to-Neumann map for complete Riemannian manifolds with boundary. *Communications in Analysis and Geometry*, **2003**, 11, 207-221	0.9	72
9	On nonuniqueness for Calderón's inverse problem. *Mathematical Research Letters*, **2003**, 10, 685-693	0.6	313
8	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	1	17
7	On determining a Riemannian manifold from the Dirichlet-to-Neumann map. *Annales Scientifiques De L'École Normale Superieure*, **2001**, 34, 771-787	1.6	98
6	Complex Riemannian metric and absorbing boundary conditions. *Journal Des Mathematiques Pures Et Appliquees*, **2001**, 80, 739-768	1.7	25
5	Analysis of the PML equations in general convex geometry. *Proceedings of the Royal Society of Edinburgh Section A: Mathematics*, **2001**, 131, 1183-1207	1	49
4	Gelf'and Inverse Problem for a Quadratic Operator Pencil. *Journal of Functional Analysis*, **2000**, 176, 247-263	1.4	7
3	On the existence and convergence of the solution of PML equations. *Computing (Vienna/New York)*, **1998**, 60, 229-241	2.2	87
2	The multidimensional Gel'fand inverse problem for non-self-adjoint operators. *Inverse Problems*, **1997**, 13, 1495-1501	2.3	16
1	Inverse Boundary Spectral Problems		120