

# Ma, Shiqi

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CONTACT INFORMATION	School of Mathematics Jilin University 2699 Qianjin Street Changchun, China	<a href="https://mashiqi.github.io">https://mashiqi.github.io</a> <a href="mailto:mashiqi01@gmail.com">mashiqi01@gmail.com</a> <a href="mailto:mashiqi@jlu.edu.cn">mashiqi@jlu.edu.cn</a>
ORCID	0000-0002-0192-493X	
RESEARCH INTERESTS	Inverse problems, partial differential equations, microlocal analysis, harmonic analysis	
PROFESSIONAL EXPERIENCE	Associate professor (2022–present): Jilin University Postdoctoral Researcher (2019–2022): University of Jyväskylä	
EDUCATION	<b>Hong Kong Baptist University (HKBU), Hong Kong, China</b> Ph.D. in Mathematics, July 2019      supervisor: Professor Hongyu Liu  <b>University of Electronic Science and Technology of China (UESTC), China</b> M.S. in Electronic and Communication Engineering, June 2016 B.A. in Communication Engineering, July 2013	
GRANTS	National Natural Science Foundation of China, 2024.01–2026.12 (Grant No. 12301540) Tang Aoqing Research start-up funds of Jilin University, 2022–2027	
PUBLICATIONS	<b>Preprints/Submitted</b> <ol style="list-style-type: none"><li>1. K. Krupchyk, S. Ma, S. K. Sahoo, M. Salo, S. St-Amant, <i>Inverse problems for semilinear Schrödinger equations at large frequency via polynomial resolvent estimates on manifolds</i>, arXiv:2402.12903 (2024).</li><li>2. S. Ma, S. K. Sahoo, M. Salo, <i>The anisotropic Calderón problem at large fixed frequency on manifolds with invertible ray transform</i>, arXiv:2207.02623 (2022).</li><li>3. S. Ma, <i>Lecture notes for pseudodifferential operators and microlocal analysis</i>, arXiv:2107.12839 (2021).</li><li>4. S. Ma, <i>Regularity and energy of second order hyperbolic boundary value problems on non-timelike hypersurfaces</i>, arXiv:2107.09762 (2021).</li><li>5. S. Ma, <i>Stationary phase lemmas for general functions</i>, arXiv:2010.13134 (2020).</li></ol> <b>Accepted/Published</b> <ol style="list-style-type: none"><li>1. P.-Z. Kow, S. Ma, S. K. Sahoo, <i>An inverse problem for semilinear equations involving the fractional Laplacian</i>, <i>Inverse Problems</i>, <b>39</b> (2023), 095006. DOI: 10.1088/1361-6420/ace9f4.</li><li>2. H. Liu and S. Ma, <i>Inverse problem for a random Schrödinger equation with unknown source and potential</i>, <i>Math. Z.</i>, <b>304</b> (2023), no. 28, 1–31. DOI: 10.1007/s00209-023-03289-4</li><li>3. S. Ma, L. Potenciano-Machado, M. Salo, <i>Fixed angle inverse scattering for sound speeds close to constant</i>, <i>SIAM J. Math. Anal.</i>, <b>55</b> (2023), 3420–3456. DOI: 10.1137/22M147640X.</li></ol>	

4. S. Ma and M. Salo, *Fixed angle inverse scattering in the presence of a Riemannian metric*, J. Inverse Ill-Posed Probl., **30** (2022), no. 4, 495–520. DOI: 10.1515/jiip-2020-0119
5. S. Ma, *On recent progress of single-realization recoveries of random Schrödinger systems*, Electron. Res. Arch., **29** (2021), no. 3, 2391–2415. DOI: 10.3934/era.2020121
6. J. Li, H. Liu and S. Ma, *Determining a random Schrödinger operator: both potential and source are random*, Comm. Math. Phys., **381** (2021), no. 2, 527–556. DOI: 10.1007/s00220-020-03889-9
7. J. Li, H. Liu and S. Ma, *Determining a random Schrödinger equation with unknown source and potential*, SIAM J. Math. Anal., **51** (2019), no. 4, 3465–3491. DOI: 10.1137/18M1225276

CONFERENCE  
TALKS

*Inverse medium problems with single measurement*, Chinese Mathematical Society Annual Meeting - Computational Mathematics Satellite Conference, Dalian, China. (December 2023)

*Linearization of fixed angle inverse scatterings*, East Asia Section of Inverse Problems International Association (IPIA) - 7th Young Scholar Symposium, Hong Kong, China. (December 2023)

*Fixed angle inverse scattering for sound speeds close to constant*, The First MSU-BIT Workshop on Analysis and Computation, Shenzhen, China. (August 2023)

*Fixed angle inverse scattering for sound speeds close to constant*, The 12<sup>th</sup> Conference on Inverse Problems, Imaging and Applications, Shenzhen, China. (May 2023)

*Introduction to the Calderón problem and some recent progress*, Third Central South Workshop on Inverse Problems, Central South University, Changsha, China. (April 2023)

*Fixed angle inverse scattering for sound speeds close to constant*, Inverse Days 2021, Tampere, Finland. (December 2021)

*Anisotropic Calderón problem at large fixed frequency on manifolds with invertible ray transform*, Inverse problems in analysis and geometry, University of Helsinki, Finland. (August 2022)

*Fixed angle inverse scattering for sound speeds close to constant*, Inverse problems and nonlinearity, virtually in Helsinki, Finland. (August 2021)

*Fixed angle inverse scattering in the presence of a Riemannian metric*, Inverse Days 2020, virtually in Helsinki, Finland. (December 2020)

*Determination of random Schrödinger operators*, Inverse Days 2019, Jyväskylä, Finland. (December 2019)

*Determination of random Schrödinger operators*, The First Workshop on Analysis, Scientific Computing and Applications of PDEs (ASAP), Qilu University of Technology, Jinan, China. (May 2019)

*Determining a random Schrödinger equation with unknown source and potential*, Workshop on Inverse Problem and Numerical Methods for Partial Differential Equations

(IPNMPDE), Central South University, Changsha, China. (November 2018)

*Inverse problems for stochastic PDEs and determination of random mediums*, Young Scholars Workshop on Inverse Problems, Imaging and PDEs (IP<sup>2</sup>), SUSTech, Shenzhen, China. (January 2018)

SEMINAR TALKS      *Fixed angle inverse scattering for sound speeds close to constant*, Seminar talk, Chinese Academy of Sciences, China. (September 2023)

*Fixed angle inverse scattering for sound speeds close to constant*, Seminar talk, Southern University of Science and Technology, China. (August 2023)

*Fixed angle inverse scattering for sound speeds close to constant*, Seminar talk, Harbin Institute of Technology, China. (June 2023)

*Fixed angle inverse scattering for sound speeds close to constant*, Seminar talk, Fudan University, China. (September 2022)

*Fixed angle inverse scattering in the presence of a Riemannian metric*, JYU Analysis Seminar, Jyväskylä, Finland. (9th February 2021)

*Fixed angle inverse scattering in the presence of a Riemannian metric*, Northeast Normal University, China. (3rd December 2020)

*Determination of a Random Schrödinger Operator*, JYU Stochastics and PDEs Seminar, Jyväskylä, Finland. (17 January 2020)

*Determination of a Random Schrödinger Operator*, JYU Analysis Seminar, Jyväskylä, Finland. (04 December 2019)

HONORS AND AWARDS      Jilin Province Talent Classification and Rating Assessment Class E Talents, 2023  
Young Excellent Scholar 2022, Tianyuan Mathematical Center in Northeast China  
Hong Kong Mathematical Society Best Thesis Award 2020

TEACHING EXPERIENCE	Fall	2023	lecturer, Mathematical analysis III Exercises, Jilin University
	Spring	2023	lecturer, Mathematical analysis II Exercises, Jilin University
	Fall	2021	lecturer, $\Psi$ DOs and microlocal analysis, Central South University <a href="#">link</a>
	Spring	2021	lecturer, $\Psi$ DOs and microlocal analysis, University of Jyväskylä
	Spring	2018	Teaching Assistant, Probability and Statistics & Scientific Computing
	Fall	2017	Teaching Assistant, Linear Algebra
	Spring	2017	Teaching Assistant, Numerical Method II
Fall	2016	Teaching Assistant, Smart Decisions	

RELEVANT SKILLS	Languages:	Chinese (native), English (fluent)
	Programming:	Matlab, C, C++, Python, HTML/CSS/JavaScript/PHP

Date: February 2024