

Ji Li  
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## Biography

### Educational background:

B.A. 2000--2004 (Sun Yat-Sen University), Ph.D. 2004--2009 (Sun Yat-Sen University, Macquarie University, Cotutelle).

### Faculty position:

Jan 2023---Present, Macquarie University, Associate Professor

Jan 2017---Dec 2022, Macquarie University, Senior Lecturer

Jan 2014--Dec 2016, Macquarie University, Lecturer

Jun 2012--Jan 2014, Sun Yat-Sen University, Associate Professor

Aug 2009--May 2012, Sun Yat-Sen University, Assistant Professor

### Research Grants:

1. The ARC Discovery Project, Grant No. DP220100285, 2022--2024, Project Leader (with The Bui (CI), Xuan Duong (CI), Michael Cowling (CI), Alessandro Ottazzi (CI), Brett Wick (PI))
2. The ARC Discovery Project, Grant No. DP170101060, 2017--2019 (extended to 2021), Chief Investigator, with Zihua Guo (Project leader), Carlos Kenig (PI), Kenji Nakanishi (PI).
3. The ARC Discovery Project, Grant No. DP160100153, 2016--2018 (extended to 2020), Chief Investigator (with Prof. Xuan Duong (Project Leader), A/Prof. Lesley Ward (CI), Prof. Michael Lacey (PI), Prof. Jill Pipher (PI)).
4. Macquarie University Research Seeding Grant, 2018--2019.
5. Macquarie University New Staff Grants Scheme (MQNS), 2016.
6. The NNSF of China, Grant No. 11001275, 2011--2013, Sole investigator.
7. China Postdoctoral Science Foundation funded project, Grant No. 201104383, 2011--2013, Sole investigator.
8. The Fundamental Research Funds for the Central Universities, Grant No. 11lgpy56, 2011--2013, Sole investigator.

### Research impact:

1. At this phase of my career, I have 100 publications with **27** are published in **A\*** journals and **55** papers in **A** journals (based on journal ranking via the Australian Mathematical Society FoR 0101). I have 856 citations by 412 authors listed in MathSciNet, and Google Scholar: 1282, h-index 20, i10-index 42; (as of Apr 2024).

2. Among all my publications, some of the papers are published in

Memoirs of the American Mathematical Society,

Journal de Mathematiques Pures et Appliquees,

Mathematische Annalen,

Advances in Mathematics,

Annales de l'Institut Fourier,

Indiana University Mathematics Journal,

Mathematische Zeitschrift,

Transaction of the American Mathematical Society.

These journals have long tradition and high reputation in the world.

Also, some other papers are published in

Analysis and PDE,

Applied and Computational Harmonic Analysis,

Journal d'Analyse Mathématique,

Journal of Functional analysis,

Journal of Differential Equations, and

Revista Matemática Iberoamericana.

These are top international journals in the field of analysis.

3. One of my paper published in Journal of Functional Analysis is one of the "most cited articles since 2011" of this journal.

It is cited 60 times up to 2021 as listed in MathSciNet.

4. In mathematics, invitations to speak at conferences are one of the main indicators of research quality and impact. Since 2009, I have been invited to give a total of over **60 presentations** in conferences, workshops and seminars in the USA, Europe and Asian countries, which covered various topics in analysis and PDE, demonstrating the impact of my research in the field. Among these, I would like to highlight that I was invited to give a talk in

(1) the International Mathematics Congress (ICM), Satellite Conference on Harmonic Analysis, August 2018, Brazil.

The International Congress of Mathematicians (ICM) is the largest conference for the topic of mathematics. It meets once every four years, hosted by the International Mathematical Union. The Fields Medals, the Nevanlinna Prize, the Gauss Prize, and the Chern Medal are awarded during the congress's opening ceremony. Satellite Conferences are the most important scientific activities surrounding the celebration of every ICM.

(2) "Interpolation in Spaces of Analytic Functions", CIRM, Marseille (France), 18–22 November 2019;

(3) the 7th East Asian Conference in Harmonic Analysis & Applications, Aug, 2019, South Korea;

(4) IWOTA (International Workshop of Operator Theory and Application), Jul, 2016, Washington University at St. Louis;

(5) The American Mathematical Society Western Spring Sectional Meeting at University of New Mexico, Albuquerque, NM, US, April 4–6, 2014;

(6) The Calderon–Zygmund analysis seminar, University of Chicago, Dec 2018;

(7) The Analysis Seminar in Brown University, July 2016,

(8) The Analysis Seminar in Washington University at St. Louis, July 2016.

5. Two of my papers have been cited by **Professor Elias M. Stein** (Wolf prize 1999, Steele Prize 1984 and 2002, Schock Proze 1993, one of the most influential mathematicians in the past 40 year) in his recent paper (Memo. Amer. Math. Soc. 2018, \ \ <http://arxiv.org/abs/1511.05702>).

6. One of my papers were cited by Prof. **Sergei Treil** (Salem prize 1993) and **Alexander Volberg** (Salem prize 1988) in their recent two papers for reviewing the literature.

### **Papers accepted for publication:**

1. Y. Han, M.Y. Lee, J. Li and B.D. Wick, Maximal function, Littlewood-Paley theory, Riesz transform and atomic decomposition in the multi-parameter flag setting, accepted in Apr 2019 by *Memoirs of the American Mathematical Society*.
2. X. Duong, M. Lacey, J. Li, B.D. Wick and Q.Y. Wu, Commutators of Cauchy Type Integrals For Domains in  $\mathbb{C}^n$  with Minimal Smoothness, accepted on 23 Jul 2019 by *Indiana University Mathematics Journal*.
3. D.-C. Chang, X. Duong, J. Li, W. Wang and Q.Y. Wu, An explicit formula of Cauchy-Szegő kernel for quaternionic Siegel upper half space and applications, accepted by *Indiana University Mathematics Journal* on 15th Dec 2019.

### **Research mentorship and supervision**

I have successfully embedded my research into mentorship and supervision to maintain the group of harmonic analysis at Macquarie highly productive and in the frontier of research over the world. My mentorship and supervision led to 12 papers in A\* and A journals in the past 6 years, which is beneficial to attract excellent PhD candidates and young researchers to join Macquarie in the future.

#### Supervision of PhD students:

1. Principal Supervisor, Usman Ghani (Provisional Offer from MQ 2020, starting in 2021).
2. Associate Supervisor, George Nader (MQ, 2020--2023, Supervisor: Xuan Duong).
3. Associate Supervisor, Zhijie Fan (Sun Yat-sen Uni., Supervisor: Lixin Yan, visiting MQ in 2020).

#### Completions of PhD students:

1. Associate Supervisor, Hong Chuong Doan (MQ, 2017--2020, Supervisor: Xuan Duong).
2. Associate Supervisor, Trang Nguyen (UniSA, 2016--2020, Supervisor: Lesley Ward).

#### Research supervisor (DP170101060) for:

1. Lixin Yan (Research Fellow in 2019 for 6 months),
2. Trang Nguyen (Research Assistant in 2020 for 9 months).

#### Research Mentor (supported by CSC visiting scholar) for:

1. Dongyong Yang,
2. Qingyan Wu,
3. Ruming Gong,
4. Guilian Gao.

### **Service:**

#### Editorial service:

1. Associate Editor for *Journal of the Australian Mathematical Society* (since 2021),
2. Associate Editor for *Bulletin of the Australian Mathematical Society* (since 2020),
3. Associate Editor of *AIMS Mathematics*, ISSN (Online): 2473-6988, (indexed in SCIE (Science Citation Index Expanded), 2019 Impact Factor: 0.882). <https://www.aimspress.com/news/203.html>

Service to discipline:

1. Main organiser of the international workshop "Harmonic Analysis and PDE" on 10 February 2020 at Macquarie University.

<https://www.mq.edu.au/about/about-the-university/faculties-and-departments/faculty-of-science-and-engineering/departments-and-centres/department-of-mathematics-and-statistics/news-and-events/events/events/workshop-in-harmonic-analysis-and-pde-10-february-2020-at-macquarie-university2>

2. Organiser of the Harmonic Analysis Session of 64th Annual Meeting of the Australian Mathematical Society, 8--11 Dec, 2020, at University of New England.

<https://staging.austms.org.au/meetings/annual-conferences/2020-austms-meeting/#special-sessions>

3. Co-organiser of the international workshop "Harmonic Analysis and Dispersive PDEs: Problems and Progress" 3--7 February 2020 in MATRIX, Melbourne.

<https://www.matrix-inst.org.au/events/harmonic-analysis-and-dispersive-pdes-problems-and-progress/>

4. Co-organiser of the Harmonic Analysis Session of 62nd Annual Meeting of the Australian Mathematical Society, 4--7 Dec, 2018, at the University of Adelaide.

5. Main organiser of the international workshop "Harmonic analysis and PDE" in Macquarie University in 17--21, July 2017.

<https://www.mq.edu.au/about/about-the-university/faculties-and-departments/faculty-of-science-and-engineering/departments-and-centres/department-of-mathematics-and-statistics/news-and-events/2017-harmonic-analysis-and-pde-workshop>

6. Member of the local organising committee, Organiser of the Harmonic Analysis Session of 61st Annual Meeting of the Australian Mathematical Society, 12--15 Dec, 2017, at Macquarie University.

<https://www.mq.edu.au/about/about-the-university/faculties-and-departments/faculty-of-science-and-engineering/departments-and-centres/department-of-mathematics-and-statistics/news-and-events/austms-annual-meeting-2017>

7. Co-organizer of the joint seminar "Analysis and PDE meeting":

This is a joint seminar begins from 2014, first named "WOMASY--Geometric and Harmonic Analysis meets PDE", among the geometric analysis group at the University of Wollongong, the harmonic analysis group at Macquarie UNIVERSITY AND the nonlinear analysis group at the University of Sydney:

(1). 1st October 2014 at University of Sydney. <http://www.maths.usyd.edu.au/u/PDESeminar/womasy/index-2014-10.html>

(2). 17th February 2015 at Macquarie University. <http://www.maths.usyd.edu.au/u/PDESeminar/womasy/>

From July 2015, the joint seminar "WOMASY--Geometric and Harmonic Analysis meets PDE" has changed as "Analysis and PDE meeting". I continue to serve as a Co-organiser of this joint seminar "Analysis and PDE meeting": joint with University of Wollongong, MACquarie University, The University of Sydney, UNSW, ANU, University of New Castle.

(3). Monday 20 July 2015 at University of Wollongong. <http://www.maths.usyd.edu.au/u/PDESeminar/analysis-and-pde/2015/07/>

(4). 10 Feb 2016 at ANU. <http://www.maths.usyd.edu.au/u/PDESeminar/analysis-and-pde/2016/02/>

(5). 19th Jul 2016 at UNSW. <http://www.maths.usyd.edu.au/u/PDESeminar/analysis-and-pde/2016/07/>

(6). 25th May 2018 at UoW. <http://www.maths.usyd.edu.au/u/PDESeminar/analysis-and-pde/2018/05/>

(7). 15--16 April 2019 at the University of Newcastle.  
<http://www.maths.usyd.edu.au/u/PDESeminar/analysis-and-pde/2019/04/>

(8). 20 February 2020 at the University of Sydney  
<http://www.maths.usyd.edu.au/u/PDESeminar/analysis-and-pde/2020/02/>

8. ARC DP Assessor (2016, 2017, 2018, 2020).

#### Service to department:

1. Leader of the team of Sesisonal Teaching Review (with 6 team members) from Nov 2020 to Jan 2022;
2. Member of the Role Description Group (Oct-Nov 2020);
3. Colloquium Convenor, Department of Mathematics (May 2016-- Dec 2017);

<http://www.mq.edu.au/about/about-the-university/faculties-and-departments/faculty-of-science-and-engineering/departments-and-centres/department-of-mathematics/news-and-events/Colloquium>

4. Member of the outreach committee (2018);
5. Member of the research committee (2020).

## Qualifications

Pure Math, PhD (Cotutelle), Multilinear harmonic analysis, Macquarie University

1 Aug 2008 → 30 Nov 2009

Award Date: 30 Nov 2009

Pure Math, PhD, Multiparameter harmonic analysis, Sun Yat-sen University

1 Sept 2004 → 30 Jun 2009

Award Date: 30 Jun 2009

30 Jun 2020 HDR30: HDR Supervision Orientation 2020-2023, HDR31

## Employment

### Associate Professor

Associate Professor

School of Mathematical and Physical Sciences

Macquarie University

1 Jan 2023 → present

## Research outputs

### Schatten properties of Calderón–Zygmund singular integral commutator on stratified Lie groups

Li, J., Xiong, X. & Yang, F., Aug 2024, In: Journal de Mathématiques Pures et Appliquées. 188, p. 73-113 41 p.

### Evaluation functions and reflexivity of Banach spaces of holomorphic functions

Cao, G., He, L., Li, J. & Zhang, S., 31 May 2024, (E-pub ahead of print) In: Journal of the Australian Mathematical Society.

### Fundamental properties of Cauchy–Szegő projection on quaternionic Siegel upper half space and applications

Chang, D-C., Duong, X. T., Li, J., Wang, W. & Wu, Q., 20 Feb 2024, (E-pub ahead of print) In: Forum Mathematicum. 32 p.

### Schatten classes and commutator in the two weight setting, I. Hilbert transform

Lacey, M., Li, J. & Wick, B. D., Feb 2024, In: Potential Analysis. 60, 2, p. 875-894 20 p.

**Endpoint weak Schatten class estimates and trace formula for commutators of Riesz transforms with multipliers on Heisenberg groups**

Fan, Z., Li, J., McDonald, E., Sukochev, F. & Zanin, D., 1 Jan 2024, In: Journal of Functional Analysis. 286, 1, 72 p., 110188.

**Hardy spaces associated to self-adjoint operators on general domains**

Duong, X. T., Lee, M-Y., Li, J. & Lin, C-C., Jan 2024, In: Collectanea Mathematica. 75, 1, p. 305–330 26 p.

**Besov spaces, Schatten classes and weighted versions of the quantised derivative**

Gong, Z., Li, J. & Wick, B. D., Dec 2023, In: Analysis Mathematica. 49, 4, p. 971-1006 36 p.

**Lipschitz and Triebel–Lizorkin spaces, commutators in Dunkl setting**

Han, Y., Lee, M-Y., Li, J. & Wick, B. D., Dec 2023, In: Nonlinear Analysis, Theory, Methods and Applications. 237, p. 1-36 36 p., 113365.

**Sharp endpoint estimates for Schrödinger groups on Hardy spaces**

Chen, P., Duong, X. T., Li, J. & Yan, L., 25 Oct 2023, In: Journal of Differential Equations. 371, p. 660-690 31 p.

**A Study of one-sided singular integral and function space via reproducing formula**

Fu, Z., Hou, X., Lee, M-Y. & Li, J., Sept 2023, In: Journal of Geometric Analysis. 33, 9, p. 1-34 34 p., 289.

**Quantitative weighted bounds for the q-variation of singular integrals with rough kernels**

Chen, Y., Hong, G. & Li, J., Jun 2023, In: Journal of Fourier Analysis and Applications. 29, 3, p. 1-50 50 p., 31.

**Maximal operator, Cotlar's inequality and pointwise convergence for singular integral operators in Dunkl setting**

Tan, C., Han, Y. & Li, J., May 2023, In: Journal of Geometric Analysis. 33, 5, p. 1-18 18 p., 164.

**Schatten classes and commutators of Riesz transform on Heisenberg group and applications**

Fan, Z., Lacey, M. & Li, J., Apr 2023, In: Journal of Fourier Analysis and Applications. 29, 2, p. 1-28 28 p., 17.

**Weak Type (1, 1) Bounds for Schrödinger Groups**

Chen, P., Duong, X. T., Li, J., Song, L. & Yan, L., Mar 2023, In: Michigan Mathematical Journal. 73, 1, p. 97-122 26 p.

**Zygmund type and flag type maximal functions, and sparse operators**

Flores, G. J., Li, J. & Ward, L. A., Feb 2023, In: Proceedings of the American Mathematical Society. 151, 2, p. 555-567 13 p.

**The Kohn-Laplacian and Cauchy-Szegő projection on model domains**

Chang, D-C., Li, J., Tie, J. & Wu, Q., 2023, In: Annals of Mathematical Sciences and Applications. 8, 1, p. 111-155 45 p.

**$L^p$  estimates and weighted estimates of fractional maximal rough singular integrals on homogeneous groups**

Chen, Y., Fan, Z. & Li, J., Nov 2022, In: Journal of Geometric Analysis. 32, 11, p. 1-54 54 p., 273.

**Maximal Functions, Littlewood-Paley Theory, Riesz Transforms and Atomic Decomposition in the Multi-parameter Flag Setting**

Han, Y., Lee, M-Y., Li, J. & Wick, B. D., Sept 2022, In: Memoirs of the American Mathematical Society. 279, 1373, p. 1-102 102 p.

**Boundedness criterion for integral operators on the fractional Fock-Sobolev spaces**

Cao, G., He, L., Li, J. & Shen, M., 1 Aug 2022, In: Mathematische Zeitschrift. 301, 4, p. 3671–3693 23 p.

**Quantitative weighted bounds for Calderón commutators with rough kernels**

Chen, Y. & Li, J., 1 Jul 2022, In: Studia Mathematica. 263, 3, p. 339-360 22 p.

**Weak-type endpoint bounds for Bochner-Riesz means for the Hermite operator**

Chen, P., Li, J., Ward, L. & Yan, L., 1 May 2022, In: Comptes Rendus Mathématique. 360, p. 111-126 16 p.

**Compactness of commutator of Riesz transforms in the two weight setting**

Lacey, M. & Li, J., 1 Apr 2022, In: Journal of Mathematical Analysis and Applications. 508, 1, p. 1-11 11 p., 125869.

**Square roots of the Bessel operators and the related Littlewood-Paley estimates**

Chen, Y., Duong, X., Li, J., Tao, W. & Yang, D., 1 Feb 2022, In: Studia Mathematica. 263, 1, p. 19-58 40 p.

**Marcinkiewicz multipliers associated with the Kohn Laplacian on the Shilov boundary of the product domain in  $\mathbb{C}^{2n}$**

Chen, P., Cowling, M. G., Hu, G. & Li, J., Jan 2022, In: Mathematische Zeitschrift. 300, 1, p. 347-376 30 p.

**The Schrödinger equation in  $L^p$  spaces for operators with heat kernel satisfying Poisson type bounds**

Chen, P., Duong, X. T., Fan, Z., Li, J. & Yan, L., Jan 2022, In: Journal of the Mathematical Society of Japan. 74, 1, p. 285-331 47 p.

**A two weight inequality for Calderón-Zygmund operators on spaces of homogeneous type with applications**

Duong, X. T., Li, J., Sawyer, E. T., Vempati, M. N., Wick, B. D. & Yang, D., 1 Nov 2021, In: Journal of Functional Analysis. 281, 9, p. 1-65 65 p., 109190.

**Variation of Calderón-Zygmund operators with matrix weight**

Duong, X. T., Li, J. & Yang, D., Nov 2021, In: Communications in Contemporary Mathematics. 23, 7, p. 2050062-1-2050062-30 30 p., 2050062.

**Geometric characterizations of embedding theorems: for Sobolev, Besov, and Triebel-Lizorkin spaces on spaces of homogeneous type - via orthonormal wavelets**

Han, Y., Han, Y., He, Z., Li, J. & Pereyra, C., Sept 2021, In: Journal of Geometric Analysis. 31, 9, p. 8947-8978 32 p.

**Characterizations of product Hardy spaces in Bessel setting**

Duong, X. T., Li, J., Wick, B. D. & Yang, D., Apr 2021, In: Journal of Fourier Analysis and Applications. 27, 2, p. 1-65 65 p., 24.

**Weighted embeddings for function spaces associated with Hermite expansions**

Bui, T. A., Li, J. & Ly, F. K., Apr 2021, In: Journal of Approximation Theory. 264, p. 1-25 25 p., 105534.

**BMO spaces associated to operators with generalised Poisson bounds on non-doubling manifolds with ends**

Chen, P., Duong, X. T., Li, J., Song, L. & Yan, L., 5 Jan 2021, In: Journal of Differential Equations. 270, p. 114-184 71 p.

**Two weight commutators on spaces of homogeneous type and applications**

Duong, X. T., Gong, R., Kuffner, M-J. S., Li, J., Wick, B. D. & Yang, D., Jan 2021, In: Journal of Geometric Analysis. 31, 1, p. 980-1038 59 p.

**An explicit formula of Cauchy-Szegő kernel for quaternionic Siegel upper half space and applications**

Chang, D-C., Duong, X. T., Li, J., Wang, W. & Wu, Q., 2021, In: Indiana University Mathematics Journal. 70, 6, p. 2451-2477 27 p.

**Atomic decomposition of product Hardy spaces via wavelet bases on spaces of homogeneous type**

Han, Y., Li, J., Cristina Pereyra, M. & Ward, L. A., 2021, In: New York Journal of Mathematics. 27, p. 1173-1239 67 p.

**Commutators of Cauchy-Szegő type integrals for domains in  $\mathbb{C}^n$  with minimal smoothness**

Duong, X. T., Lacey, M., Li, J., Wick, B. D. & Wu, Q., 2021, In: Indiana University Mathematics Journal. 70, 4, p. 1505-1541 37 p.

**Commutators of Hilbert transforms along monomial curves**

Bongers, T., Guo, Z., Li, J. & Wick, B. D., 2021, In: *Studia Mathematica*. 257, 3, p. 295-311 17 p.

**Sharp endpoint  $L^p$  estimates for Schrödinger groups**

Chen, P., Duong, X. T., Li, J. & Yan, L., Oct 2020, In: *Mathematische Annalen*. 378, 1-2, p. 667-702 36 p.

**The two-weight inequality for the Poisson operator in the Bessel setting**

Li, J. & Wick, B. D., 15 Sept 2020, In: *Journal of Mathematical Analysis and Applications*. 489, 2, p. 1-15 15 p., 124178.

**Conformal and CR mappings on Carnot groups**

Cowling, M. G., Li, J., Ottazzi, A. & Wu, Q., 17 Jun 2020, In: *Proceedings of the American Mathematical Society, Series B*. 7, p. 67-81 15 p.

**A boundedness criterion for singular integral operators of convolution type on the Fock space**

Cao, G., Li, J., Shen, M., Wick, B. D. & Yan, L., 25 Mar 2020, In: *Advances in Mathematics*. 363, p. 1-33 33 p., 107001.

**A note on weak factorization of a Meyer-type Hardy space via a Cauchy integral operator**

Han, Y., Li, J., Pereyra, C. & Wick, B. D., 2020, In: *Studia Mathematica*. 253, 3, p. 307-327 21 p.

**Commutators on weighted Morrey spaces on spaces of homogeneous type**

Gong, R., Li, J., Pozzi, E. & Vempati, M. N., 2020, In: *Analysis and Geometry in Metric Spaces*. 8, 1, p. 305-334 30 p.

**Functional calculus of operators with heat kernel bounds on non-doubling manifolds with ends**

Bui, T. A., Duong, X. T., Li, J. & Wick, B. D., 2020, In: *Indiana University Mathematics Journal*. 69, 3, p. 713-747 35 p.

**The Cauchy integral, bounded and compact commutators**

Li, J., Nguyen, T. T. T., Ward, L. A. & Wick, B. D., 2020, In: *Studia Mathematica*. 250, 2, p. 193-216 24 p.

**A complete real-variable theory of Hardy spaces on spaces of homogeneous type**

He, Z., Han, Y., Li, J., Liu, L., Yang, D. & Yuan, W., Oct 2019, In: *Journal of Fourier Analysis and Applications*. 25, 5, p. 2197-2267 71 p.

**$A_p$  weights and quantitative estimates in the Schrödinger setting**

Li, J., Rahm, R. & Wick, B. D., Oct 2019, In: *Mathematische Zeitschrift*. 293, 1-2, p. 259-283 25 p.

**Compactness of Riesz transform commutator on stratified Lie groups**

Chen, P., Duong, X. T., Li, J. & Wu, Q., 15 Sept 2019, In: *Journal of Functional Analysis*. 277, 6, p. 1639-1676 38 p.

**Frame decomposition and radial maximal semigroup characterization of Hardy spaces associated to operators**

Duong, X. T., Li, J., Song, L. & Yan, L., 1 Jul 2019, In: *Journal of Approximation Theory*. 243, p. 45-85 41 p.

**Singular integrals associated with Zygmund dilations**

Han, Y., Li, J., Lin, C-C. & Tan, C., Jul 2019, In: *Journal of Geometric Analysis*. 29, 3, p. 2410-2455 46 p.

**Marcinkiewicz multipliers and Lipschitz spaces on Heisenberg groups**

Han, Y., Han, Y., Li, J. & Tan, C., Jun 2019, In: *Canadian Journal of Mathematics*. 71, 3, p. 607-627 21 p.

**Lower bound of Riesz transform kernels and commutator theorems on stratified nilpotent Lie groups**

Duong, X. T., Li, H-Q., Li, J. & Wick, B. D., Apr 2019, In: *Journal de Mathématiques Pures et Appliquées*. 124, p. 273-299 27 p.



**Weighted endpoint estimates for singular integral operators associated with zygmond dilations**

Han, Y., Li, J., Lin, C-C., Tan, C. & Wu, X., Apr 2019, In: Taiwanese Journal of Mathematics. 23, 2, p. 375-408 34 p.

**Two weight commutators in the Dirichlet and Neumann Laplacian settings**

Duong, X. T., Holmes, I., Li, J., Wick, B. D. & Yang, D., 15 Feb 2019, In: Journal of Functional Analysis. 276, 4, p. 1007-1060 54 p.

**Commutators of multiparameter flag singular integrals and applications**

Duong, X. T., Li, J., Ou, Y., Pipher, J. & Wick, B. D., 1 Jan 2019, In: Analysis and PDE. 12, 5, p. 1325-1355 31 p.

**Equivalence of Littlewood–Paley square function and area function characterizations of weighted product Hardy spaces associated to operators**

Duong, X. T., Hu, G. & Li, J., 1 Jan 2019, In: Journal of the Mathematical Society of Japan. 71, 1, p. 91-115 25 p.

**Product hardy, BMO spaces and iterated commutators associated with Bessel Schrödinger operators**

Betancor, J. J., Duong, X. T., Li, J., Wick, B. D. & Yang, D., 2019, In: Indiana University Mathematics Journal. 68, 1, p. 247-289 43 p.

**Product hardy spaces associated with para-accretive functions and  $Tb$  theorem**

Lee, M-Y., Li, J. & Lin, C-C., 2019, In: New York Journal of Mathematics. 25, p. 1438-1484 47 p.

**On the boundary Strichartz estimates for wave and Schrödinger equations**

Guo, Z., Li, J., Nakanishi, K. & Yan, L., 5 Dec 2018, In: Journal of Differential Equations. 265, 11, p. 5656-5675 20 p.

**Hardy and Carleson measure spaces associated with operators on spaces of homogeneous type**

Han, Y., Han, Y., Li, J. & Tan, C., 1 Aug 2018, In: Potential Analysis. 49, 2, p. 247-265 19 p.

**Hardy space theory on spaces of homogeneous type via orthonormal wavelet bases**

Han, Y., Li, J. & Ward, L. A., Jul 2018, In: Applied and Computational Harmonic Analysis. 45, 1, p. 120-169 50 p.

**Product BMO, little bmo, and Riesz commutators in the Bessel setting**

Duong, X. T., Li, J., Ou, Y., Wick, B. D. & Yang, D., Jul 2018, In: Journal of Geometric Analysis. 28, 3, p. 2558–2601 44 p.

**Compactness of Riesz transform commutator associated with Bessel operators**

Duong, X. T., Li, J., Mao, S., Wu, H. & Yang, D., 1 Jun 2018, In: Journal d'Analyse Mathématique. 135, 2, p. 639-673 35 p.

**Boundedness of singular integrals on the flag Hardy spaces on Heisenberg group**

Hu, G. & Li, J., 15 Apr 2018, In: Journal of Mathematical Analysis and Applications. 460, 2, p. 618-633 16 p.

**Commutators, little bmo and weak factorization**

Duong, X. T., Li, J., Wick, B. D. & Yang, D., 1 Jan 2018, In: Annales de l'Institut Fourier. 68, 1, p. 109-129 21 p.

**T1 criteria for generalised Calderón-Zygmund type operators on Hardy and BMO spaces associated to Schrödinger operators and applications**

Bui, T. A., Li, J. & Ly, F. K., 2018, In: Annali della scuola normale superiore di pisa, Classe di scienze. 18, 1, p. 203-239 37 p.

**Carleson measures, BMO spaces and balayages associated to Schrödinger operators**

Chen, P., Duong, X. T., Li, J., Song, L. & Yan, L., Nov 2017, In: Science China Mathematics. 60, 11, p. 2077–2092 16 p.

**Geometry and Hardy spaces on spaces of homogeneous type in the sense of Coifman and Weiss**

Han, Y., Han, Y. & Li, J., Nov 2017, In: Science China Mathematics. 60, 11, p. 2199–2218 20 p.

**Weak factorizations of the hardy space  $H^1(\mathbb{R}^n)$  in terms of multilinear riesz transforms**

Li, J. & Wick, B. D., 1 Sept 2017, In: Canadian Mathematical Bulletin. 60, 3, p. 571-585 15 p.

**Besov spaces via wavelets on metric spaces endowed with doubling measure, singular integral, and the T1 type theorem**

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## Awards

## Projects

**Harmonic analysis and dispersive partial differential equations**  
Li, J., Guo, Z., Kenig, C. & Nakanishi, K.  
31/01/17 → ...

**Harmonic analysis and geometry: singular integrals related to heat diffusion equations on domains with variable dimensions and applications**  
Li, J. & Duong, X.  
1/01/16 → 31/12/16

**Harmonic analysis, complex analysis and differential operators**  
Duong, X., Li, J., Ward, L., Lacey, M., Pipher, J. & Wick, B.  
1/01/20 → 31/12/22

**DP22: Harmonic analysis of Laplacians in curved spaces**  
Li, J., Bui, T., Duong, X., Cowling, M., Ottazzi, A. & Wick, B.  
26/04/22 → 25/04/25

**ARC DP: Harmonic analysis: singular integrals and applications to differential equations modelled on heat diffusion phenomenon and on quantum mechanics**  
Li, J. & Duong, X.  
1/01/18 → 31/12/19

**Multiparameter Harmonic Analysis: Weighted Estimates for Singular Integrals**  
Duong, X., Ward, L., Li, J., Lacey, M., Pipher, J. & MQRES, M.  
16/02/16 → 30/06/20