

Curriculum Vitae

Xiaoxiang Chai

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Education

2015 - July 2018, PhD in Mathematics, Department of Mathematics, The Chinese University of Hong Kong, Hong Kong

Advisor: Prof. [Martin Man-chun Li](#)

Thesis title: *Some aspects of the minimal surface theory*

2012 - 2015, Master of Science (supervisor: Prof. Jiaxin Hu), Tsinghua University, Beijing, China.

Master Thesis title: *First Eigenvalue Problem of Dirichlet forms*

2008 - 2012, Bachelor of Science, Sun Yat-sen University, Guangzhou, China.

Research Interests

Relativity and related geometry: Positive mass theorem, geometry of scalar curvature;

Minimal surfaces: min-max methods, free boundary minimal surface, geometric measure theory.

Preprints

1. *Positive mass theorem and free boundary minimal surfaces.* [arXiv:1811.06254 \[math.dg\]](#), 2018.

2. *Two quasi-local masses evaluated on surfaces with boundary.* [arXiv:1811.06168 \[math.dg\]](#), 2018.

3. *Willmore type inequality using monotonicity formulas.* [arXiv:1811.05617 \[math.dg\]](#), 2018.

4. *The mass of asymptotically hyperbolic manifolds with a noncompact boundary (in progress)*

Teaching Assistant Duties

10. 2017 - 2018 Term 2, MATH1010I University Mathematics, CUHK
9. 2017 - 2018 Term 1, MATH1010 University Mathematics, CUHK
8. 2016 - 2017 Term 1, MATH1010 University Mathematics, CUHK
7. 2015 - 2016 Term 1, MATH1510 Calculus for Engineers, CUHK
6. 2015 - 2016 Term 1, MATH1020 General Mathematics, CUHK
5. 2014 - 2015 Term 2, Complex function theory (10420252), Tsinghua University
4. 2014 - 2015 Term 1, Methods of Mathematical Physics (10420262), Tsinghua University
3. 2013 - 2014 Term 2, Linear Algebra (10421102), Tsinghua University
2. 2013 - 2014 Term 1, Linear Algebra (10421113), Tsinghua University
1. 2012 - 2013, Calculus A (10421065), Tsinghua University

Academic activities

1. June, 2018, Department of Mathematics, Sun Yat-Sen University (Zhuhai Campus), invited talk on *Positive mass theorem and free boundary minimal surfaces*.
2. August, 2018, Department of Mathematics, Peking University, invited talk on *Positive mass theorem and free boundary minimal surfaces*.
3. September, 2018, Department of Mathematics, Nankai University, academic visit.
4. September, 2018, Department of Mathematics, Fudan University, academic visit.

Awards

2014, Awards of Excellence (based on a GPA of 90/100), Department of Mathematics, Tsinghua University.