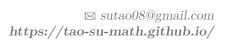
Tao Su





Employment

Sep.2022- Visiting Postdoc, IMS, CUHK, Hong Kong.

Sep.2023

Jan.2021- **Postdoc**, YMSC, Beijing.

Jul.2022 supported by the International Postdoctoral Exchange Fellowship (Talent-Introduction)

Sep.2018- Postdoc, École Normale Supérieure, Paris.

Aug.2020 supported by the ANR Microlocal Project

Education

2018 PhD in math, UC Berkeley.

Advisors: Vivek Shende, and Richard E.Borcherds

2012 B.S. in math and physics, Tsinghua University.

Fellowship in the Tsinghua Xuetang Talents Program

Academic visits

Oct.30, 2023- Academy of Mathematics and Systems Science, CAS, China

present

Oct.7- YMSC, Beijing, China

Oct.17,2023

Sep.01- IHES, Paris, France

Nov.25,2020

Jul.28- IBS-CGP, South Korea

Aug.04,2019

Jun.08- CRM, Montreal, Canada

Jun.30,2019

Nov.25- RIMS, Kyoto, Japan

Dec.09,2018

Oct.04- Fourier Institute, Grenoble, France

Oct.06,2018

Research interests

- Microlocal/Symplectic geometry, Algebraic geometry and Mathematical physics.
- Lately, I've been working on projects around: Legendrian knots and constructible sheaves, Hodge theory of character varieties and P=W, and mirror symmetry.

Publications/Preprints

- Mirror P=W phenomena for (wild) character varieties, (in preparation).
- Cell decomposition, dual boundary complexes and motives of character varieties, arXiv:2307.16657.
 - (The main result of this paper proves the weak geometric P=W conjecture of Katzarkov-Noll-Pandit-Simpson for very generic character varieties)
- Dual boundary complexes of Betti moduli spaces over the two-sphere with one irregular singularity, arXiv:2109.01645. (Under review w/ positive feedback)
- Augmentations are sheaves for Legendrian graphs, with Byung Hee An, Youngjin Bae, Journal of Symplectic Geometry, 20 (2022), pp.259-416.
- Augmentations and ruling polynomials for Legendrian graphs, with Byung Hee An, Youngjin Bae, Algebraic & Geometric Topology, 22 (2022), pp.2079-2185.
- A Hodge-theoretic study of augmentation varieties associated to Legendrian knots/tangles, Ph.D thesis, ProQuest 2018.
- Ruling polynomials and augmentations for Legendrian tangles, arXiv:1707.04948.

Research talks

- Oct.8- $\,$ 5 lectures on dual boundary complexes of character varieties, YMSC, Beijing Oct.16,2023
- Aug.2,2023 MIST workshop, IMS, CUHK, Hong Kong
- Jan.7,2023 MIST workshop, IMS, CUHK, Hong Kong
- May 25,2022 Zoom seminar, Zhejiang University.
- Apr.21,2022 Algebraic Geometry/Number theory seminar (zoom), Boston College.
- Dec.17,2021 Tsinghua Algebraic Geometry workshop, YMSC, Beijing.
- Dec.14,2021 Symplectic Geometry and Mathematical Physics seminar, BICMR, Beijing.
- Nov.29,2021 GeoTop seminar, YMSC, Beijing.
- Nov.10,2021 Geometry and Topology seminar, AMSS, Chinese Academy of Sciences, Beijing.
- Oct.13,2021 Geometry and Topology seminar, Chern Institute of Mathematics, Tianjin.
- Oct.12,2021 Geometry and Topology seminar, Chern Institute of Mathematics, Tianjin.
- Sep.24,2021 Geometric representation seminar, YMSC, Beijing.
- Mar.24,2021 Moscow-Beijing topology seminar, Zoom talk.
- Jul.31,2019 Director's seminar, IBS-CGP, South Korea.
- Jun.27,2019 Conference on Homological algebra, Microlocal analysis, and Symplectic geometry, CRM, Montreal.
- Jan.19,2019 Conference on Number theory, Algebra, Combinatorics, IAS of HIT, Haerbin, China.
- Nov.30,2018 Symplectic seminar, RIMS, Kyoto.
- Nov.9,2018 Symplectic seminar, ENS, Paris.
- Oct.5,2018 Topology seminar, Fourier Institute, Grenoble.
- May 24,2018 Student geometry/topology seminar, UC Davis.
 - Mar.6,2018 EGN postdoc and student seminar, MSRI.
 - Dec.5,2017 3-manifold Seminar, UC Berkeley.
- Jun.28,2017 AIM square meeting "Sheaf theory and Legendrian knots", San Jose.

Honors and Awards

- 2021 International Postdoctoral Exchange Fellowship, China Postdoc Science Foundation
- 2017 Graduate Division Summer Grant, UC Berkeley
- 2015 Graduate Division Summer Grant, UC Berkeley
- 2009-2012 Fellowship in the Tsinghua Xuetang Talents Program, Tsinghua University
 - 2011 S.-T. Yau College Students Mathematics Contests:
 - (All-around Competition) Bronze medal (Geometry and Topology) Bronze medal
 - (Algebra, Number Theory, and Combi- (Group competition) Silver medal natorics) Bronze medal

Services

- Tutored Friend scholar for Qiuzhen college, Tsinghua university, Apr. 2021-Jun.2022.
- Organized Derived Algebraic Geometry learning seminar, YMSC, Spring 2021.
- Referee for Symmetry, Integrality and Geometry: Methods and Applications.

Teaching experience

- Fall 2021 TA for Geometric Representation Theory II, Tsinghua university.
- Spring 2018 TA for Math 113, Introduction to Abstract Algebra, UC Berkeley.
 - Fall 2017 GSI for Math 16B, Analytic Geometry and Calculus, UC Berkeley.
 - Fall 2016 GSI for Math 16B, Analytic Geometry and Calculus, UC Berkeley.
- Spring 2016 GSI for Math 16B, Analytic Geometry and Calculus, UC Berkeley.
 - Fall 2015 GSI for Math 16B, Analytic Geometry and Calculus, UC Berkeley.
- Spring 2015 GSI for Math 54, Linear Algebra and Differential Equations, UC Berkeley.
 - Fall 2014 GSI for Math 54, Linear Algebra and Differential Equations, UC Berkeley.
- Spring 2014 GSI for Math 16B, Analytic Geometry and Calculus, UC Berkeley.
 - Fall 2013 GSI for Math 1B, Calculus, UC Berkeley.