

Yu-Wei Fan

Publications and Preprints

- (1) Fourier-Mukai numbers of K3 categories of very general special cubic fourfolds.
Israel Journal of Mathematics, accepted, with K.-W. Lai.
- (2) Stokes matrices and exceptional isomorphisms.
Mathematische Annalen, Vol. 390 (2024), pp. 4041–4086, with J. P. Whang.
- (3) Shifting numbers of abelian varieties via bounded t-structures.
manuscripta mathematica, Vol. 174 (2024), pp. 775–784.
- (4) Asymptotic shifting numbers in triangulated categories.
Advances in Mathematics, Vol. 428 (2023), 109163, with S. Filip.
- (5) New rational cubic fourfolds arising from Cremona transformations.
Algebraic Geometry, Vol. 10, No. 4 (2023), pp. 432–460. with K-W. Lai.
- (6) Contractibility of space of stability conditions on the projective plane via global dimension function.
Mathematical Research Letters, Vol. 30, No. 1 (2023), pp. 51–87. with C. Li, W. Liu, and Y. Qiu.
- (7) Counting special Lagrangian classes and semistable Mukai vectors for K3 surfaces.
Geometriae Dedicata, Vol. 217 (2023), 89, with J. S. Athreya and H. Lee.
- (8) Attractor mechanisms of moduli spaces of Calabi-Yau 3-folds.
Journal of Geometry and Physics, Vol. 185 (2023), 104724, with A. Kanazawa.
- (9) Systolic inequalities for K3 surfaces via stability conditions.
Mathematische Zeitschrift, Vol. 300 (2022), pp. 301–323.
- (10) On pseudo-Anosov autoequivalences.
Advances in Mathematics, Vol. 384 (2021), 107732, with S. Filip, F. Haiden, L. Katzarkov, and Y. Liu.
- (11) Categorical polynomial entropy.
Advances in Mathematics, Vol. 383 (2021), 107655, with L. Fu and G. Ouchi.
- (12) Weil–Petersson geometry on the space of Bridgeland stability conditions.
Communications in Analysis and Geometry, Vol. 29, No. 3 (2021), pp. 681–706, with A. Kanazawa and S.-T. Yau.
- (13) Mirror of Atiyah flop in symplectic geometry and stability conditions.
Advances in Theoretical and Mathematical Physics, Vol. 22, No. 5 (2018), pp. 1149–1207, with H. Hong, S.-C. Lau, and S.-T. Yau.
- (14) Entropy of an autoequivalence on Calabi–Yau manifolds.
Mathematical Research Letters, Vol. 25, No. 2 (2018), pp. 509–519.
- (15) An invitation to categorical dynamical systems.
Ergodic Theory and Dynamical Systems, Proceedings of the Workshops University of North Carolina at Chapel Hill 2021.
- (16) Stokes matrices, character varieties, and braids.
Proceedings of the 2020 ICCM Annual Meeting.

- (17) Nielsen realization problem for Bridgeland stability conditions on generic K3 surfaces.
Submitted, with K.-W. Lai. arXiv:2302.12663
- (18) On entropy of \mathbb{P} -twists.
Submitted. arXiv:1801.10485
- (19) A space of stability conditions that is not a length space.
Preprint. arXiv:2412.04777

Awards and Grants

- National Natural Science Foundation of China, Young Scientists Fund, 2025–2027
- ICCM Medal of Mathematics, Silver Medal, 2022 ¹ ²
- ICCM Best Thesis Award, Gold Medal, 2022
- AMS-Simons Travel Grant, 2019-2021

¹Formally the *Morningside Awards*, which is awarded to exceptional mathematicians of Chinese descent under the age of 45 for their seminal achievements in mathematics and applied mathematics.

²Quote on the award: “*for his important contributions in the moduli space of Calabi–Yau manifolds and its dynamics*”