LIST OF PUBLICATIONS

Mu-Tao Wang

December 2023

Publications

1. (with C.-J. Tsai and M.-P. Tsui) "Entire solutions of two-convex Lagrangian mean curvature flows", arXiv:2309.09432

2. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau)"Transformation of mass-angular momentum aspect under BMS transformations", arXiv:2305.04617

3. "Angular momentum and supertranslation in general relativity", Current Development of Mathematics, Vol. 2021, No. 1 (2021), pp. 163-181, arXiv:2303.02424

4. (with C.-J. Tsai and M.-P. Tsui) "Mean curvature flows of two-convex Lagrangians ", arXiv:2302.02512, to appear in J. Differential Geom.

5. (with C.-J. Tsai and M.-P. Tsui) "A new monotone quantity in mean curvature flow implying sharp homotopic criteria", arXiv:2301.09222

6. (with P.-N. Chen, D. E. Paraizo, R. M. Wald, Y.-K. Wang, and S.-T. Yau) "Cross-section continuity of definitions of angular momentum". Classical Quantum Gravity 40 (2023), no. 2, Paper No. 025007, arXiv: 2207.04590

7. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau) "Conserved quantities in general relativity-the view from null infinity", The physics and mathematics of Elliott Lieb. Vol. I, 211–224, EMS Press, Berlin, [2022], arXiv: 2204.04010

8. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau) "Angular momentum to a distant observer", Astronomical and Astrophysical Transactions, 33 (2022), Issue 3, 273–284

9. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau) "Supertranslation invariance of angular momentum at null infinity in double null gauge", arXiv: 2204.03182, to appear in the Christodoulou volume of Pure Appl. Math. Q.

10. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau)"BMS charges without supertranslation ambiguity", Comm. Math. Phys. 393 (2022), no. 3,1411–1449, arXiv: 2107.05316

11. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau)"Supertranslation invariance of angular momentum", Adv. Theor. Math. Phys. 25, No. 3 (2021), 777–789, arXiv: 2102.03235

12. (with P.-N. Chen, J. Keller, Y.-K. Wang, and S.-T. Yau) "Evolution of angular momentum and center of mass at null infinity", Comm. Math. Phys. 386 (2021), no. 1, 551–588, arXiv: 2102.03221

13. "Limits of quasi-local angular momentum on an isolated gravitating system", Surveys in Differential Geometry 2019. Differential geometry, Calabi-Yau theory, and general relativity. Part 2, 481–495, Surv. Differ. Geom., 24, Int. Press, Boston, MA, [2022], arXiv:2010.14059

14. "Quasi-local mass and isometric embedding with reference to a static spacetime" Advanced Studies in Pure Mathematics 85, 2020, The Role of Metrics in the Theory of Partial Differential Equations, 453–462, arXiv:2010.12677

15. "Total mass and limit of quasi-local mass at future null infinity", Proceedings of the International Consortium of Chinese Mathematicians 2018, 89–102, Int. Press, Boston, MA, [2020], arXiv: 2003.07732

16. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau) "Quasi-local mass on unit spheres at spatial infinity", Comm. Anal. Geom. 30 (2022), no. 4, 745–778, arXiv: 1901.06954

17. (with P.-K. Hung, J. Keller) "Linear stability of higher dimensional Schwarzschild spacetimes: decay of master quantities". Ann. PDE **6** (2020), no.2, paper No. 7, 73 pp arXiv: 1809.05144.

18. (with P.-N. Chen and S.-T. Yau) "Quasi-local energy with respect to de Sitter/Anti-de Sitter reference", Comm. Anal. Geom. 28 (2020), no. 7, 1489–1531, arXiv:1603.02975

19. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau) "Quasi-local mass at null infinity in Bondi-Sachs coordinates", Pure Appl. Math. Q. 15 (2019), no. 3, 875–895, arXiv: 1901.06952.

20. (with P-N. Chen, Y.-K. Wang, and S.-T. Yau) "Quasi-local mass at axially symmetric null infinity" , Int. J. Mod. Phys. D 28, No. 8 (2019) 1930013, arXiv: 1901.06948

21. "Quasi-local and total angular momentum in general relativity", Proceedings of the Seventh International Congress of Chinese Mathematicians, Vol. I, 457–472, Adv. Lect. Math. (ALM), 43, Int. Press, Somerville, MA, 2019

22. (with P.-N. Chen and S.-T. Yau) "The Minkowski formula and the quasi-local mass", Ann. Henri Poincaré 20 (2019), no. 3, 889–904, arXiv: 1804.08216

23. (with C.-J. Tsai) "Global uniqueness of the minimal sphere in the Atiyah-Hitchin manifold", Math. Res. Lett. 29 (2022), no.3, 871–886, arXiv: 1804.08201

24. (with C.-J. Tsai) "A strong stability condition on minimal submanifolds and its implications", J. Reine Angew. Math. 2020, no. 764, 111–156. arXiv: 1710.00433

25. (with P.-K. Hung, J. Keller) "Linear stability of Schwarzschild spacetime: decay of metric coefficients". J. Differential Geom. Vol. 116 (2020) 481–541, arXiv: 1702.02843v2

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27. (with P.-N. Chen and S.-T. Yau) "Quasi-local mass at the null infinity of the Vaidya spacetime", Nonlinear analysis in geometry and applied mathematics, 33–48, Harv. Univ. Cent. Math. Sci. Appl. Ser. Math., 1, Int. Press, Somerville, MA, 2017, arXiv:1608.06165

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29. (with C.-J. Tsai)"The stability of the mean curvature flow in manifolds of special holonomy", J. of Differential Geom., Vol. 108, No. 3 (2018), 531–569, arXiv: 1605.03645

30. (with P.-N. Chen, Y.-K. Wang, and S.-T. Yau) "Quasi-local energy with respect to a static spacetime", Adv. Theor. Math. Phys. 22, no. 1 (2018), 1–23, arXiv:1604.02983

31. (with K. Smoczyk and M.-P. Tsui) "Generalized Lagrangian mean curvature flows: the cotangent bundle case", J. Reine Angew. Math. 750 (2019), 97–121, arXiv: 1604.02936

32. (with P.-N. Chen and S.-T. Yau) "Quasi-local energy with respect to de Sitter/Anti-de Sitter reference", Comm. Anal. Geom. 28 (2020), no. 7, 1489–1531, arXiv:1603.02975

33. (with P.-N. Chen and S.-T. Yau) "Evaluating small sphere limit of the Wang-Yau quasi-local energy", Comm. Math. Phys. 357 (2018), no. 2, 731–774, arXiv:1510.00090

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35. (with Y.-K. Wang and X. Zhang) "Minkowski formulae and Alexandrov theorems in spacetime", J. of Differential Geom., Vol. 105, No. 2 (2017), 249–290. arXiv: 1409.2190

36. "Four lectures on quasi-local mass", arXiv:1510.02931

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38. (with P.-N. Chen, P.-K. Hung, and S.-T. Yau) "The rest mass of an asymptotically anti-de-Sitter spacetime", Ann. Henri Poincaré 18 (2016), no. 5, 1493–1518, arXiv: 1510.00053

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43. (with K. Smoczyk and M.-P. Tsui) "Curvature decay estimates of graphical mean curvature flow in higher codimensions", Trans. Amer. Math. Soc. 368 (2016) 7763-7775, arXiv:1401.4154

44. (with S. Brendle and P.-K. Hung) "A Minkowski type inequality for hypersurfaces in the Anti-deSitter-Schwarzschild manifold", Comm. Pure Appl. Math. 69 (2016), no. 1, 124–144, arXiv: 1209.0669.

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