

Yao-Yuan Mao

Curriculum Vitae

Department of Physics and Astronomy
Rutgers, The State University of New Jersey
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My research focuses on the galaxy–halo connection and its application to cosmological surveys, dark matter searches, and the study of galaxies.

POSITIONS

Rutgers University, September 2019–
Einstein Fellow (NASA Hubble Fellowship Program)
University of Pittsburgh, August 2016–August 2019
Samuel P. Langley Postdoctoral Fellow, PITT PACC

EDUCATION

Stanford University
Ph.D. in Physics, June 2016
Thesis: “[Modeling the distribution of dark matter and its connection to galaxies](#)”
Thesis advisor: Risa H. Wechsler
National Taiwan University
B.S. in Physics, with Minor in Atmospheric Sciences, June 2009

AWARDS

2019 Einstein Fellowship, NASA Hubble Fellowship Program
2016 Samuel P. Langley Postdoctoral Fellowship, PITT PACC, University of Pittsburgh
2013 Paul Giddings Fellow, Kavli Institute for Particle Astrophysics and Cosmology
2012 Weiland Family Stanford Graduate Fellow, Stanford University

PUBLICATIONS

49 refereed journal papers and several white papers (selected one listed below), with 1800+ total citations from 1200+ citing papers, and an h -index = 25. See a complete list of publications at the end of this CV or at yymao.github.io/publications.

SCIENTIFIC COLLABORATIONS

Data Access Team Co-lead, LSST Dark Energy Science Collaboration (DESC), 2020–present
Dark Matter Working Group Co-convener, LSST Dark Energy Science Collaboration (DESC), 2019–present

Builder, LSST Dark Energy Science Collaboration (DESC), 2019–present
 Council Member, LSST Dark Energy Science Collaboration (DESC), 2017–present
 Council Chair, LSST Dark Energy Science Collaboration (DESC), 2019
 Hack/Sprint Coordinator, LSST Dark Energy Science Collaboration (DESC), 2017–2019
 Full Member, LSST Dark Energy Science Collaboration (DESC), 2017–present
 Member, LSST Dark Energy Science Collaboration (DESC), 2015–present
 LOWZ project coordinator, Southern Stellar Stream Spectroscopic Survey (S5), 2018–present
 Member, DECam Local Volume Exploration (DELVE) Survey, 2019–present
 Member, Magellanic Satellites Survey (MagLiteS), 2016–present
 External Collaborator, Dark Energy Survey (DES), 2018–present
 Participant, Dark Energy Survey (DES), 2015–2016
 Member, Satellites Around Galactic Analogs (SAGA) Survey, 2013–present
 Member, Dark Energy Spectroscopic Instrument (DESI), 2016–2019

GRANTS AND PROPOSALS (SELECTED)

MMT Observatory and Anglo-Australian Telescope: The SAGA Survey (2013–2019)
 Co-I (PIs: M. Geha, B. Weiner, N. Kallivayalil)
 Blanco Telescope: DECam Dwarf Galaxy Survey (2019–)
 Co-I (PI: A. Drlica-Wagner)
 Blanco Telescope: Magellanic Satellites Survey (2016–2019)
 Co-I (PI: K. Bechtol)
 NSF Collaborative Research: The SAGA Project (2015–2018, \$64K)
 Co-I (PIs: M. Geha, R. Wechler)

INVITED PRESENTATIONS

2020 Cosmology Lunch Talk, Princeton, NJ, Mar 9 (virtual due to COVID-19)
 High Energy/Cosmology Theory Seminar, U Wisconsin, Madison, WI, Feb 18
 Astro Lunch Seminar, NASA Jet Propulsion Laboratory, CA, Feb 3
 Lunch talk, Carnegie Observatories, CA, Jan 31
 Astronomy Colloquium, National Tsing Hua University, Taiwan, Jan 17
 2019 Astronomy/Cosmology Seminar, Stony Brook University, NY, Oct 7
 Astrophysics Seminar, Rutgers, NJ, Sep 17
 STATistical Methods for the Physical Sciences (STAMPS), CMU, Apr 5
 Physics Colloquium, Duke University, NC, Feb 11
 Physics Colloquium, University of Pittsburgh, PA, Jan 14
 2018 Fermilab Astrophysics Seminar, Fermilab, Oct 15

- LSST DESC Collaboration Meeting, CMU, Jul 24–27
 Mock Durham Workshop: Galaxy Formation for Surveys, Durham U., Apr 16–20
 KICP Friday Seminar, U Chicago, Jan 26
 BCCP Workshop: Modeling the Extragalactic Sky, Berkeley, Jan 10–12
 2017 LSST DESC Seminar, Nov 17
 CCAPP Seminar, OSU, Oct 24
 LSST DESC Collaboration Meeting, Stony Brook U. & BNL, Jul 11–14
 Quantifying and Understanding the Galaxy–Halo Connection, KITP, May 15–19
 2016 Statistical Challenges in Modern Astronomy VI, CMU, Jun 6–10
 2015 Mitchell Workshop, Texas A&M University, May 21
 2013 SCIPP Seminar, University of California, Santa Cruz, Jun 11

CONFERENCES AND WORKSHOPS

(* contributed presentations; † poster presentations; ◊ organizers)

- 2020 STScI Symposium: The Local Group: Assembly and Evolution (virtual), Aug 31–Sep 4
 *Rubin Observatory Project & Community Workshop (virtual), Aug 10–14
 ◊KITP Online Reunion Conference: The Galaxy-Halo Connection Across Cosmic Time: Recent Updates, Aug 6–7
 *LSST DESC Collaboration Meeting (virtual), Jul 20–23
 KIPAC Virtual Workshop: Precision Measurements and Modeling of Lensing plus Clustering, Jul 9
 Rubin LSST Algorithm Workshop, Princeton (virtual), Mar 17–19
 LSST DESC Collaboration Meeting, U of Arizona, Jan 20–24
 2019 *NASA Hubble Fellowship Program Symposium, Washington DC, Oct 21–24
 Inclusive Astronomy 2, STScI, Baltimore, MD, Oct 14–15
 ◊LSST Dark Matter Workshop, KICP, Aug 5–7
 LSST DESC Collaboration Meeting, Berkeley, Jul 15–19
 MIAPP Workshop: Dynamics of Large-Scale Structure Formation, Jul 1–12
 *LSST DESC Collaboration Meeting, Berkeley, Feb 25–Mar 1
 2018 ◊Probing the Nature of Dark Matter with LSST, LLNL, Oct 29–31
 ◊LSST DESC Sprint Week, Royal Observatory of Edinburgh, Oct 22–26
 Aspen Center for Physics, Jun 11–29
 *DESI Collaboration Meeting, Tucson, AZ, May 23–25
 ◊PITT PACC Workshop: Probing the Nature of Dark Matter with LSST, Mar 5–7
 *KIPAC Tea Talk, KIPAC/Stanford, Jan 16
 2017 ◊LSST DESC Sprint Week, ANL, Dec 4–8
 ◊Super-PAC: Early Career Workshop in Philosophy of Astrophysics and Cosmology, U of Pittsburgh, Oct 27–29

- *Astrostatistics Meeting, CMU, Sep 15
- *DESI Collaboration Meeting, LBNL, Jun 19–23
- *LSST DESC Hack Week, Fermilab, Apr 3–7
- *LSST DESC Collaboration Meeting, SLAC, Feb 14–17
- 2016 DESI Collaboration Workshop, OSU, Dec 7–9
- ◊LSST DESC Hack Week, CMU, Nov 7–11
- *Astrostatistics Meeting, CMU, Sep 16
- *DES Collaboration Meeting, SLAC, May 9–13
- *Special Seminar, Academia Sinica Institute of Astronomy and Astrophysics, Mar 24
- *SnowPAC 2016: The Galaxy–Halo Connection, Mar 13–18
- *LSST DESC Collaboration Meeting, SLAC, Mar 8–11
- *KIPAC Tea Talk, Feb 9
- *Essential Cosmology for the Next Generation 2016, Jan 10–16
- 2015 *Large Scale Seminar, The Institute for Theory and Computation, Harvard–Smithsonian Center for Astrophysics, Nov 17
- *Brown Bag Lunch, Kavli Institute for Astrophysics and Space Research, Massachusetts Institute of Technology, Nov 16
- *Galaxy Lunch, Yale University, Oct 28
- *Informal Astro Seminar, New York University, Oct 23
- *Astronomy Seminar, Columbia University, Oct 22
- *Cosmology Seminar, University of California, Berkeley, Oct 13
- †(re)Solving Galaxies in the Era of Extremely Large Telescopes, GMT Community Science Meeting, Pacific Grove, CA, Oct 1–3
- *Santa Cruz Galaxy Workshop, University of California, Santa Cruz, Aug 20
- †Local Group Astrostatistics, MIRA, University of Michigan, Ann Arbor, Jun 1–4
- *The Life and Death of Satellite Galaxies Workshop, Lorentz Center, Apr 30
- 2014 *CCAPP Workshop, Ohio State University, Nov 25
- †Potsdam Thinkshop: Satellite galaxies and dwarfs in the local group, Leibniz-Institut für Astrophysik Potsdam, Aug 25–29
- 2013 *Lunch Talk, Academia Sinica Institute of Astronomy and Astrophysics, Dec 2
- *KIPAC @ 10, Sep 4
- Santa Cruz Galaxy Workshop, University of California, Santa Cruz, Aug 12–16
- *Sussing Merger Trees, West Sussex, UK, Jul 8–13
- *Hunting for Dark Matter, Kavli Institute for Theoretical Physics, May 13–Jun 7
- Closing in on Dark Matter, Aspen Center for Physics, Jan 28–Feb 3
- Jerusalem Winter School in Theoretical Physics: Early Galaxy Formation in Λ CDM Cosmology, Israel Institute for Advanced Studies, Dec 31–Jan 10
- 2012 Sackler Colloquia: Dark Matter Universe: On the Threshold of Discovery, Irvine, CA,

Oct 18–20
Santa Cruz Galaxy Workshop, University of California, Santa Cruz, Aug 13–17
International Summer School on AstroComputing: AstroInformatics, University of California High-Performance AstroComputing Center, Jul 9–20
*KIPAC Tea Talk, Mar 20

COMMUNITY SERVICE

Executive Secretary, NASA Astrophysics Theory Program Panel Review
Referee, The Astrophysical Journal
Referee, Monthly Notices of the Royal Astronomical Society
Maintainer, The Astronomy and Astrophysics Outlist

DEPARTMENTAL SERVICE

Co-organizer, Philosophy of Cosmology Seminar, University of Pittsburgh, 2018–2019
Co-organizer, Astro Lunch Seminar, University of Pittsburgh, 2017–2019
Intellectual Life Committee, Kavli Institute for Particle Astrophysics and Cosmology, 2015–2016

TEACHING AND OUTREACH

University of Pittsburgh
Speaker, Astronomy on Tap Edinburgh, Fall 2018
Organizer, Data Science Workshop, Fall 2018
Teacher, LSST DESC Dark Energy School VIII, Spring 2018
Guest Lecturer, Galactic & Extragalactic Astronomy (grad course), Spring 2018
Speaker, Astronomy on Tap Pittsburgh, Fall 2017
Guest Lecturer, Basics of Space Flight (undergrad course), Spring 2017
Guest Lecturer, Solar System and Exoplanets (undergrad course), Spring 2017
Teacher, Intermediate Python Tutorials, Spring 2017
Speaker, Allegheny Observatory Public Lecture, Spring 2017

Stanford University
Organizer & Lecturer, KIPAC Computing Boot Camp, Fall 2015
Volunteer, KIPAC Open House, 2013–2015
Teacher, Stanford ESP Splash! Program, 2010–2014
Guest Lecturer, Practical Computing for Scientists (undergrad course), Spring 2014 & Spring 2015
Head Teaching Assistant & Guest Lecturer, Electricity and Optics (undergrad course), Winter 2013
Teaching Assistant, Computational Physics (undergrad course), Fall 2012
Teaching Assistant, Electricity and Optics (undergrad course), Winter 2011

PROGRAMMING SKILLS

Python & [SciPy Stack](#); C/C++; web development (HTML, CSS, JavaScript, PHP); SQL.
Also find a full list of software tools that I developed at yymao.github.io/tools

MEDIA COVERAGE

- 2020 [astrobit.es](#)
featuring our work on how substructures impact dark matter halo density profiles
[SLAC News](#), [phys.org](#) *etc.*
featuring our work on Milky Way’s satellites and their connection to dark matter
- 2017 [Yale News](#) *etc.*
featuring our work on the Satellites Around Galactic Analogs (SAGA) Survey
- 2016 [AAS NOVA](#)
featuring our analysis of the destroyed satellites using the zoom-in simulations of Milky Way-size halos
[Stanford News](#), [APOD](#) *etc.*
mentioning the discovery of a dark substructure with ALMA strong lensing
- 2015 [Fermilab](#), [SLAC Today](#) *etc.*
mentioning the new dwarf galaxy candidates discovered by the Dark Energy Survey
- 2013 [SLAC Today](#), [NewScientist](#), *etc.*
mentioning our work on the velocity distribution of dark matter in the Milky Way
- 2012 [Symmetry Magazine](#)
mentioning our work on the “Rhapsody” zoom-in simulations of cluster-size halos

LIST OF PUBLICATIONS

- [56] [Y.-Y. Mao](#), M. Geha, R. H. Wechsler *et al.*, “The SAGA Survey. II. Building a Statistical Sample of Satellite Systems around Milky Way-like Galaxies,” [arXiv:2008.12783](#) [[ADS](#)]
- [55] E. O. Nadler, A. Drlica-Wagner, K. Bechtol *et al.*, “Milky Way Satellite Census. III. Constraints on Dark Matter Properties from Observations of Milky Way Satellite Galaxies,” [arXiv:2008.00022](#) [[ADS](#)]
- [54] R. Zhou, J. A. Newman, [Y.-Y. Mao](#) *et al.*, “The Clustering of DESI-like Luminous Red Galaxies Using Photometric Redshifts,” [arXiv:2001.06018](#) [[ADS](#)]
- [53] J. L. Tinker, J. Cao, M. Alpaslan, J. DeRose, [Y.-Y. Mao](#) *et al.*, “Probing the galaxy-halo connection with total satellite luminosity,” [arXiv:1911.04507](#) [[ADS](#)]
- 2020 [52] C. E. Fielder, [Y.-Y. Mao](#), A. R. Zentner *et al.*, “Illuminating Dark Matter Halo Density Profiles Without Subhaloes,” *MNRAS* (2020, to appear), [arXiv:2007.02964](#) [[ADS](#)]
- [51] K. Wang, [Y.-Y. Mao](#), A. R. Zentner *et al.*, “Concentrations of Dark Haloes Emerge from Their Merger Histories,” *MNRAS* (2020, to appear) [[arXiv](#)][[ADS](#)]
- [50] J.-z. Cao, J. L. Tinker, [Y.-Y. Mao](#), R. H. Wechsler, “Constraining the scatter in the galaxy-halo connection at Milky Way masses,” *MNRAS* (2020, to appear) [[arXiv](#)][[ADS](#)]

- [49] E. O. Nadler, A. Banerjee, S. Adhikari, Y.-Y. Mao, R. H. Wechsler, “Signatures of Velocity-dependent Dark Matter Self-interactions in Milky Way-mass Halos,” *ApJ*, **896**, 112 (2020) [[arXiv](#)][[ADS](#)]
- [48] E. O. Nadler, R. H. Wechsler, K. Bechtol, Y. -Y. Mao *et al.* (DES Collaboration), “Milky Way Satellite Census. II. Galaxy-Halo Connection Constraints Including the Impact of the Large Magellanic Cloud,” *ApJ*, **893**, 48 (2020) [[arXiv](#)][[ADS](#)]
- [47] S. Mau, W. Cerny, A. B. Pace *et al.*, “Two Ultra-faint Milky Way Stellar Systems Discovered in Early Data from the DECam Local Volume Exploration Survey,” *ApJ*, **890**, 136 (2020) [[arXiv](#)][[ADS](#)]
- 2019 [46] T. S. Li, S. E. Koposov, D. B. Zucker *et al.* (S5 Collaboration), “The southern stellar stream spectroscopic survey (S⁵): Overview, target selection, data reduction, validation, and early science,” *MNRAS*, **490**, 3508 (2019) [[arXiv](#)][[ADS](#)]
- [45] D. Korytov, A. Hearin, E. Kovacs *et al.* (LSST Dark Energy Science Collaboration), “CosmoDC2: A Synthetic Sky Catalog for Dark Energy Science with LSST,” *ApJS*, **245**, 26 (2019) [[arXiv](#)][[ADS](#)]
- [44] K. Wang, Y.-Y. Mao, A. R. Zentner *et al.*, “How to optimally constrain galaxy assembly bias: supplement projected correlation functions with count-in-cells statistics,” *MNRAS*, **488**, 3541 (2019) [[arXiv](#)][[ADS](#)]
- [43] C. E. Fielder, Y.-Y. Mao, J. A. Newman, A. R. Zentner, T. C. Licquia, “Predictably missing satellites: subhalo abundances in Milky Way-like haloes,” *MNRAS*, **486**, 4545 (2019) [[arXiv](#)][[ADS](#)]
- [42] The MSE Science Team, C. Babusiaux, M. Bergemann *et al.*, “The Detailed Science Case for the Maunakea Spectroscopic Explorer, 2019 edition,” [arXiv:1904.04907](#) [[ADS](#)]
- [41] J. DeRose, R. H. Wechsler, J. L. Tinker, M. R. Becker, Y.-Y. Mao *et al.*, “The AEMULUS Project. I. Numerical Simulations for Precision Cosmology,” *ApJ*, **875**, 69 (2019) [[arXiv](#)][[ADS](#)]
- [40] Z. Zhai, J. L. Tinker, M. R. Becker, J. DeRose, Y.-Y. Mao *et al.*, “The Aemulus Project. III. Emulation of the Galaxy Correlation Function,” *ApJ*, **874**, 95 (2019) [[arXiv](#)][[ADS](#)]
- [39] E. O. Nadler, Y.-Y. Mao, G. M. Green, R. H. Wechsler, “Modeling the Connection between Subhalos and Satellites in Milky Way-like Systems,” *ApJ*, **873**, 34 (2019) [[arXiv](#)][[ADS](#)]
- [38] A. Drlica-Wagner, Y.-Y. Mao, S. Adhikari *et al.*, “Probing the Fundamental Nature of Dark Matter with the Large Synoptic Survey Telescope,” [arXiv:1902.01055](#) [[ADS](#)]
- [37] T. McClintock, E. Rozo, M. R. Becker, J. DeRose, Y.-Y. Mao *et al.*, “The Aemulus Project. II. Emulating the Halo Mass Function,” *ApJ*, **872**, 53 (2019) [[arXiv](#)][[ADS](#)]
- 2018 [36] J. L. Tinker, C. Hahn, Y.-Y. Mao, A. R. Wetzel, “Halo histories versus galaxy properties at $z = 0$ - III. The properties of star-forming galaxies,” *MNRAS*, **478**, 4487 (2018) [[arXiv](#)][[ADS](#)]
- [35] J. L. Tinker, C. Hahn, Y.-Y. Mao, A. R. Wetzel, C. Conroy, “Halo histories versus galaxy properties at $z = 0$ II: large-scale galactic conformity,” *MNRAS*, **477**, 935 (2018) [[arXiv](#)][[ADS](#)]

- [34] D. Campbell, F. C. van den Bosch, N. Padmanabhan, Y.-Y. Mao *et al.*, “The galaxy clustering crisis in abundance matching,” *MNRAS*, **477**, 359 (2018) [arXiv][ADS]
- [33] E. O. Nadler, Y.-Y. Mao, R. H. Wechsler, S. Garrison-Kimmel, A. Wetzel, “Modeling the Impact of Baryons on Subhalo Populations with Machine Learning,” *ApJ*, **859**, 129 (2018) [arXiv][ADS]
- [32] Y.-Y. Mao, A. R. Zentner, R. H. Wechsler, “Beyond assembly bias: exploring secondary halo biases for cluster-size haloes,” *MNRAS*, **474**, 5143 (2018) [arXiv][ADS]
- [31] A. Tenneti, Y.-Y. Mao, R. A. C. Croft *et al.*, “The radial acceleration relation in disc galaxies in the MassiveBlack-II simulation,” *MNRAS*, **474**, 3125 (2018) [arXiv][ADS]
- [30] Y.-Y. Mao, E. Kovacs, K. Heitmann *et al.* (LSST Dark Energy Science Collaboration), “DESCQA: An Automated Validation Framework for Synthetic Sky Catalogs,” *ApJS*, **234**, 36 (2018) [arXiv][ADS]
- [29] J. U. Lange, F. C. van den Bosch, A. Hearin *et al.*, “Brightest galaxies as halo centre tracers in SDSS DR7,” *MNRAS*, **473**, 2830 (2018) [arXiv][ADS]
- 2017 [28] J. L. Tinker, A. R. Wetzel, C. Conroy, Y.-Y. Mao, “Halo histories versus Galaxy properties at $z = 0$ - I. The quenching of star formation,” *MNRAS*, **472**, 2504 (2017) [arXiv][ADS]
- [27] A. S. Villarreal, A. R. Zentner, Y.-Y. Mao *et al.*, “The inmitigable nature of assembly bias: the impact of halo definition on assembly bias,” *MNRAS*, **472**, 1088 (2017) [arXiv][ADS]
- [26] A. P. Hearin, D. Campbell, E. Tollerud *et al.*, “Forward Modeling of Large-scale Structure: An Open-source Approach with Halotools,” *AJ*, **154**, 190 (2017) [arXiv][ADS]
- [25] H. Desmond, Y.-Y. Mao, R. H. Wechsler, R. A. Crain, J. Schaye, “On the galaxy-halo connection in the EAGLE simulation,” *MNRAS*, **471**, L11 (2017) [arXiv][ADS]
- [24] M. Geha, R. H. Wechsler, Y.-Y. Mao *et al.*, “The SAGA Survey. I. Satellite Galaxy Populations around Eight Milky Way Analogs,” *ApJ*, **847**, 4 (2017) [arXiv][ADS]
- [23] Y. Lu, A. Benson, A. Wetzel, Y.-Y. Mao *et al.*, “The Importance of Preventive Feedback: Inference from Observations of the Stellar Masses and Metallicities of Milky Way Dwarf Galaxies,” *ApJ*, **846**, 66 (2017) [arXiv][ADS]
- [22] B. V. Lehmann, Y.-Y. Mao, M. R. Becker, S. W. Skillman, R. H. Wechsler, “The Concentration Dependence of the Galaxy-Halo Connection: Modeling Assembly Bias with Abundance Matching,” *ApJ*, **834**, 37 (2017) [arXiv][ADS]
- 2016 [21] A. Drlica-Wagner, K. Bechtol, S. Allam *et al.*, “An Ultra-faint Galaxy Candidate Discovered in Early Data from the Magellanic Satellites Survey,” *ApJL*, **833**, L5 (2016) [arXiv][ADS]
- [20] Y. Lu, A. Benson, Y.-Y. Mao *et al.*, “The Connection between the Host Halo and the Satellite Galaxies of the Milky Way,” *ApJ*, **830**, 59 (2016) [arXiv][ADS]
- [19] Y. Wang, F. R. Pearce, A. Knebe *et al.*, “Sussing merger trees: stability and convergence,” *MNRAS*, **459**, 1554 (2016) [arXiv][ADS]
- [18] Y. D. Hezaveh, N. Dalal, D. P. Marrone, Y.-Y. Mao *et al.*, “Detection of Lensing Substructure Using ALMA Observations of the Dusty Galaxy SDP.81,” *ApJ*, **823**, 37

- (2016) [arXiv][ADS]
- [17] A. J. Deason, Y.-Y. Mao, R. H. Wechsler, “The Eating Habits of Milky Way-mass Halos: Destroyed Dwarf Satellites and the Metallicity Distribution of Accreted Stars,” *ApJ*, **821**, 5 (2016) [arXiv][ADS]
- 2015 [16] P. Behroozi, A. Knebe, F. R. Pearce *et al.*, “Major mergers going Notts: challenges for modern halo finders,” *MNRAS*, **454**, 3020 (2015) [arXiv][ADS]
- [15] A. Drlica-Wagner, K. Bechtol, E. S. Rykoff *et al.* (DES Collaboration), “Eight Ultra-faint Galaxy Candidates Discovered in Year Two of the Dark Energy Survey,” *ApJ*, **813**, 109 (2015) [arXiv][ADS]
- [14] Y.-Y. Mao, M. Williamson, R. H. Wechsler, “The Dependence of Subhalo Abundance on Halo Concentration,” *ApJ*, **810**, 21 (2015) [arXiv][ADS]
- [13] P. A. Thomas, J. Onions, D. Tweed *et al.*, “Sussing Merger Trees: A proposed Merger Tree data format,” arXiv:1508.05388 [ADS]
- 2014 [12] J. Lee, S. K. Yi, P. J. Elahi *et al.*, “Sussing merger trees: the impact of halo merger trees on galaxy properties in a semi-analytic model,” *MNRAS*, **445**, 4197 (2014) [arXiv][ADS]
- [11] S. Avila, A. Knebe, F. R. Pearce *et al.*, “SUSSING MERGER TREES: the influence of the halo finder,” *MNRAS*, **441**, 3488 (2014) [arXiv][ADS]
- [10] Y.-Y. Mao, L. E. Strigari, R. H. Wechsler, “Connecting direct dark matter detection experiments to cosmologically motivated halo models,” *PRD*, **89**, 063513 (2014) [arXiv][ADS]
- 2013 [9] C. Srisawat, A. Knebe, F. R. Pearce *et al.*, “Sussing Merger Trees: The Merger Trees Comparison Project,” *MNRAS*, **436**, 150 (2013) [arXiv][ADS]
- [8] H.-Y. Wu, O. Hahn, R. H. Wechsler, P. S. Behroozi, Y.-Y. Mao, “Rhapsody. II. Subhalo Properties and the Impact of Tidal Stripping From a Statistical Sample of Cluster-size Halos,” *ApJ*, **767**, 23 (2013) [arXiv][ADS]
- [7] Y.-Y. Mao, L. E. Strigari, R. H. Wechsler, H.-Y. Wu, O. Hahn, “Halo-to-halo Similarity and Scatter in the Velocity Distribution of Dark Matter,” *ApJ*, **764**, 35 (2013) [arXiv][ADS]
- [6] H.-Y. Wu, O. Hahn, R. H. Wechsler, Y.-Y. Mao, P. S. Behroozi, “Rhapsody. I. Structural Properties and Formation History from a Statistical Sample of Re-simulated Cluster-size Halos,” *ApJ*, **763**, 70 (2013) [arXiv][ADS]
- 2012 [5] T.-W. Chiu, T.-H. Hsieh, Y.-Y. Mao (TWQCD Collaboration), “Pseudoscalar meson in two flavors QCD with the optimal domain-wall fermion,” *Physics Letters B*, **717**, 420 (2012) [ADS]
- 2011 [4] T.-W. Chiu, T.-H. Hsieh, Y.-Y. Mao (TWQCD Collaboration), “Topological susceptibility in two flavors lattice QCD with the optimal domain-wall fermion,” *Physics Letters B*, **702**, 131 (2011) [arXiv][ADS]
- 2010 [3] W.-S. Hou, Y.-Y. Mao, C.-H. Shen, “Leading effect of CP violation with four generations,” *PRD*, **82**, 036005 (2010) [arXiv][ADS]
- 2009 [2] Y.-Y. Mao, T.-W. Chiu, “Topological susceptibility to the one-loop order in chiral

- perturbation theory,” *PRD*, 80, 034502 (2009) [[arXiv](#)][[ADS](#)]
- [1] C.-F. Lee, [Y.-Y. Mao](#), B. Reipurth, “Infall and Rotation Motions in the HH 111 Protostellar System: A Flattened Envelope in Transition to a Disk?” *ApJ*, 694, 1395 (2009) [[arXiv](#)][[ADS](#)]