Chihway Chang

CONTACT INFORMATION	The Kavli Institute for Cosmological Physics University of Chicago William Eckhardt Research Center 451 5640 South Ellis Avenue Chicago, IL 60637, USA	+1-773-702-3369 chihway@kicp.uchicago.edu https://chihway.github.io http://surveys.uchicago.edu

ACADEMIC APPOINTMENTS

Clare Boothe Luce Assistant Professor, Department of Astronomy and Astrophysics (A&A), University of Chicago	2018 – present
Senior Member, Kavli Institute of Cosmological Physics (KICP), University of Chicago	2018 – present
KICP Fellow, KICP, University of Chicago	2016 – 2018
Postdoctoral Fellow, Institute of Astronomy, ETH Zurich	2013 – 2016

EDUCATION

Physics Department, Stanford University   Ph. D. 2013
Thesis: *Systematic Effects in Weak Lensing Measurements for Future Optical Surveys*
Advisors: Steven M. Kahn & Rafe H. Schindler

Physics Department, National Taiwan University   B. S. 2007

HONOURS AND RECOGNITIONS

Scialog Fellow (Early Science with the LSST)	2024
Editor's choice in Physical Review Letters	2023
DOE Early Career Award	2021
Clare Boothe Luce Assistant Professor	2018
KICP Fellow	2016
Editor's choice in Physical Review Letters	2015
62nd Meeting of Nobel Laureate, Lindau, Germany	2012
Presidential Awards, National Taiwan University	2004 – 2007
Jen-Lin Huang Scholarship	2005 – 2006

SCIENTIFIC COLLABORATIONS

I am a core member and recognized builder (i.e., foundational contributor) in two large scientific collaborations – the Dark Energy Survey (DES) and the Rubin Observatory Legacy Survey of Space and Time Dark Energy Science Collaboration (LSST DESC). I am also a member of the Roman Space Telescope Project Infrastructure Team (PIT) team "Maximizing Cosmological Science with the Roman High Latitude Imaging Survey".

Dark Energy Survey (DES): I have been part of DES since 2013 and have been active in the weak gravitational lensing working group, as well as the general are of cosmology from large-scale structure. I am one of the two Science Committee Co-Chairs in DES, which directs and coordinates all scientific efforts within DES.

DELVE (DECam Local Volume Exploration Survey) Builder	2023 – present
DES Science Committee Co-Chair	2021 – present
DES Builder	2019 – present
DES Membership Committee	2019 – 2021
DES Management Committee	2018 – 2021
DES Weak Lensing Mass Mapping Analysis Team Lead	2016 – 2020

Rubin Observatory Legacy Survey of Space and Time Dark Energy Science Collaboration (LSST DESC): I have been active in LSST DESC since 2016 (and active in the LSST science working groups before the start of DESC in 2010). I primarily work in the weak gravitational lensing working group, as well as the general are of cosmology from large-sclae structure. Initiated through my term as the Deputy Analysis Coordinator 2021-2023, I co-lead the STatic Analysis Roundtable (STAR) group.

LSST DESC Builder	2024 – present
DESC Speaker Bureau	2024 – present
Rubin in-kind contributor team (Science validation of PSF characterization)	
https://sitcomtn-050.lsst.io/	2024 – present
LSST DESC Deputy Analysis Coordinator	2021 – 2023
LSST DESC Collaboration Council	2020 – 2021
LSST DESC Weak Lensing Working Group Coordinator	2018 – 2020

PROFESSIONAL SERVICE AND RECENT CONFERENCES ORGANIZED

Fundamental Physics meets Current and Future Facilities in Cosmology (Brazil) SOC	
	2024 (scheduled)
KICP-20 "Cosmology past, present, and future" (KICP) LOC/SOC	2024
UChicago-Taiwan student research program in the Sciences (UCTS) organizer	2024
Spec-S5 Instrumentation Workshop (KICP) LOC	2024
Lensing at Different Scales Workshop (KICP) SOC	2023
DES Y6KP Workshop (KICP) LOC	2023
LSS $\times$ CMB Workshop (Kyoto) SOC	2023
DES Collaboration Meeting (Portsmouth) SOC	2023
LSST DESC Collaboration Meeting (KICP) LOC Co-Chair/SOC	2022
CMB-S4 Collaboration Meeting (remote) SOC	2020
Snowmass 2021 Topical Group Convener (CF6: Dark Energy and Cosmic Acceleration: Complementarity of Probes and New Facilities)	2020 – 2021
Cosmic Controversy (KICP) SOC	2019
Joint SPT-DES Analysis Workshop (KICP)	2018
DES Collaboration Meeting (Chicago) LOC	2017
Review panel for NSF, DOE	2020 – present
Reviewer for MNRAS, ApJ, Nature Astronomy, DES/DESC Collaboration	2014 – present

DEPARTMENT SERVICE AND LEADERSHIP

A&A Climate Committee Chair	2023 – present
UChicago PSD Equity, Diversity and Inclusion Coordination Team	2022 – present
A&A EDI Deputy Department Chair	2020 – present
A&A official graduate student faculty mentor	2018 – present
Various A&A and KICP committees: admission, faculty search, colloquium, A&A strategic plan, KICP budget and policy, KICP Fellow, KICP seminar etc.	2018 – present

SCIENTIFIC PROPOSALS AWARDED

Research grants that I have led or contributed to significantly. Total funding through grants, awards, and scholarships: **$1.9M**.

NASA Roman Space Telescope PIT 2023, Maximizing Cosmological Science with the Roman High Latitude Imaging Survey, $323k [Co-I] 2024 – 2029

NSF AAG 2022, Collaborative Research: Combining Galaxy and Cosmic Microwave Background Surveys for Precise and Robust Constraints on Cosmology, $250k [PI] 2023 – 2026

FACCTS grant: Large-Scale Structure Simulations for Next Generation Cosmological Modeling, $25k [PI] 2022 – 2023

DOE Early Career Award 2021, Towards Robust Cosmology from Large-Scale Structure with Galaxy Surveys, $750k [PI] 2021 – 2026

NSF AAG 2020, Collaborative Research: Cosmic Shear on Extremely Large Scales with the Dark Energy Camera, $360k [PI] 2021 – 2024

DOE FY2020 HEP Comparative Review, Cosmology with Galaxy and CMB Surveys: Mit-

igating Systematic Effects Through Combining Datasets, $125k [PI]   2020 – 2022

University of Chicago Center for Data and Computing (CDAC) Data Science Discovery Grant – When Technology Transforms Society: Considering the Societal and Ethical Impacts of Quantum Computing and AI, $15k [PI]   2019 – 2020

UChicago seed funding, Mapping Dark Matter with the Faintest Galaxy, $40k [PI]
2018 – 2019

OTHER PROPOSALS AWARDED		
Computing: Midway Research II Allocation, 2M+1M hours [PI]		2023
Computing: Midway Research II Allocation, 2M+M hours [PI]		2022
Computing: Midway Research II Allocation, 2M+1M hours [PI]		2021
Computing: Midway Research II Allocation, 2M hours [PI]		2020
Observing: Magellan 2020 B, 2 nights [PI]		2020 – 2022
Computing: Midway Research II Allocation, 1.3M hours [PI]		2019
Observing: Magellan 2020A, 2 nights [PI]		2019
Computing: Midway Research II Allocation, 1M hours [PI]		2018

TEACHING

ASTR 298 (UChicago), Research Seminar: *Guest Lecturer*   Spring 2024
ASTR 340 (UChicago) Statistical Methods in Astrophysics: *Instructor*   Winter 2024
ASTR 18850 (UChicago) Interpreting Nature – on the Relation between Art and Science: *Instructor*   Spring 2023, 2024
ASTR 406 (UChicago) Gravitational Lensing: *Instructor*   Fall 2020
ASTR 133 (UChicago) Introduction to Astrophysics: *Instructor*
Spring 2019, 2020, 2021, 2022
PHYS 372 (UChicago), Space Physics and Astrophysics: *Guest Lecturer*   Fall 2016, 2018
Astrophysics I (ETH): *Substitute Lecturer*   Fall 2015, 2014
Astrowoche (ETH): *Teaching Assistant*   Spring 2016, 2015
Cosmological Probes (ETH): *Teaching Assistant and Substitute Lecturer*   Spring 2014
Physics 21 (Stanford), Mechanics and Heat: *Teaching Assistant*   Fall 2011
Physics 23 (Stanford), Electricity and Optics: *Teaching Assistant*   Winter 2007
Physics 41 (Stanford), Light and Heat: *Teaching Assistant*   Fall 2007

ADVISING AND MENTORING

Postdocs and research scientists:

Chun-Hao To   September 2024 (expected)
Eric & Wendy Schmidt AI Fellow at UChicago (will serve as primary mentor). Primarily working in DES and Roman on simulations and cluster cosmology. Expert in combining galaxy cluster datasets across different wavelengths.

Marco Gatti   August 2024 (expected)
KICP Fellow (will serve as primary mentor). Primarily working in DES on weak lensing. Expert in higher-order statistics and new statistical techniques to extract cosmological information from data. Will also be transfering knowledge to LSST DESC.

Giulia Giannini   October 2022 – present
Postdoc primarily working in DES on weak lensing and large-scale structure cosmology. Expert in redshift calibration and galaxy-galaxy lensing. Transfering knowledge to LSST DESC.

Yuuki Omori   January 2021 – present
Working with SPT and my group. Expert in CMB lensing and cross-correlation between galaxy and CMB datasets. Also working on field-level inference for weak lensing. Transitioned from postdoc to research scientist in 2024.

Lucas Secco   September 2020 – January 2024

KICP Fellow (served as primary mentor). Worked on DES cosmoc shear analysis and then helped with the DELVE cosmic shear analysis effort. Investigated lensing higher-order statistics as well as cosmic tensions. Moved on to Boston Consulting Group.

Judit Prat   October 2019 – December 2023
Postdoc working on both DES and LSST DESC. Expert in weak lensing and large-scale structure cosmology and contributed to major infrastructure in both DES and DESC pipelines. Moved on to a Eric & Wendy Schmidt AI Fellow at UChicago (served as primary mentor), then a Nordita Fellow.

Graduate students:

Shrihan Agarwal   December 2023 – present
PhD, UChicago A&A. Studying the impace of spatially varying systematic effects in weak lensing data for DES, DELVE and LSST. Won an 2023 NSF Graduate Research Fellowship.

Johnny Pitocco   August 2023 – present
PhD, UChicago A&A. Joint advised with Jeff McMahon working on cosmology analysis with DES Y3 data and ACT DR6 lensing.

Jazmine Jefferson   June 2022 – present
PhD, UChicago A&A. Working on reanalysis of Stage-III weak lensing data sets in the context of LSST. Won an 2021 NSF Graduate Research Fellowship.

Dhayaa Anbajagane   September 2020 – present
PhD, UChicago A&A. Working on a wide array of topics in DES and DELVE: cluster profiles, higher-order statistics in lensing, and connection with early universe physics. Also leading the DELVE cosmic shear analysis. Won an 2020 NSF Graduate Research Fellowship and a 2023 CCAPP Price Prize in Cosmology and Astrophysics.

Georgios Zacharegkas   October 2018 – August 2023
PhD, UChicago A&A. Studied the modeling of small-scale information in galaxy-galaxy lensing and galaxy clustering through the Halo Occupation Distribution framework and constrained the models with DES data. Moved on to a postdoc position at the Argonne National Lab.

Dimitrios Tanoglidis   October 2017 – October 2019
PhD, UChicago A&A (primary advisor Alex Drlica-Wagner). Worked on investigating sample selection in clustering measurements. Moved on to Data Science Fellow at UPenn.

Yi Zhao   September 2018 – December 2018
Master, UChicago PSD. Worked on galaxy-galaxy lensing measurement in simulations.

Marco Gatti   October 2017 – May 2019
PhD, Barcelona A&A (primary advisor Ramon Miquel). Using DES data to perform higher-order statistics measurement and modeling. Moved on to a postdoc position at UPenn.

Claudio Bruderer   October 2016 – June 2018
PhD, ETH Zurich A&A (primary advisor Alexandre Refregier). Develop a novel weak lensing shear estimation method based-on fast forward-modeling.

Undergraduate and post-bacc students:

Harjas Sandhu   March 2024 – present
Major in Physics, UChicago. Joint advise with Eric Baxter. Working on using machine learning to perform background estimation for CMB datasets.

Kate Overdeck   June 2023 – December 2023

Major in A&A, UChicago. Joint advised with Giulia Giannini and Josh Frieman to study galaxy clustering split by colors.

Louise Gagnon   June 2022 – September 2023
Major in A&A, UChicago. Joint advised with Judit Prat on combining gravitational wave data and galaxy surveys.

Jon Shao   June 2022 – June 2023
Major in Physics, UChicago. Joint advised with Dhayaa Anbajagane on looking at how baryonic effects impact cluster characteristics. Moved on to PhD program at Caltech.

Kihana Wilson   December 2021 – June 2023
Major in A&A, UChicago. Joint advised with Judit Prat on studying the impact of deflection on weak lensing and clustering measurements.

Raul Basilides Gomez Del Estal Teixeira   July 2021 – present
Major in A&A, UChicago. Working on redshift estimation and calibration for the DELVE cosmic shear project. Moved on to PhD program at Duke.

Nathalie Chicoine   July 2020 – present
Major in A&A, UChicago. Joint advised with Judit Prat on measuring lensing around low surface brightness galaxies (LSBG), as well as cosmology from DELVE. Moved on to PhD program at UPitt.

Zhuoqi Zhang   December 2019 – June 2023
Major in Physics, UChicago. Worked on combining CMB lensing and galaxy surveys for LSST DESC. Also worked on DELVE cosmic shear testing. Moved on to PhD program at Stanford.

Ariel Amsellem   January 2019 – December 2020
Major in Physics, UChicago. Studied the splashback radius in simulations and compared to data. Moved on to PhD program at CMU.

Benjamin Levine   December 2019 – 2021
Major in A&A, UChicago. Studies the effect of blending on cosmology from galaxy clustering in LSST. Moved on to PhD program at Stonybrooks.

Rebecca Chen   October 2017 – May 2019
Major in A&A, UChicago. Worked on PSF modeling and measuring moments in weak lensing mass maps. Moved on to PhD program at Duke.

PUBLIC OUTREACH   Adler SVL volunteer   2024
UChicago myCHOICE workshop: Business of Running a Research Group   2023
Lecture at Space Explorer   2023
PSD Adler panel discussion   2023
Interview with the Chicago Council on Science and Technology (C2ST)   2022
Talk at the Ryerson Astronomical Society at UChicago   2021
Talk at Project Exploration (middle school students)   2021
Kavli Community Forum career panel   2021
GRADUCon 2021 panel   2021
UChicago PSD Women in STEM panel   2021
KIPAC career panel   2020
Panel at SLAC public lecture series   2020
Career panel in DES, SLAC   2018, 2020
Co-organizer of workshop "When Technology Transforms Society: Considering the Societal and Ethical Impacts of Quantum Computing and AI"   2019

APS Conferences for Undergraduate Women in Physics (CUWiP) Panel	2019
Public talk at the *Art of Science* series	2018
Volunteer at the Adler Planetarium: *Astronomy Conversations*	2016 – 2020
DES outreach program *DarkBites*: *Lead illustrator*, 50+ illustrations (https://www.darkenergysurvey.org/education/darkbites/)	
	2014 – 2015, 2021
SLAC tour guide	2010 – 2013

PRESS

Scientists release newly accurate map of all the matter in the universe [UChicago, 2023]

Less clumpy universe may suggest existence of mysterious forces [The Guardian, 2023]

Cosmological Parameters Improved by Combining Data [APS, 2023]

Connecting the dots in the sky could shed new light on dark matter [SLAC, 2020]

Dark Energy Survey reveals most accurate measurement of dark matter structure in the universe [Fermilab, 2017]

New map of Universe's dark matter [BBC, 2017]

Scientists Unveil New Inventory of Universe's Dark Contents [Quanta, 2017]

Erhellendes zur Dunklen Materie[Spiegel, 2017]

The Halo Boundary of Galaxy Clusters in SDSS [KICP, 2017]

Dark matter map unveils first results [BBC, 2015]

SELECTED TALKS

Invited talk at Gordon Research Conference "Imaging and Visualization at the Junction of Physics, Engineering and Data Science", Newry, MN	June 9, 2024 (Scheduled)
Keynote speaker at "COSMO21", Chania, Greece	May 20, 2024 (Scheduled)
UChicago DSI research highlight, Chicago, IL	May 16, 2024
KICP Colloquium, KICP, Chicago, IL	April 10, 2024
Invited talk at UPenn cosmology group, UPenn, Pennsylvania, PA	November 20, 2023
Invited talk at "KIPAC@20", SLAC, Menlo Park, CA	September 12, 2023
Invited talk at "Modified Gravity", UIUC, Urbana Champaign, IL	May 19, 2023
Overview talk, "LSS x CMB Workshop", Kyoto, Japan	April 10, 2023
Invited talk at Kahn Symposium, SLAC, Menlo Park, CA	March 3, 2023
Lecturer at "Cosmology on the Beach", Playa del Carmen, Mexico	November 30, 2022
Astronomy Seminar, University of Cincinnati, OH	November 1, 2022
Physics Colloquium, University of Kentucky, Lexington, KY	October 28, 2022
Plenary talk at "DECam at 10 Years Workshop", Tucson, AZ	September 12, 2022
Discussion session at Higher-Order Statistics Workshop, Aspen, CO	June 5, 2022
Talk at CMB-S4 Collaboration Meeting, remote	March 13, 2022
EPFL Colloquium, remote	March 7, 2022
Astronomy and Astrophysics Colloquium, Chicago, IL	February 16, 2022
CIERA Astronomy Seminar at Northwestern, Evanston, IL	November 9, 2021
Plenary talk at "Rubin Project and Community Workshop", remote	August 12, 2021
Invited review talk "Growth of Structure Summer Seminar Series", remote	June 23, 2021
CITA Seminar, remote	March 28, 2021
Invited Panel for SLAC public talk series, remote	September 29, 2020

Invited talk at IPMU conference "Cosmic Acceleration", Tokyo, Japan	February 17, 2020
Physics Colloquium, Kansas State University, Manhattan, KS	October 21, 2019
Invited talk at conference "Cosmic Controversy", Chicago, IL	October 5, 2019
Plenary talk at conference "COSMO19", Aachen, Germany	September 2, 2019
Invited talk at "LSST DESC Dark Matter Workshop", Chicago, IL	August 5, 2019
Plenary talk at conference APS DPF, Boston, MA	July 31, 2019
Astrophysics Seminar, McGill University, Montreal, Canada	July 3, 2019
Plenary talk at "Quantum Theory and Symmetry-XI", Montreal, Canada	July 2, 2019
Panelist at workshop ICG25, State College, PA	June 24, 2019
Fermilab Astrophysics Seminar, Baltavia, IL	June 10, 2019
Invited talk at LSST in South America, Sao Paulo, Brazil	December 18, 2018
Kavli Symposium, Oslo, Norway	September 1, 2018
Invited talk at COSPAR, Pasadena, CA, USA	July 16, 2018
Invited talk at APS, Columbus, OH, USA	April 17, 2018
UChicago Astro Seminar, Chicago, IL, USA	February 27, 2018
Rutgers Astro Seminar, New Brunswick, NJ, USA	February 19, 2018
Duke Physics Colloquium, Durham, NC, USA	February 14, 2018
University of Pittsburgh Physics Colloquium, Pittsburgh, PA, USA	January 30, 2018
UC Berkeley Physics Colloquium, Berkeley, CA, USA	January 23, 2018
Cosmology Group Meeting, CCA, NY, USA	November 9, 2017
Cosmology Seminar, Princeton/IAS, NJ, USA	November 6, 2017
Fermilab Astro Seminar, Fermilab, IL, USA	October 23, 2017
Astro/Cosmology Seminar, CMU, PA, USA	October 13, 2017
Astrophysics and Cosmology Seminar, UIUC, IL, USA	September 20, 2017
Cosmology Seminar, BNL, NY, USA	September 14, 2017
Instrumentation Seminar, BNL, NY, USA	September 13, 2017
The Nonlinear Universe, Smartno, Slovenia	July 20, 2017
Fermilab 50th User Meeting, Fermilab, IL, USA	June 8, 2017
KICP Colloquium, KICP, IL, USA	May 31, 2017
Astronomy Chalk Talk, U of Chicago, IL, USA	January 24, 2017
Cosmology Seminar, UCL, London, UK	December 21, 2016
Astronomy Colloquium, UIUC, IL, USA	November 1, 2016
KICP Friday Seminar, KICP, IL, USA	October 7, 2016
Cosmology Seminar, KIPAC, CA, USA	May 16, 2016
Kosmologietag Overview Talk, Bielefeld University, Germany	April 29, 2016
Astrophysics Colloquium, ASIAA, Taipei, Taiwan	March 28, 2016
RAS Specialist Discussion Meeting, London, UK	February 12, 2016
Swiss Python Summit, Rapperswil, Switzerland	February 5, 2016
Astrophysics Seminar, Rutgers University, NJ, USA	August 11, 2015
Cosmology Lunch, Princeton University, NY, USA	August 10, 2015
Fourteenth Marcel Grossmann Meeting (MG14) Rome, Italy	July 17, 2015
APS April meeting, Baltimore, MD, USA	April 14, 2015
Weekly Colloquium, IEEC-CSIC, Barcelona, Spain	October 8, 2014
Astrophysics Seminar, ASIAA, Taipei, Taiwan	September 19, 2014

Research Seminar Shanghai Jiao Tong University, Shanghai, China	September 9, 2014
DES-LSST Joint Workshop, Fermilab, IL, USA	March 24, 2014
Swiss Cosmology Day, ETH Zurich, Switzerland	February 6, 2014
ETH Research Seminar, ETH Zurich, Zurich, Switzerland	September 19, 2013
Astrophysics Seminar, JPL, CA, USA	September 2012
Special Seminar, IPMU, Tokyo, Japan	August 2012
SnowPAC, Snowbird, CO, USA	March 22, 2012

Publications

My overall h-index is 50 with a total citation of 9546 (according to ADS). Lead author (marked with $*$ and bold numbers, including as first 1-3 authors or papers from students or postdocs I directly advise and have significant contributions) of 37+ refereed publications in weak gravitational lensing, cross-correlation, and other large-scale cosmology tropics. Contributing author of a total of 130+ publications. Full publication list available at ORCHID and ADS.

SUBMITTED JOURNAL PUBLICATIONS

133. N. Jeffrey, ...**C. Chang**... et al., *Dark Energy Survey Year 3 results: likelihood-free, simulation-based wCDM inference with neural compression of weak-lensing map statistics*. Arxiv e-print (2024) 2403.02314.

132. DES, ...**C. Chang**... et al., *Dark Energy Survey: A 2.1% measurement of the angular Baryonic Acoustic Oscillation scale at redshift $z_{eff} = 0.85$ from the final dataset*. Arxiv e-print (2024) 2402.10696.

131. S. Grandis, ...**C. Chang**... et al., *The SRG/eROSITA All-Sky Survey: Dark Energy Survey Year 3 Weak Gravitational Lensing by eRASS1 selected Galaxy Clusters*. Arxiv e-print (2024) 2402.08455.

130. DES, ...**C. Chang**... et al., *The Dark Energy Survey: Cosmology Results With ~1500 New High-redshift Type Ia Supernovae Using The Full 5-year Dataset*. Arxiv e-print (2024) 2401.02929.

129. S. Bocquet, ...**C. Chang**... et al., *SPT Clusters with DES and HST Weak Lensing. II. Cosmological Constraints from the Abundance of Massive Halos*. Arxiv e-print (2024) 2401.02075.

128. L. E. Gagnon, D. Anbajagane, J. Prat, **C. Chang***, J. Frieman, *Cosmological Constraints from Combining Galaxy Surveys and Gravitational Wave Observatories*. Arxiv e-print (2024) 2312.16289.

127. E. Krause, ...**C. Chang**... et al., *Dark Energy Survey Year 3 Results: Multi-Probe Modeling Strategy and Validation*. Arxiv e-print (2021) 2105.13548.

126. C. Davis, ...**C. Chang**... et al., *Dark Energy Survey Year 1 Results: Cross-Correlation Redshifts in the DES – Calibration of the Weak Lensing Source Redshift Distributions*. ArXiv e-prints (2017) 1710.02517.

125. E. Krause, ...**C. Chang**... et al., *Dark Energy Survey Year 1 Results: Multi-Probe Methodology and Simulated Likelihood Analyses*. ArXiv e-prints (2017) 1706.09359.

REFEREED JOURNAL PUBLICATIONS

124. D. Anbajagane, **C. Chang***, H. Lee, M. Gatti, *Primordial non-Gaussianities with weak lensing: information on non-linear scales in the ULAGAM full-sky simulations*. JCAP **2024**, 3 (2024) 2310.02349.

123. M. Lin, ...**C. Chang**... et al., *Late time modification of structure growth and the S_8 tension*. PRD **109**, 6 (2024) 2308.16183.

122. M. Gatti, ...**C. Chang**... et al., *Dark Energy Survey Year 3 results: Simulation-based cosmological inference with wavelet harmonics, scattering transforms, and moments of weak lensing mass maps. Validation on simulations*. PRD **109**, 6 (2024) 2310.17557.

121. S. Shaikh, ...**C. Chang**... et al., *Cosmology from cross-correlation of ACT-DR4 CMB lensing and DES-Y3 cosmic shear*. MNRAS **528**, 2112 (2024) 2309.04412.

120. M. Gatti, ...**C. Chang**... et al., *Detection of the significant impact of source clustering on higher-order statistics with DES Year 3 weak gravitational lensing data.* MNRAS **527**, 115 (2024) 2307.13860.

119. D. Anbajagane, **C. Chang***... et al., *Cosmological shocks around galaxy clusters: a coherent investigation with DES, SPT, and ACT.* MNRAS **527**, 9378 (2023) 2307.13860.

118. Dark Energy Survey; Kilo-Degree Survey Collaborations, T.M.C. Abbott...**C. Chang**... et al., *DES Y3 + KiDS-1000: Consistent cosmology combining cosmic shear surveys.* OJA **6**, 36 (2023) 2305.17173.

117. C. Zhou,...**C. Chang**... et al., *The Intrinsic Alignment of Red Galaxies in DES Y1 redMaPPer Galaxy Cluster.* MNRAS **526**, 323 (2023) 2302.12325.

116. Y. Zhang, ...**C. Chang**, *The Effect of Splashback on Weak Lensing Mass Estimates of Galaxy Clusters and Groups.* OJA **6** 46 (2023) 2212.05406.

115. C. Sanchez, ...**C. Chang**... et al., *The Dark Energy Survey Year 3 high redshift sample: Selection, characterization and analysis of galaxy clustering.* MNRAS **525** 3 (2023) 2211.16593.

114. Z. Zhang, Y. Omori, **C. Chang***, *Detecting deviations from Gaussianity in high-redshift CMB lensing maps.* MNRAS **524** 6392 (2022) 2211.09617.

113. A. Chen, ...**C. Chang**... et al., *Constraining the Baryonic Feedback with Cosmic Shear Using the DES Year-3 Small-Scale Measurements.* MNRAS **518** 5340 (2023) 2206.08591.

112. D. Anbajagane, **C. Chang***... et al., *Beyond the 3rd moment: A practical study of using lensing convergence CDFs for cosmology with DES Y3.* MNRAS **526**, 5530 (2023) 2308.03863.

111. S. Samuroff, ...**C. Chang**... et al., *The Dark Energy Survey Year 3 and eBOSS: constraining galaxy intrinsic alignments across luminosity and colour space.* MNRAS **524**, 2195 (2023) 2212.11319

110. J. Elvin-Poole, ...**C. Chang**... et al., *Dark Energy Survey Year 3 results: magnification modelling and impact on cosmological constraints from galaxy clustering and galaxy-galaxy lensing.* MNRAS **523**, 3649 (2023) 2209.09782.

109. J. M. Shao, D. Anbajagane, **C. Chang***, *Baryonic imprints on DM haloes: the concentration-mass relation in the C AMELS simulations.* MNRAS **523**, 3258 (2023) 2212.05964.

108. J. Sanchez, Y. Omori, **C. Chang***... et al., *Mapping gas around massive galaxies: cross-correlation of DES Y3 galaxies and Compton-y maps from SPT and Planck.* MNRAS **522**, 3163 (2023) 2210.08633.

107. J. Prat, ...**C. Chang**... et al., *Non-local contribution from small scales in galaxy-galaxy lensing: comparison of mitigation schemes.* MNRAS **522**, 412 (2023) 2212.03734.

106. J. Prat, J. Zuntz, Y. Omori, **C. Chang***... et al., *The catalog-to-cosmology framework for weak lensing and galaxy clustering for LSST.* OJAp **6**, 13 (2023) 2212.09345.

105. E. P. Longley, **C. Chang***, C. W. Walter, J. Zuntz... et al., *A Unified Catalog-level Re-analysis of Stage-III Cosmic Shear Surveys.* MNRAS **520**, 5016 (2023) 2208.07179.

104. The Dark Energy Survey Collaboration, ...**C. Chang**... et al., *Dark Energy Survey Year 3 Results: Constraints on extensions to ΛCDM with weak lensing and galaxy clustering.* PRD **107**, 3504 (2023) 2207.05766.

103. The Dark Energy Survey and the South Pole Telescope Collaborations, ...**C. Chang***... et al., *Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck III: Combined cosmological constraints.* PRD **107**, 3531 (2023) 2206.10824.

102. **C. Chang***, Y. Omori, E. J. Baxter, ... et al., *Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck II: Cross-correlation measurements and cosmological constraints.* PRD **107**, 3530 (2023) 2203.12440.

101. Y. Omori, E. J. Baxter, **C. Chang***, ... et al., *Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck I: Construction of CMB Lensing Maps and Modeling Choices.* PRD **107**, 3529 (2023) 2203.12439.

100. M. Gatti, B. Jain, **C. Chang**... et al., *Dark Energy Survey Year 3 results: Cosmology with moments of weak lensing mass maps.* PRD **106**, 3509 (2021) 2110.10141.

99. A. Drlica-Wagner, ... **C. Chang**... et al., *The DECam Local Volume Exploration Survey Data Release 2.* AJS **261**, 38 (2022) 2203.16565.

98. C. Doux, ... **C. Chang**... et al., *Dark energy survey year 3 results: cosmological constraints from the analysis of cosmic shear in harmonic space.* MNRAS **515**, 1942 (2022) 2203.07128.

97. L. Secco, M. Jarvis, B. Jain, **C. Chang**... et al., *Dark Energy Survey Year 3 Results: Three-Point Shear Correlations and Mass Aperture Moments.* PRD **105**, 10 (2022) 2201.05227.

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