

ZHOU, CONGHAO

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CONTACT

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RESEARCH INTERESTS

dark matter · gravitational lensing · galaxy clusters · large scale structure ·
multi-wavelength observation

EDUCATION

	University of California, Santa Cruz
2020 - Present	Ph.D. in Physics
2021 on Leave	Physics Department
	Thesis: <i>TBD</i>
	Committee: TESLA E. JELTEMA, ALEXIE S. LEAUTHAUD
	Duke University
2020	B.A. in Physics with Highest Distinction
	Department of Physics
	Thesis: <i>Intrinsic Alignment of redMaPPer Clusters in the Dark Energy Survey</i>
	Committee: MICHAEL A. TROXEL, CHRISTOPHER W. WALTER, ROBERT L. WOLPERT

LEAD PUBLICATION

1. Constraining optical selection effect with DES and SPT, in prep.
C. ZHOU, S. GRANDIS, H.Y. WU, A.N. SALCEDO et al.
2. Halo mass tracing stellar mass distribution in IllustrisTNG, in prep.
C. ZHOU, A.S. LEAUTHAUD, B. DIEMER, S. HUANG, S. XU. et al.
3. Resposne bias in cosmic shear, in prep.
C. ZHOU, M.R. BECKER, M. GATTI et al.
4. Forecasting the constraints on optical selection bias and projection effects of galaxy cluster lensing with multiwavelength data, [PRD](#)
C. ZHOU, H.Y WU, A.N. SALCEDO, S. GRANDIS, T.E. JELTEMA, A.S. LEAUTHAUD et al.
5. The intrinsic alignment of red galaxies in DES Y1 redMaPPer galaxy clusters ,
[MNRAS](#)
C. ZHOU, A. TONG, M.A. TROXEL, J. BLAZEK, C. LIN et al.

CONTRIBUTED PUBLICATION

1. Optical galaxy cluster mock catalogs with realistic projection effects: validations with the SDSS redMaPPer clusters , [arXiv](#)
A. LEE et al.
2. Building an Efficient Cluster Cosmology Software Package for Modeling Cluster Counts and Lensing , [arXiv](#)
M. AGUENA et al.

3. 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](#)
M. GATTI et al.
4. Dark Energy Survey Year 3 Results: Deep Field Optical + Near-Infrared Images and Catalogue , [MNRAS](#)
W.G. HARTLEY, A. CHOI, A. AMON et al.

TALKS

<i>nov. 2024</i>	Cosmology Seminar, UC Davis
<i>apr. 2024</i>	CMB S ₄ Cluster AWG Meeting
<i>mar. 2024</i>	CFPU Seminar, Brown University
<i>mar. 2024</i>	Journal Club, University of Pennsylvania
<i>oct. 2023</i>	Cosmology Seminar, Tsinghua University
<i>oct. 2023</i>	Joint Stony Brook University/ Brookhaven National Lab Cosmology Seminar

PROFESSIONAL MEMBERSHIP

<i>2024 - Present</i>	Student Member, American Astronomical Society
<i>2024 - Present</i>	Student Member, American Physical Society
<i>2020 - Present</i>	Student Member, LSST Dark Energy Science Collaboration
<i>2020 - Present</i>	Student Member, Dark Energy Spectroscopic Instrument
<i>2018 - Present</i>	Student Member, Dark Energy Survey

OUTREACH

<i>2023 - 2024</i>	Starlight Over Street Light
<i>2022</i>	UC Santa Cruz Physics Outreach Taskforce
<i>2022</i>	Science Internship Program Mentor
<i>2022</i>	UC Santa Cruz Physics Mentoring Program Mentor

PROFESSIONAL SERVICE

<i>2024 - present</i>	Referee, Astronomy & Astrophysics
<i>jul.2023-jun.2024</i>	Organizer, BCG Seminar, Boise State
<i>sep.2023-jun.2024</i>	Organizer, CosmoGal Seminar, UC Santa Cruz
<i>jan. 2023</i>	LOC, APS Conference for Undergraduate Women in Physics at UC Santa Cruz
<i>aug. 2022</i>	SOC, LSST DESC 2022 Chicago Meeting
<i>apr. 2022 - present</i>	DES Early Career Scientists Committee
<i>jul. 2022 - present</i>	LSST DESC Mentoring Committee

TEACHING

<i>2024 Winter</i>	Electricity, Magnetism, and Optics (TA)
<i>2022 Fall</i>	Quantum Mechanics (TA)
<i>2022 Summer</i>	Intermediate Physics Laboratory (TA)
<i>2022 Spring</i>	Advanced Astrophysics Laboratory (TA)
<i>3 times</i>	Introductory Physics Laboratory (TA)

November 14, 2024