

Cristóbal Sifón

Profesor Auxiliar

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<https://github.com/cristobal-sifon/>

Research Interests

My research focuses on galaxy cluster physics including observable–mass scaling relations for cosmological analyses and the transformation of galaxies in and around galaxy clusters. I am also interested in intrinsic galaxy alignments, both as contaminants for cosmic shear and as a physical mechanism in their own right. I use various tools and techniques to study these phenomena, including weak gravitational lensing, spectroscopy, the exploitation of optical surveys in general, and most recently also of hydrodynamical simulations.

Collaborations: 4MOST Chilean Cluster Galaxy Evolution Survey (CHANCES) — 4MOST Hemisphere Survey (4HS) — Atacama Cosmology Telescope (ACT) — Canadian Cluster Comparison Project (CCCP) — Cerro Chajnantor Atacama Telescope (CCAT) — CMB-S4 — Galaxy Cluster Mass Reconstruction Project — Kilo-Degree Survey (KiDS) — Legacy Survey of Space and Time Dark Energy Science Collaboration (LSST-DESC) — Multi-Epoch Nearby Cluster Survey (MENeCS) — Simons Observatory.

Employment

[2022 – Present] Profesor Auxiliar, Pontificia Universidad Católica de Valparaíso (PUCV), Chile

[2019 – 2022] Profesor Asociado, PUCV

[2016 – 2019] Postdoctoral Research Associate, Princeton University, USA

Education

[2012 – 2016] Ph.D. Astrophysics, Universiteit Leiden, The Netherlands

[2010 – 2012] M.Sc. Astrophysics, P. Universidad Católica de Chile (PUC), Chile

[2005 – 2010] B.Sc. Astronomy, PUC

Teaching & Mentoring

Graduate Research Mentoring

[2023 – Present] Javier Urrutia, PUCV: MSc thesis advisor.

[2020 – 2022] Camila Aros, PUCV: MSc thesis advisor.

[2017 – 2019] Naomi Robertson, Oxford University (UK): co-advised PhD thesis project (Advisor: Joanna Dunkley).

[2013 – 2014] Joshua Albert, Universiteit Leiden: co-advised MSc thesis project (Advisor: Huub Röttgering).

Undergraduate Research Mentoring

[PUCV] 3 Senior theses and 4 Summer projects.

[Princeton] Summer project and Junior project.

[Others] Four-month research project through the Central American-Caribbean Bridge in Astrophysics ([URL](#)).

Courses Taught

Graduate: Data Analysis (2023), Techniques of Observational Astrophysics (2022), Observational Cosmology (2020-2021)

Undergraduate: Astronomical Instrumentation (2023), Galactic Astronomy (2021-2022), Programming (2020-2022), Cosmology (2020)

Non-Physics Major: Basic Astronomy for Engineers (2022)

Grants

[2020] ALMA-ANID Fund to hire a postdoc (**Co-PI**, 2 years, US\$77,000)

[2019] FONDECYT Iniciación research grant (**PI**, 3 years, US\$125,000)

Successful Observing Proposals (as PI)

I have been the PI of 12 successful observing proposals totalling hundreds of observing hours in optical (Gemini-South/GMOS, VST/OmegaCAM), near-infrared (Magellan/Fourstar), submm (APEX/CONCERTO), and radio (GMRT, VLA) telescopes.

Observing Experience: I have spent roughly 180 hours observing with optical (Gemini South/GMOS) and near-infrared (NTT/SofI, Magellan/Fourstar) instruments performing both imaging and spectroscopy of galaxy clusters.

Community Activity

Journals: I have served as a referee for Astronomy & Astrophysics, The Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, and Nature Astronomy.

Telescope Allocation Committees: Canadian Astronomical Society, *Chandra* X-ray Observatory

Grant Allocation Committees: Swiss National Science Foundation

Press Articles Authored

[July 2017] *Galaxy clusters: Falling into line* (Nature Astronomy News & Views)

[July 2013] *Featured Science: Dynamical masses of galaxy clusters discovered with the Sunyaev-Zel'dovich effect* (Gemini Focus)

Outreach

[Nov. 2023] Guest in “Diálogos Cósmicos” podcast (in Spanish, available [here](#)).

[Aug. 2023] Guest in “Conversemos de Astronomía” podcast (in Spanish, available [here](#)).

[Nov. 2022] Guest in “Rockstars” podcast by Radio TXS (in Spanish, available [here](#)).

[Oct. 2022] Interview for Radio Valentín Letelier, Valparaíso, to talk about CHANCES.

[Mar. 2021] Online public talk in the context of the Chilean *Day of Astronomy* (in Spanish, available [here](#)).

[2018 – 2019] Assisted with *Public Astronomical Observations in Spanish*, Princeton University.

[2013 – 2014] Assisted with *Public Observations at the Old Observatory*, Leiden Observatory.

[2012] Co-taught an *Astronomy Course for Seniors*, PUC.

[2011] Participated in *Starry Nights*, observation nights for elementary and middle school students in social risk organized by ESO-Santiago.

[2010] Invited talk on board the “FFG14 Almirante Latorre” Chilean Navy ship, Valparaíso, Chile.

[2010] *The Universe*, a series of talks for elementary school students in social risk organized by PUC.

Technical skills

I am an experienced Python programmer and I have some familiarity with IDL and Julia. I wrote pygm0s, a Python/PyRAF pipeline to reduce Gemini-GMOS spectra which is available [here](#). I am one of the lead developers and maintainers of the galaxy-galaxy lensing pipeline used by the KiDS collaboration (written in Python, but which is not public at the moment). Other codes I have written are posted at my [github](#) page.

Other Work Experience

[2020 – 2021] Data science & Machine Learning2 consultant, Minera Centinela, Chile.

[2007 – 2008] Ski instructor at Homewood Mountain Ski Resort in Lake Tahoe, CA, USA. Obtained certification as *Level I Ski Instructor* by the Professional Ski Instructors of America (PSIA).

[2006 – 2007] Ski lift operator at Sun Valley Resort, Sun Valley, ID, USA.

References

- Prof. Henk Hoekstra (*PhD advisor*)
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Publication list

I have co-authored 132 scientific articles intended for peer-reviewed publication, including 8 first-author papers. They have been cited more than 7,000 times and have an h -index of 46, with more than 350 citations on my first-author papers. The full list of publications can be accessed at the [SAO/NASA Astrophysics Data System](#). This document is maintained live on [github](#).

First-Author Papers

8. **C. Sifón**, J. Han, “The history and mass content of cluster galaxies in the EAGLE simulation”, 2023, [arXiv:2312.12529](#), accepted for publication in A&A
7. **C. Sifón**, R. Herbonnet, H. Hoekstra, R. F. J. van der Burg, M. Viola, “The Galaxy-Subhalo Connection in Low-Redshift Galaxy Clusters from Weak Gravitational Lensing”, 2018, [MNRAS](#), **478**, 1244 [\[arXiv\]](#)
6. **C. Sifón**, R. F. J. van der Burg, H. Hoekstra, A. Muzzin, R. Herbonnet, “A First Constraint on the Average Mass of Ultra Diffuse Galaxies from Weak Gravitational Lensing”, 2018, [MNRAS](#), **473**, 3747 [\[arXiv\]](#)
5. **C. Sifón** et al. (25 co-authors), “The Atacama Cosmology Telescope: Dynamical Masses for 44 SZ-Selected Galaxy Clusters over 755 Square Degrees”, 2016, [MNRAS](#), **461**, 248 [\[arXiv\]](#)
4. **C. Sifón** et al. (26 co-authors), “The Masses of Satellites in GAMA Galaxy Groups from 100 Square Degrees of KiDS Weak Lensing Data”, 2015, [MNRAS](#), **454**, 3938 [\[arXiv\]](#)
3. **C. Sifón**, H. Hoekstra, M. Cacciato, M. Viola, F. Köhlinger, R. F. J. van der Burg, D. J. Sand, M. L. Graham, “Constraints on the Alignments of Galaxies in Galaxy Clusters from $\sim 14,000$ Spectroscopic Members”, 2015, [A&A](#), **575**, A48 [\[arXiv\]](#)
2. **C. Sifón**, F. Menanteau, J. P. Hughes, M. Carrasco, L. F. Barrientos, “Strong Lensing Analysis of PLCK G004.5–19.5, a Planck-Discovered Cluster Hosting a Radio Relic at $z = 0.52$ ”, 2014, [A&A](#), **562**, A43 [\[arXiv\]](#)
1. **C. Sifón** et al. (36 co-authors), “The Atacama Cosmology Telescope: Dynamical Masses and Scaling Relations for a Sample of Massive Sunyaev-Zel’dovich Effect Selected Galaxy Clusters”, 2013, [ApJ](#), **772**, 25 [\[arXiv\]](#)

Major Contributor Papers

16. N. C. Robertson, **C. Sifón**, et al. (23 co-authors), “ACT-DR5 Sunyaev-Zel’dovich Clusters: Weak Lensing Mass Calibration with KiDS”, 2023, [A&A](#), **681**, 87 [\[arXiv\]](#)
15. A. Dolfi, F. A. Gómez, A. Monachesi, S. Varela-Lavín, P. B. Tissera, **C. Sifón**, G. Galaz, “Lopsidedness as a Tracer of Early Galactic Assembly History”, 2023, [MNRAS](#), **526**, 567 [\[arXiv\]](#)
14. M. Hilton, **C. Sifón**, et al. (133 co-authors), “The Atacama Cosmology Telescope: a Catalog of >4000 Sunyaev-Zel’dovich Galaxy Clusters”, 2021, [ApJS](#), **253**, 3 [\[arXiv\]](#)
13. M. S. Madhavacheril, **C. Sifón**, et al. (61 co-authors), “The Atacama Cosmology Telescope: Weighing Distant Clusters with the Most Ancient Light”, 2020, [ApJL](#), **903**, 13 [\[arXiv\]](#)
12. R. Herbonnet, **C. Sifón**, H. Hoekstra, Y. Bahé, R. F. J. van der Burg, J.-B. Melin, A. von der Linden, D. Sand, S. Kay, D. Barnes, “CCCP and MENeCS: (Updated) Weak-Lensing Masses for 100 Galaxy Clusters”, 2020, [MNRAS](#), **497**, 4684 [\[arXiv\]](#)

11. M. Hilton, M. Hasselfield, **C. Sifón**, et al. (43 co-authors), “**The Atacama Cosmology Telescope: The Two-Season ACTPol Sunyaev-Zel’dovich Effect Selected Cluster Catalog**”, 2018, [ApJS](#), **235**, 20 [[arXiv](#)]
10. J. G. Albert, **C. Sifón**, A. Stroe, F. Mernier, H. T. Intema, H. J. A. Röttgering, G. Brunetti, “**Complex Diffuse Emission in the $z = 0.52$ Cluster PLCK G004.5–19.5**”, 2017, [A&A](#), **607**, A4 [[arXiv](#)]
9. R. F. J. van der Burg, H. Hoekstra, A. Muzzin, **C. Sifón**, et al. (17 co-authors), “**The Abundance of Ultra-Diffuse Galaxies from Groups to Clusters: UDGs Are Relatively More Common in More Massive Haloes**”, 2017, [A&A](#), **607**, A79 [[arXiv](#)]
8. E. van Uitert, M. Cacciato, H. Hoekstra, M. Brouwer, **C. Sifón**, et al. (29 co-authors), “**The Stellar-to-Halo Mass Relation of GAMA Galaxies from 100 Square Degrees of KiDS Weak Lensing Data**”, 2016, [MNRAS](#), **459**, 3251 [[arXiv](#)]
7. D. Kirk, M. L. Brown, H. Hoekstra, B. Joachimi, T. D. Kitching, R. Mandelbaum, **C. Sifón**, M. Cacciato, A. Choi, A. Kiessling, A. Leonard, A. Rassat, B. Malte Schäfer, “**Galaxy Alignments: Observations and Impact on Cosmology**”, 2015, [Space Sci. Rev.](#), **193**, 139 [[arXiv](#)]
6. A. Kiessling, M. Cacciato, B. Joachimi, D. Kirk, T. D. Kitching, A. Leonard, R. Mandelbaum, B. Malte Schäfer, **C. Sifón**, M. L. Brown, A. Rassat, “**Galaxy Alignments: Theory, Modelling & Simulations**”, 2015, [Space Sci. Rev.](#), **193**, 67 [[arXiv](#)]
5. B. Joachimi, M. Cacciato, T. D. Kitching, A. Leonard, R. Mandelbaum, B. Malte Schäfer, **C. Sifón**, H. Hoekstra, A. Kiessling, D. Kirk, A. Rassat, “**Galaxy Alignments: an Overview**”, 2015, [Space Sci. Rev.](#), **193**, 1 [[arXiv](#)]
4. R. F. J. van der Burg, H. Hoekstra, A. Muzzin, **C. Sifón**, M. L. Balogh, S. McGee, “**Evidence for the Inside-Out Growth of the Stellar Mass Distribution in Galaxy Clusters since $z \sim 1$** ”, 2015, [A&A](#), **577**, 19 [[arXiv](#)]
3. M. Hilton, M. Hasselfield, **C. Sifón**, et al. (26 co-authors), “**The Atacama Cosmology Telescope: The Stellar Content of Galaxy Clusters Selected Using the Sunyaev-Zel’dovich Effect**”, 2013, [MNRAS](#), **435**, 3469 [[arXiv](#)]
2. F. Menanteau, **C. Sifón**, et al. (26 co-authors), “**The Atacama Cosmology Telescope: Physical Properties of Sunyaev-Zel’dovich Effect Clusters on the Celestial Equator**”, 2013, [ApJ](#), **765**, 67 [[arXiv](#)]
1. F. Menanteau, J. P. Hughes, **C. Sifón**, et al. (27 co-authors), “**The Atacama Cosmology Telescope: ACT-CL J0102–4915 “El Gordo,” a Massive Merging Cluster at Redshift 0.87**”, 2012, [ApJ](#), **748**, 7 [[arXiv](#)]

Contributing Author Papers (All including **C. Sifón**)

Submitted

7. F. Zhong, and 27 colleagues, “**Galaxy Spectra neural Network (GaSNet). II. Using Deep Learning for Spectral Classification and Redshift Predictions**”, 2023, [arXiv:2311.04146](#) submitted to MNRAS
6. C. Vargas, and 20 colleagues “**The Atacama Cosmology Telescope: Extragalactic Point Sources in the Southern Surveys at 150, 220 and 280 GHz observed between 2008-2010**”, 2023, [arXiv:2310.17535](#) submitted to ApJ
5. J. van Marrewijk, and 20 colleagues “**XLSSC 122 caught in the act of growing up: Spatially resolved SZ observations of a $z=1.98$ galaxy cluster**”, 2023, [arXiv:2310.06120](#) submitted to A&A

4. G. S. Farren, and 34 colleagues **“The Atacama Cosmology Telescope: Cosmology from cross-correlations of unWISE galaxies and ACT DR6 CMB lensing”**, 2023, [arXiv:2309.05659](#) submitted to ApJ
3. W. R. Coulton, and 153 colleagues **“The Atacama Cosmology Telescope: High-resolution component-separated maps across one-third of the sky”**, 2023, [arXiv:2307.01258](#) submitted to ApJ
2. J. Orlowski-Scherer, and 26 colleagues **“The Atacama Cosmology Telescope: Millimeter Observations of a Population of Asteroids or: ACTeroids”**, 2023, [arXiv:2306.05468](#) submitted to A&A
1. W. Luo, and 13 colleagues **“Dark matter halos of luminous AGNs from galaxy-galaxy lensing with the HSC Subaru Strategic Program”**, 2022, [arXiv:2204.03817](#) submitted to MNRAS

Accepted for publication

3. K. Małek, and 24 colleagues, **“Attenuation proxy hidden in surface brightness-colour diagrams. A new strategy for the LSST era”**, 2024, [arXiv:2401.12831](#) accepted for publication in A&A
2. C. Hervías-Caimapo, and 21 colleagues **“The Atacama Cosmology Telescope: Flux Upper Limits from a Targeted Search for Extragalactic Transients”**, 2023, [arXiv:2301.07651](#) accepted for publication in MNRAS
1. N. MacCrann, and 49 colleagues **“The Atacama Cosmology Telescope: Mitigating the impact of extragalactic foregrounds for the DR6 CMB lensing analysis”**, 2023, [arXiv:2304.05196](#) accepted for publication in ApJ

Published

100. C. D. Kreisch, and 23 colleagues **“The Atacama Cosmology Telescope: The Persistence of Neutrino Self-Interaction in Cosmological Measurements”**, 2024, *Phys. Rev. D*, 109, 3501 [[arXiv](#)]
99. M. S. Madhavacheril, and 158 colleagues **“The Atacama Cosmology Telescope: DR6 Gravitational Lensing Map and Cosmological Parameters”**, 2024, *ApJ*, 962, 113 [[arXiv](#)]
98. F. J. Qu, and 157 colleagues **“The Atacama Cosmology Telescope: A Measurement of the DR6 CMB Lensing Power Spectrum and its Implications for Structure Growth”**, 2024, *ApJ*, 962, 112 [[arXiv](#)]
97. S. Shaikh, and 111 colleagues, **“Cosmology from cross-correlation of ACT-DR4 CMB lensing and DES-Y3 cosmic shear”**, 2024, *MNRAS*, 528, 2112 [[arXiv](#)]
96. G. A. Marques, and 94 colleagues **“Cosmological constraints from the tomography of DES-Y3 galaxies with CMB lensing from ACT DR4”**, 2024, *JCAP*, 01, 033 [[arXiv](#)]
95. R. Córdova Rosado, and 17 colleagues **“The Atacama Cosmology Telescope: Galactic Dust Structure and the Cosmic PAH Background in Cross-correlation with WISE”**, 2023, *ApJ*, 960, 96 [[arXiv](#)]
94. D. Anbajagane, and 113 colleagues **“Cosmological shocks around galaxy clusters: A coherent investigation with DES, SPT & ACT”**, 2024, *MNRAS*, 527, 9378 [[arXiv](#)]
93. Z. Atkins, and 27 colleagues **“The Atacama Cosmology Telescope: Map-Based Noise Simulations for DR6”**, 2023, *JCAP*, 11, 073 [[arXiv](#)]
92. T. M. C. Abbott, and 159 colleagues **“DES Y3 + KiDS-1000: Consistent cosmology combining cosmic shear surveys”**, 2023, *The Open Journal of Astrophysics*, 6, 36 [[arXiv](#)]

91. Y. Li, and 36 colleagues **“The Atacama Cosmology Telescope: Systematic Transient Search of 3 Day Maps”**, 2023, [ApJ](#), 956, 36 [[arXiv](#)]
90. M. Mallaby-Kay, and 82 colleagues **“Kinematic Sunyaev-Zel’dovich effect with ACT, DES, and BOSS: A novel hybrid estimator”**, 2023, [Phys. Rev. D](#), 108, 023516 [[arXiv](#)]
89. B. L. Frye, and 43 colleagues **“The JWST PEARLS View of the El Gordo Galaxy Cluster and of the Structure It Magnifies”**, 2023, [ApJ](#), 952, 81 [[arXiv](#)]
88. J. B. Golden-Marx, and 68 colleagues **“Characterizing the intracluster light over the redshift range $0.2 < z < 0.8$ in the DES-ACT overlap”**, 2023, [MNRAS](#), 521, 478 [[arXiv](#)]
87. T. Kitayama, and 17 colleagues **“Galaxy clusters at $z \sim 1$ imaged by ALMA with the Sunyaev-Zel’dovich effect”**, 2023, [PASJ](#), 75, 311 [[arXiv](#)]
86. C. Haines, and 20 colleagues **“CHANCES: A CHileAN Cluster galaxy Evolution Survey”**, 2023, [The Messenger](#), 190, 31
85. Z. Li, and 22 colleagues **“The Atacama Cosmology Telescope: limits on dark matter-baryon interactions from DR4 power spectra”**, 2023, [JCAP](#), 2023, 046 [[arXiv](#)]
84. O. Contigiani, H. Hoekstra, M. M. Brouwer, A. Dvornik, M. C. Fortuna, **C. Sifón**, Z. Yan, and M. Vakili, **“Dynamical cluster masses from photometric surveys”**, 2023, [MNRAS](#), 518, 2640 [[arXiv](#)]
83. F. Radiconi, and 30 colleagues **“The thermal and non-thermal components within and between galaxy clusters Abell 399 and Abell 401”**, 2022, [MNRAS](#), 517, 5232 [[arXiv](#)]
82. S. S. Sheppard, and 19 colleagues **“A Deep and Wide Twilight Survey for Asteroids Interior to Earth and Venus”**, 2022, [AJ](#), 164, 168 [[arXiv](#)]
81. J. E. Greene, J. P. Greco, A. D. Goulding, S. Huang, E. Kado-Fong, S. Danieli, J. Li, J. H. Kim, Y. Komiyama, A. Leauthaud, L. A. MacArthur, and **C. Sifón**, **“The Nature of Low-surface-brightness Galaxies in the Hyper Suprime-Cam Survey”**, 2022, [ApJ](#), 933, 150 [[arXiv](#)]
80. M. Lokken, and 106 colleagues **“Superclustering with the Atacama Cosmology Telescope and Dark Energy Survey. I. Evidence for Thermal Energy Anisotropy Using Oriented Stacking”**, 2022, [ApJ](#), 933, 134 [[arXiv](#)]
79. J. C. Hill, and 42 colleagues **“Atacama Cosmology Telescope: Constraints on prerecombination early dark energy”**, 2022, [Phys. Rev. D](#), 105, 123536 [[arXiv](#)]
78. S. Pandey, and 126 colleagues **“Cross-correlation of Dark Energy Survey Year 3 lensing data with ACT and Planck thermal Sunyaev-Zel’dovich effect observations. II. Modeling and constraints on halo pressure profiles”**, 2022, [Phys. Rev. D](#), 105, 123526 [[arXiv](#)]
77. M. Gatti, and 130 colleagues **“Cross-correlation of Dark Energy Survey Year 3 lensing data with ACT and Planck thermal Sunyaev-Zel’dovich effect observations. I. Measurements, systematics tests, and feedback model constraints”**, 2022, [Phys. Rev. D](#), 105, 123525 [[arXiv](#)]
76. M. Lungu, and 30 colleagues **“The Atacama Cosmology Telescope: measurement and analysis of 1D beams for DR4”**, 2022, [JCAP](#), 2022, 044 [[arXiv](#)]
75. A. Leauthaud, and 106 colleagues **“Lensing without borders - I. A blind comparison of the amplitude of galaxy-galaxy lensing between independent imaging surveys”**, 2022, [MNRAS](#), 510, 6150 [[arXiv](#)]
74. A. D. Hincks, and 45 colleagues **“A high-resolution view of the filament of gas between Abell 399 and Abell 401 from the Atacama Cosmology Telescope and MUSTANG-2”**, 2022, [MNRAS](#), 510, 3335 [[arXiv](#)]

73. J. H. O'Donnell, and 81 colleagues **"The Dark Energy Survey Bright Arcs Survey: Candidate Strongly Lensed Galaxy Systems from the Dark Energy Survey 5000 Square Degree Footprint"**, 2022, [ApJS](#), 259, 27 [[arXiv](#)]
72. M. Aguena, and 24 colleagues **"CLMM: a LSST-DESC cluster weak lensing mass modeling library for cosmology"**, 2021, [MNRAS](#), 508, 6092 [[arXiv](#)]
71. S. R. Dicker, and 28 colleagues **"Observations of compact sources in galaxy clusters using MUSTANG2"**, 2021, [MNRAS](#), 508, 2600 [[arXiv](#)]
70. S. Naess, and 39 colleagues **"The Atacama Cosmology Telescope: A Search for Planet 9"**, 2021, [ApJ](#), 923, 224 [[arXiv](#)]
69. J. Kim, M. J. Jee, J. P. Hughes, M. Yoon, K. HyeonHan, F. Menanteau, **C. Sifón**, L. Hovey, and P. Arunachalam **"Head-to-Toe Measurement of El Gordo: Improved Analysis of the Galaxy Cluster ACT-CL J0102-4915 with New Wide-field Hubble Space Telescope Imaging Data"**, 2021, [ApJ](#), 923, 101 [[arXiv](#)]
68. S. Adhikari, and 115 colleagues **"Probing Galaxy Evolution in Massive Clusters Using ACT and DES: Splashback as a Cosmic Clock"**, 2021, [ApJ](#), 923, 37 [[arXiv](#)]
67. Y. Li, and 32 colleagues **"Constraining Cosmic Microwave Background Temperature Evolution With Sunyaev-Zel'Dovich Galaxy Clusters from the Atacama Cosmology Telescope"**, 2021, [ApJ](#), 922, 136 [[arXiv](#)]
66. T. Shin, and 138 colleagues **"The mass and galaxy distribution around SZ-selected clusters"**, 2021, [MNRAS](#), 507, 5758 [[arXiv](#)]
65. Y. Guan, and 32 colleagues **"The Atacama Cosmology Telescope: Microwave Intensity and Polarization Maps of the Galactic Center"**, 2021, [ApJ](#), 920, 6 [[arXiv](#)]
64. J. Orlowski-Scherer, and 37 colleagues **"Atacama Cosmology Telescope measurements of a large sample of candidates from the Massive and Distant Clusters of WISE Survey. Sunyaev-Zeldovich effect confirmation of MaDCoWS candidates using ACT"**, 2021, [A&A](#), 653, A135 [[arXiv](#)]
63. E. M. Vavagiakis, and 53 colleagues **"The Atacama Cosmology Telescope: Probing the baryon content of SDSS DR15 galaxies with the thermal and kinematic Sunyaev-Zel'dovich effects"**, 2021, [Phys. Rev. D](#), 104, 043503 [[arXiv](#)]
62. V. Calafut, and 53 colleagues **"The Atacama Cosmology Telescope: Detection of the pairwise kinematic Sunyaev-Zel'dovich effect with SDSS DR15 galaxies"**, 2021, [Phys. Rev. D](#), 104, 043502 [[arXiv](#)]
61. M. Mallaby-Kay, and 59 colleagues **"The Atacama Cosmology Telescope: Summary of DR4 and DR5 Data Products and Data Access"**, 2021, [ApJS](#), 255, 11 [[arXiv](#)]
60. K. Knowles, and 28 colleagues **"MERGHERS pilot: MeerKAT discovery of diffuse emission in nine massive Sunyaev-Zel'dovich-selected galaxy clusters from ACT"**, 2021, [MNRAS](#), 504, 1749 [[arXiv](#)]
59. N. C. Robertson, and 50 colleagues **"Strong detection of the CMB lensing and galaxy weak lensing cross-correlation from ACT-DR4, Planck Legacy, and KiDS-1000"**, 2021, [A&A](#), 649, A146 [[arXiv](#)]
58. B. J. Fuzia, and 21 colleagues **"The Atacama Cosmology Telescope: SZ-based masses and dust emission from IR-selected cluster candidates in the SHELA survey"**, 2021, [MNRAS](#), 502, 4026 [[arXiv](#)]

57. S. Amodeo, and 54 colleagues **“Atacama Cosmology Telescope: Modeling the gas thermodynamics in BOSS CMASS galaxies from kinematic and thermal Sunyaev-Zel’dovich measurements”**, 2021, [Phys. Rev. D, 103, 063514](#) [[arXiv](#)]
56. E. Schaun, and 58 colleagues **“Atacama Cosmology Telescope: Combined kinematic and thermal Sunyaev-Zel’dovich measurements from BOSS CMASS and LOWZ halos”**, 2021, [Phys. Rev. D, 103, 063513](#) [[arXiv](#)]
55. O. Darwish, and 54 colleagues **“The Atacama Cosmology Telescope: a CMB lensing mass map over 2100 square degrees of sky and its cross-correlation with BOSS-CMASS galaxies”**, 2021, [MNRAS, 500, 2250](#) [[arXiv](#)]
54. E. N. Taylor, and 18 colleagues **“GAMA + KiDS: empirical correlations between halo mass and other galaxy properties near the knee of the stellar-to-halo mass relation”**, 2020, [MNRAS, 499, 2896](#) [[arXiv](#)]
53. S. Aiola, and 140 colleagues **“The Atacama Cosmology Telescope: DR4 maps and cosmological parameters”**, 2020, [JCAP, 2020, 047](#) [[arXiv](#)]
52. S. Naess, and 61 colleagues **“The Atacama Cosmology Telescope: arcminute-resolution maps of 18 000 square degrees of the microwave sky from ACT 2008-2018 data combined with Planck”**, 2020, [JCAP, 2020, 046](#) [[arXiv](#)]
51. S. K. Choi, and 138 colleagues **“The Atacama Cosmology Telescope: a measurement of the Cosmic Microwave Background power spectra at 98 and 150 GHz”**, 2020, [JCAP, 2020, 045](#) [[arXiv](#)]
50. Z. Li, and 31 colleagues **“The cross correlation of the ABS and ACT maps”**, 2020, [JCAP, 2020, 010](#) [[arXiv](#)]
49. Y. Rong, and 13 colleagues **“Intrinsic Morphology of Ultra-diffuse Galaxies”**, 2020, [ApJ, 899, 78](#) [[arXiv](#)]
48. L. Linke, P. Simon, P. Schneider, T. Erben, D. J. Farrow, C. Heymans, H. Hildebrandt, A. M. Hopkins, A. Kannawadi, N. R. Napolitano, **C. Sifón**, and A. H. Wright **“KiDS+VIKING+GAMA: Testing semi-analytic models of galaxy evolution with galaxy-galaxy-galaxy lensing”**, 2020, [A&A, 640, A59](#) [[arXiv](#)]
47. M. S. Madhavacheril, and 55 colleagues **“Atacama Cosmology Telescope: Component-separated maps of CMB temperature and the thermal Sunyaev-Zel’dovich effect”**, 2020, [Phys. Rev. D, 102, 023534](#) [[arXiv](#)]
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