

# Cristóbal Sifón

Profesor Auxiliar

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## Research Interests

I focus on the interplay between luminous and dark matter using galaxy clusters as probes. Specific questions I address include observable–mass scaling relations for cosmological analyses and the transformation of galaxies in and around galaxy clusters. I use various tools and techniques, most prominently weak gravitational lensing and the Sunyaev-Zel'dovich effect, taking advantage of large-scale surveys, targeted optical and near-infrared observations, and hydrodynamical simulations.

**Collaborations:** 4MOST Chilean Cluster Galaxy Evolution Survey (CHANCES, *proposal Co-I*) — 4MOST Hemisphere Survey (4HS, *proposal Co-I*) — 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.

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## 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

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## 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 (all at PUCV)

**Graduate:** Data Analysis (2023-2024), Techniques of Observational Astrophysics (2022), Observational Cosmology (2020-2021)

**Undergraduate:** Introductory Astronomy (2024), Astronomical Instrumentation (2023-2024), Galactic Astronomy (2021-2022), Programming (2020-2022), Cosmology (2020)

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

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## Grants

[2020] ALMA-ANID Fund to hire a post-doctoral researcher (**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 17 successful observing proposals totalling hundreds of observing hours in optical (VLT/MUSE, Gemini-South/GMOS, VST/OmegaCAM, Blanco/DECam), near-infrared (Magellan/Fourstar, Blanco/NEWFIRM), submm (APEX/CONCERTO), and radio (GMRT, VLA) telescopes.

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

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## 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, Chilean National Agency for Research and Development (ANID)

## 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.

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## 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.

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## Other Work Experience

**[2020 – 2021]** Data science & Machine Learning 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.

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## References

- Prof. Henk Hoekstra (*PhD advisor*)  
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  - Prof. Felipe Menanteau  
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  - Prof. L. Felipe Barrientos (*MSc advisor*)  
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# Publication list

I have co-authored 148 scientific articles intended for peer-reviewed publication, including 9 first-author papers. They have been cited more than 8,600 times and have an  $h$ -index of 49, with more than 400 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

9. **C. Sifón**, A. Finoguenov, C. P. Haines, Y. Jaffé, R. Demarco, P. Merluzzi, A. Monachesi, N. Tejos, B. M. Amrutha, C. Lima-Dias, H. Méndez-Hernández, P. Araya-Araya, M. Argudo-Fernández, R. Baier-Soto, L. E. Bilton, C. R. Bom, L. P. Cassarà, J. Comparat, H. M. Courtois, G. D'Ago, A. Dupuy, A. Fritz, E. Ibar, U. Kuchner, S. Lopez, S. McGee, C. Mendes de Oliveira, A. Moretti, D. Pallero, F. Piraino-Cerda, U. Rescigno, R. Smith, A. V. Smith Castelli, L. Sodr   Jr, and E. Tempel, **“CHANCES, The Chilean Cluster Galaxy Evolution Survey: selection and initial characterization of clusters and superclusters”**, 2024, submitted to A&A
8. **C. Sifón** and J. Han, **“The history and mass content of cluster galaxies in the EAGLE simulation”**, 2024, [A&A](#), **686**, A163 [[2312.12529](#)]
7. **C. Sifón**, R. Herbonnet, H. Hoekstra, R. F. J. van der Burg, and M. Viola, **“The galaxy-subhalo connection in low-redshift galaxy clusters from weak gravitational lensing”**, 2018, [MNRAS](#), **478**, 1244 [[1706.06125](#)]
6. **C. Sifón**, R. F. J. van der Burg, H. Hoekstra, A. Muzzin, and R. Herbonnet, **“A first constraint on the average mass of ultra-diffuse galaxies from weak gravitational lensing”**, 2018, [MNRAS](#), **473**, 3747 [[1704.07847](#)]
5. **C. Sifón**, N. Battaglia, M. Hasselfield, F. Menanteau, L. F. Barrientos, J. R. Bond, D. Crichton, M. J. Devlin, R. D  nner, M. Hilton, A. D. Hincks, R. Hlozek, K. M. Huffenberger, J. P. Hughes, L. Infante, A. Kosowsky, D. Marsden, T. A. Marriage, K. Moodley, M. D. Niemack, L. A. Page, D. N. Spergel, S. T. Staggs, H. Trac, and E. J. Wollack, **“The Atacama Cosmology Telescope: dynamical masses for 44 SZ-selected galaxy clusters over 755 square degrees”**, 2016, [MNRAS](#), **461**, 248 [[1512.00910](#)]
4. **C. Sifón**, M. Cacciato, H. Hoekstra, M. Brouwer, E. van Uitert, M. Viola, I. Baldry, S. Brough, M. J. I. Brown, A. Choi, S. P. Driver, T. Erben, A. Grado, C. Heymans, H. Hildebrandt, B. Joachimi, J. T. A. de Jong, K. Kuijken, J. McFarland, L. Miller, R. Nakajima, N. Napolitano, P. Norberg, A. S. G. Robotham, P. Schneider, and G. Verdoes Kleijn, **“The masses of satellites in GAMA galaxy groups from 100 square degrees of KiDS weak lensing data”**, 2015, [MNRAS](#), **454**, 3938 [[1507.00737](#)]
3. **C. Sifón**, H. Hoekstra, M. Cacciato, M. Viola, F. K  hlinger, R. F. J. van der Burg, D. J. Sand, and M. L. Graham, **“Constraints on the alignment of galaxies in galaxy clusters from  $\sim 14,000$  spectroscopic members”**, 2015, [A&A](#), **575**, A48 [[1406.5196](#)]
2. **C. Sifón**, F. Menanteau, J. P. Hughes, M. Carrasco, and 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 [[1304.0686](#)]
1. **C. Sifón**, F. Menanteau, M. Hasselfield, T. A. Marriage, J. P. Hughes, L. F. Barrientos, J. Gonz  lez, L. Infante, G. E. Addison, A. J. Baker, N. Battaglia, J. R. Bond, D. Crichton, S. Das, M. J. Devlin, J. Dunkley, R. D  nner, M. B. Gralla, A. Hajian, M. Hilton, A. D. Hincks, A. B. Kosowsky, D. Marsden, K. Moodley, M. D. Niemack, M. R. Nolta, L. A. Page, B. Partridge, E. D. Reese, N. Sehgal, J. Sievers, D. N. Spergel, S. T. Staggs, R. J. Thornton, H. Trac, and E. J. Wollack, **“The Atacama Cosmology**

## Major Contributor Papers

18. M. Shirasaki, **C. Sifón**, H. Miyatake, E. Lau, Z. Zhang, N. Bahcall, N. Battaglia, M. Devlin, J. Dunkley, A. Farahi, M. Hilton, Y.-T. Lin, D. Nagai, S. T. Staggs, T. Sunayama, D. Spergel, and E. J. Wollack, **"Masses of Sunyaev-Zel'dovich Galaxy Clusters Detected by The Atacama Cosmology Telescope: Stacked Lensing Measurements with Subaru HSC Year 3 data"**, 2024, [PRD](#), 110, 103006, [2407.08201]
17. N. C. Robertson, **C. Sifón**, M. Asgari, N. Battaglia, M. Bilicki, J. Richard Bond, M. J. Devlin, J. Dunkley, B. Giblin, C. Heymans, H. Hildebrandt, M. Hilton, H. Hoekstra, J. P. Hughes, K. Kuijken, T. Louis, M. Mallaby-Kay, L. Page, B. Partridge, M. Radovich, P. Schneider, H. Shan, D. N. Spergel, T. Tröster, E. J. Wollack, C. Vargas, and A. H. Wright, **"ACT-DR5 Sunyaev-Zel'dovich clusters: Weak lensing mass calibration with KiDS"**, 2024, [A&A](#), 681, A87 [2304.10219]
16. A. Dolfi, F. A. Gómez, A. Monachesi, S. Varela-Lavin, P. B. Tissera, **C. Sifón**, and G. Galaz, **"Lopsidedness as a tracer of early galactic assembly history"**, 2023, [MNRAS](#), 526, 567 [2306.04639]
15. M. Hilton, **C. Sifón**, S. Naess, M. Madhavacheril, M. Oguri, E. Rozo, E. Rykoff, T. M. C. Abbott, S. Adhikari, M. Aguena, S. Aiola, S. Allam, S. Amodeo, A. Amon, J. Annis, B. Ansarinejad, C. Aros-Bunster, J. E. Austermann, S. Avila, D. Bacon, N. Battaglia, J. A. Beall, D. T. Becker, G. M. Bernstein, E. Bertin, T. Bhandarkar, S. Bhargava, J. R. Bond, D. Brooks, D. L. Burke, E. Calabrese, M. Carrasco Kind, J. Carretero, S. K. Choi, A. Choi, C. Conselice, L. N. da Costa, M. Costanzi, D. Crichton, K. T. Crowley, R. Dünner, E. V. Denison, M. J. Devlin, S. R. Dicker, H. T. Diehl, J. P. Dietrich, P. Doel, S. M. Duff, A. J. Duivenvoorden, J. Dunkley, S. Everett, S. Ferraro, I. Ferrero, A. Ferté, B. Flaugher, J. Frieman, P. A. Gallardo, J. García-Bellido, E. Gaztanaga, D. W. Gerdes, P. Giles, J. E. Golec, M. B. Gralla, S. Grandis, D. Gruen, R. A. Gruendl, J. Gschwend, G. Gutierrez, D. Han, W. G. Hartley, M. Hasselfield, J. C. Hill, G. C. Hilton, A. D. Hincks, S. R. Hinton, S.-P. P. Ho, K. Honscheid, B. Hoyle, J. Hubmayr, K. M. Huffenberger, J. P. Hughes, A. T. Jaelani, B. Jain, D. J. James, T. Jeltema, S. Kent, K. Knowles, B. J. Koopman, K. Kuehn, O. Lahav, M. Lima, Y.-T. Lin, M. Lokken, S. I. Loubser, N. MacCrann, M. A. G. Maia, T. A. Marriage, J. Martin, J. McMahon, P. Melchior, F. Menanteau, R. Miquel, H. Miyatake, K. Moodley, R. Morgan, T. Mroczkowski, F. Nati, L. B. Newburgh, M. D. Niemack, A. J. Nishizawa, R. L. C. Ogando, J. Orłowski-Scherer, L. A. Page, A. Palmese, B. Partridge, F. Paz-Chinchón, P. Phakathi, A. A. Plazas, N. C. Robertson, A. K. Romer, A. Carnero Rosell, M. Salatino, E. Sanchez, E. Schaan, A. Schillaci, N. Sehgal, S. Serrano, T. Shin, S. M. Simon, M. Smith, M. Soares-Santos, D. N. Spergel, S. T. Staggs, E. R. Storer, E. Suchyta, M. E. C. Swanson, G. Tarle, D. Thomas, C. To, H. Trac, J. N. Ullom, L. R. Vale, J. Van Lanen, E. M. Vavagiakis, J. De Vicente, R. D. Wilkinson, E. J. Wollack, Z. Xu, and Y. Zhang, **"The Atacama Cosmology Telescope: A Catalog of >4000 Sunyaev-Zel'dovich Galaxy Clusters"**, 2021, [ApJS](#), 253, 3 [2009.11043]
14. M. S. Madhavacheril, **C. Sifón**, N. Battaglia, S. Aiola, S. Amodeo, J. E. Austermann, J. A. Beall, D. T. Becker, J. R. Bond, E. Calabrese, S. K. Choi, E. V. Denison, M. J. Devlin, S. R. Dicker, S. M. Duff, A. J. Duivenvoorden, J. Dunkley, R. Dünner, S. Ferraro, P. A. Gallardo, Y. Guan, D. Han, J. C. Hill, G. C. Hilton, M. Hilton, J. Hubmayr, K. M. Huffenberger, J. P. Hughes, B. J. Koopman, A. Kosowsky, J. Van Lanen, E. Lee, T. Louis, A. MacInnis, J. McMahon, K. Moodley, S. Naess, T. Namikawa, F. Nati, L. Newburgh, M. D. Niemack, L. A. Page, B. Partridge, F. J. Qu, N. C. Robertson, M. Salatino, E. Schaan, A. Schillaci, B. L. Schmitt, N. Sehgal, B. D. Sherwin, S. M. Simon, D. N. Spergel, S. Staggs, E. R. Storer, J. N. Ullom, L. R. Vale, A. van Engelen, E. M. Vavagiakis, E. J. Wollack, and Z. Xu, **"The Atacama Cosmology Telescope: Weighing Distant Clusters with the Most Ancient Light"**, 2020, [ApJL](#), 903, L13 [2009.07772]

13. 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, and D. Barnes, **“CCCP and MENeCS: (updated) weak-lensing masses for 100 galaxy clusters”**, 2020, *MNRAS*, **497**, 4684 [1912.04414]
12. M. Hilton, M. Hasselfield, **C. Sifón**, N. Battaglia, S. Aiola, V. Bharadwaj, J. R. Bond, S. K. Choi, D. Crichton, R. Datta, M. J. Devlin, J. Dunkley, R. Dünner, P. A. Gallardo, M. Gralla, A. D. Hincks, S.-P. P. Ho, J. Hubmayr, K. M. Huffenberger, J. P. Hughes, B. J. Koopman, A. Kosowsky, T. Louis, M. S. Madhavacheril, T. A. Marriage, L. Maurin, J. McMahon, H. Miyatake, K. Moodley, S. Naess, F. Nati, L. Newburgh, M. D. Niemack, M. Oguri, L. A. Page, B. Partridge, B. L. Schmitt, J. Sievers, D. N. Spergel, S. T. Staggs, H. Trac, A. van Engelen, E. M. Vavagiakis, and E. J. Wollack, **“The Atacama Cosmology Telescope: The Two-season ACTPol Sunyaev-Zel’dovich Effect Selected Cluster Catalog”**, 2018, *ApJS*, **235**, 20 [1709.05600]
11. R. F. J. van der Burg, H. Hoekstra, A. Muzzin, **C. Sifón**, M. Viola, M. N. Bremer, S. Brough, S. P. Driver, T. Erben, C. Heymans, H. Hildebrandt, B. W. Holwerda, D. Klaes, K. Kuijken, S. McGee, R. Nakajima, N. Napolitano, P. Norberg, E. N. Taylor, and E. Valentijn, **“The abundance of ultra-diffuse galaxies from groups to clusters. UDGs are relatively more common in more massive haloes”**, 2017, *A&A*, **607**, A79 [1706.02704]
10. J. G. Albert, **C. Sifón**, A. Stroe, F. Mernier, H. T. Intema, H. J. A. Röttgering, and G. Brunetti, **“Complex diffuse emission in the  $z=0.52$  cluster PLCK G004.5-19.5”**, 2017, *A&A*, **607**, A4 [1708.00789]
9. M. M. Brouwer, M. Cacciato, A. Dvornik, L. Eardley, C. Heymans, H. Hoekstra, K. Kuijken, T. McNaught-Roberts, **C. Sifón**, M. Viola, M. Alpaslan, M. Bilicki, J. Bland-Hawthorn, S. Brough, A. Choi, S. P. Driver, T. Erben, A. Grado, H. Hildebrandt, B. W. Holwerda, A. M. Hopkins, J. T. A. de Jong, J. Liske, J. McFarland, R. Nakajima, N. R. Napolitano, P. Norberg, J. A. Peacock, M. Radovich, A. S. G. Robotham, P. Schneider, G. Sikkema, E. van Uitert, G. Verdoes Kleijn, and E. A. Valentijn, **“Dependence of GAMA galaxy halo masses on the cosmic web environment from 100 deg<sup>2</sup> of KiDS weak lensing data”**, 2016, *MNRAS*, **462**, 4451 [1604.07233]
8. E. van Uitert, M. Cacciato, H. Hoekstra, M. Brouwer, **C. Sifón**, M. Viola, I. Baldry, J. Bland-Hawthorn, S. Brough, M. J. I. Brown, A. Choi, S. P. Driver, T. Erben, C. Heymans, H. Hildebrandt, B. Joachimi, K. Kuijken, J. Liske, J. Loveday, J. McFarland, L. Miller, R. Nakajima, J. Peacock, M. Radovich, A. S. G. Robotham, P. Schneider, G. Sikkema, E. N. Taylor, and G. Verdoes Kleijn, **“The stellar-to-halo mass relation of GAMA galaxies from 100 deg<sup>2</sup> of KiDS weak lensing data”**, 2016, *MNRAS*, **459**, 3251 [1601.06791]
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, and B. M. Schäfer, **“Galaxy Alignments: Observations and Impact on Cosmology”**, 2015, *SSRv*, **193**, 139 [1504.05465]
6. A. Kiessling, M. Cacciato, B. Joachimi, D. Kirk, T. D. Kitching, A. Leonard, R. Mandelbaum, B. M. Schäfer, **C. Sifón**, M. L. Brown, and A. Rassat, **“Galaxy Alignments: Theory, Modelling & Simulations”**, 2015, *SSRv*, **193**, 67 [1504.05546]
5. B. Joachimi, M. Cacciato, T. D. Kitching, A. Leonard, R. Mandelbaum, B. M. Schäfer, **C. Sifón**, H. Hoekstra, A. Kiessling, D. Kirk, and A. Rassat, **“Galaxy Alignments: An Overview”**, 2015, *SSRv*, **193**, 1 [1504.05456]
4. R. F. J. van der Burg, H. Hoekstra, A. Muzzin, **C. Sifón**, M. L. Balogh, and S. L. McGee, **“Evidence for the inside-out growth of the stellar mass distribution in galaxy clusters since  $z \sim 1$ ”**, 2015, *A&A*, **577**, A19 [1412.2137]
3. M. Hilton, M. Hasselfield, **C. Sifón**, A. J. Baker, L. F. Barrientos, N. Battaglia, J. R. Bond, D. Crichton, S. Das, M. J. Devlin, M. Gralla, A. Hajian, A. D. Hincks, J. P. Hughes, L. Infante, K. D. Irwin,



- A. Kosowsky, Y.-T. Lin, T. A. Marriage, D. Marsden, F. Menanteau, K. Moodley, M. D. Niemack, M. R. Nolta, L. A. Page, E. D. Reese, J. Sievers, D. N. Spergel, and E. J. Wollack, **“The Atacama Cosmology Telescope: the stellar content of galaxy clusters selected using the Sunyaev-Zel’dovich effect”**, 2013, *MNRAS*, 435, 3469 [[1301.0780](#)]
2. F. Menanteau, **C. Sifón**, L. F. Barrientos, N. Battaglia, J. R. Bond, D. Crichton, S. Das, M. J. Devlin, S. Dicker, R. Dünner, M. Gralla, A. Hajian, M. Hasselfield, M. Hilton, A. D. Hincks, J. P. Hughes, L. Infante, A. Kosowsky, T. A. Marriage, D. Marsden, K. Moodley, M. D. Niemack, M. R. Nolta, L. A. Page, B. Partridge, E. D. Reese, B. L. Schmitt, J. Sievers, D. N. Spergel, S. T. Staggs, E. Switzer, and E. J. Wollack, **“The Atacama Cosmology Telescope: Physical Properties of Sunyaev-Zel’dovich Effect Clusters on the Celestial Equator”**, 2013, *ApJ*, 765, 67 [[1210.4048](#)]
1. F. Menanteau, J. P. Hughes, **C. Sifón**, M. Hilton, J. González, L. Infante, L. F. Barrientos, A. J. Baker, J. R. Bond, S. Das, M. J. Devlin, J. Dunkley, A. Hajian, A. D. Hincks, A. Kosowsky, D. Marsden, T. A. Marriage, K. Moodley, M. D. Niemack, M. R. Nolta, L. A. Page, E. D. Reese, N. Sehgal, J. Sievers, D. N. Spergel, S. T. Staggs, and E. Wollack, **“The Atacama Cosmology Telescope: ACT-CL J0102-4915 “El Gordo,” a Massive Merging Cluster at Redshift 0.87”**, 2012, *ApJ*, 748, 7 [[1109.0953](#)]

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

### Submitted

13. F. J. Qu, and 53 colleagues, **“The Atacama Cosmology Telescope DR6 and DESI: Structure growth measurements from the cross-correlation of DESI Legacy Imaging galaxies and CMB lensing from ACT DR6 and Planck PR4”**, 2024, [arXiv:2410.10808](#) submitted to *ApJ*
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