

# Alejandra Melo Melo

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## Contact information

Postdoc fellow at the Max Planck Institute for Astrophysics and the Technical University of Munich

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Professional Status PhD in Astrophysics

Nacionality Chilean

Spanish Mother tongue

English Expert

ORCID ID: 0000-0002-6449-3970

Research interest strong gravitational lensing, lens finding, machine learning, black hole masses, galaxy evolution, observational reduction, microlensing analysis, spectral analysis, XAI

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## Education and Career

### Current Position

Postdoc fellow at the Max Planck Institute for Astrophysics

06/2022 - Present

### Education

UNIVERSIDAD DE VALPARAÍSO, Valparaíso, Chile.

PhD in Astrophysics, 03/2017 - 04/2022

Title: "Probing the source structure in lensed AGNs"

Advisor: Dr. Verónica Motta

UNIVERSIDAD DE CONCEPCIÓN, Concepción, Chile.

Professional degree : Astrónoma, 08/2016

Bachelor's degree in Astronomy : Licenciado en Ciencias Mención Astronomía, 12/2014

Bachelor in Astronomy, 2010-2014

### Employment history

PhD fellowship / PUENTE, UVA20993 / Instituto de Física y Astronomía / Universidad de Valparaíso / Chile / 09/2021 - 12/2021.

PhD fellowship / CONICYT (ANID) / Instituto de Física y Astronomía / Universidad de Valparaíso / Chile / 03/2017 - 01/2022

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## Collaboration membership

- 2023 - present **Euclid consortium**; Euclid Strong Lensing Science Working Group and SNe and Transients Science Working Group
- 2022 - present Highly Optimised Lensing Investigations of Supernovae, Microlensing Objects, and Kinematics of Ellipticals and Spirals (**HOLISMOKES**)
- 2022 - present Vera C. Rubin Observatory (**LSST**) Strong Lensing Science Collaboration.
- 2022 - present German Center for Cosmological Lensing (**GCCL**)
- 2022 - present Time-delay Cosmography (**TDCOSMO**) kinematics analysis subgroup.

## Scientific profile

My main research interest is strong gravitational lensing. I study the internal structure of lensed quasars to probe the relationship between supermassive black holes (SMBHs) and their host galaxies, including the co-evolution of black-hole mass with environment. I also use microlensing to disentangle the scales of the different regions of the active galactic nucleus. In parallel, I develop deep-learning methods to search for gravitationally lensed systems and, more recently, apply Explainable AI (XAI) to understand and validate model decisions.

I have experience with data from different spectrographs (X-shooter and FORS2 at VLT, and the Large Binocular Telescope using LUCI instrument); imaging (LSST, Euclid, HST) and also from integral-field spectrograph the Multi Unit Spectroscopic Explorer (MUSE). I have obtained four accepted programs (PI= A. Melo) to use the VLT/X-shooter instrument, and I have participated in multiple observing runs in Chile, using different telescopes.

I am involved in several collaborations related to lens searches. My primary effort is with the Highly Optimised Lensing Investigations of Supernovae, Microlensing Objects, and Kinematics of Ellipticals and Spirals (HOLISMOKES). I am also involved in the Euclid Consortium (Strong Lensing Science Working Group, and the SNe and Transients Science Working Group) and the LSST consortium through the Rubin Strong Lensing group, via the German Center for Cosmological Lensing (GCCL). My goal is to integrate my code into the Euclid pipeline, enabling us to use both Euclid and LSST data to discover new strong lenses, and reduce false positives. Additionally, I am part of the 4MOST Chilean AGN/Galaxy Evolution Survey (ChANGES), and I will take a more active role in the coming months of my postdoc.

From 1 November 2025 I will join the European Southern Observatory (ESO) as a Postdoc Fellow to work on the Wide-Field Spectroscopic Telescope (WST), a next-generation wide-field spectroscopic survey facility. My role focuses on the design and early operations of the spectroscopic alert stream for time-domain astrophysics.

## Telescope runs/skills

### Observing proposals

- 2021 109.23A0.001/P108, Very Large Telescope, XSHOOTER, 12.0 hours (PI).
- 2021 108.22BQ.001/P108, Very Large Telescope, XSHOOTER, 15.0 hours (PI).
- 2020 106.21DC.001/P106, Very Large Telescope, XSHOOTER, 16.0 hours (PI).
- 2019 0103.B-0566(A)/P103, Very Large Telescope, XSHOOTER, 10.5 hours (PI).
  
- 2025 HST Proposal. Cycle 33, ID. #18012. "Cosmology with the first gravitationally-lensed supernovae discovered by LSST within Euclid galaxy-galaxy lenses" (Col).
- 2025 115.27ZQ.001, 115.27ZQ.002/P115, Very Large Telescope, XSHOOTER, 32.0 hours (Col).
- 2023 Core run: 7E7H39JG 3, Las Campanas Observatory / Magellan Telescope / 3 nights (Col).
- 2021 106.216P.002/P107, VLT Survey Telescope (VST) / OMEGACAM / 291.5.0 hours (Col).
- 2020 106.216P.001/P106, VLT Survey Telescope (VST) / OMEGACAM / 315.0 hours (Col).
- 2019 1103.A-0801/P103, VLT Survey Telescope (VST) / OMEGACAM / 182.0 hours (Col).
- 2018 0102.A-0335(A)/P101, Very Large Telescope, XSHOOTER, 12.0 hours (Col).

### Observing nights

- 2023 Clay/Magellan telescope at Las Campanas Observatory, SDSS3 instrument, one night. This run was part of PhD Felipe Ávila to measure black hole masses and study microlensing analysis.
- 2021 2.2m ESO/MPG 2.2m telescope at La Silla Observatory, WFI, FEROS and GROND instruments, 11 nights. This run was part of the COSmological Monitoring of GRAVItational Lenses (COSMOGRAIL) program for the observation of gravitational lenses.
- 2019 The Southern Astrophysical Research (SOAR) Telescope, SOAR Optical Imager (SOI), 3 nights. This run was part of the STRong-lensing Insights into Dark Energy Survey (STRIDES) in the search and confirmation of gravitational lenses.
- 2018 2.2m ESO/MPG 2.2m telescope at La Silla Observatory, WFI, FEROS and GROND instruments, 9 nights. This run was part of the COSMOGRAIL program.

- 2018 The ESO New Technology Telescope (NTT) at La Silla Observatory, SofI instrument, 3 nights. This run was part of the ESO/NEON Observing School at La Silla to obtain black holes masses of quasars.
- 2018 2.2m ESO/MPG 2.2m telescope at La Silla Observatory, WFI, FEROS and GROND instruments, 3 nights. This run was part of the COSMOGRAIL program.
- 2017 The Southern Astrophysical Research (SOAR) Telescope, SOAR Optical Imager (SOI), 6 nights. This run was part of STRIDES.
- 2016 The Swope Telescope, Las Campanas Observatory, CCD camera, E2V 4kx4k, 2 nights.
- 2016 2.2m ESO/MPG 2.2m telescope at La Silla Observatory, GROND instrument, 3 nights.
- 2016 Henrietta Swope telescope at Las Campanas Observatory, Direct CCD camera, 4 nights.
- 2015 Smarts 0.9-m telescope in cerro Tololo, 2048x2046 Tek2K CCD detector, 2 nights.

## Skills

### Computing

Python: Most used for programming, R software, SExtractor, Github, SQL, Topcat, IRAF, Excel, LINUX, MAC OS, LATEX

Lensmodel: Package used to model a gravitational lens and obtain the lens parameters to get the magnification of each image.

Low Resolution Template (LRT): Package for creating an Spectral Energy Distribution (SED) for AGNs.

Experience with machine learning and deep learning in lens search.

### Data reduction

X-shooter pipeline/Esoflex workflow and R software (Python) for reduction

Molecfit software

IRAF (Image Reduction and Analysis Facility)

SINFONI pipeline/Esoflex workflow

MOPEX (MOsaicker and Point source EXtractor)

THELI GUI

## Fellowships and grants

- 2017-2021 BECA DE DOCTORADO NACIONAL CONICYT (ANID) (Folio: 21171499) at Universidad de Valparaíso, CLP \$57.000.000  
A scholarship that covers the cost of a PhD at the university you apply to while pursuing one.
- 2019 Gastos operacionales (Folio: 24190202), CONICYT (ANID), CLP \$2.400.000  
Award that supports doctoral studies.

## Talks and Seminars

- 2025 Strong Lensing in the next decade, Center for Astrophysics, Harvard & Smithsonian, USA. Talk contribution.
- 2025 SWG Strong Lensing meeting, Barcelona, Spain. Talk contribution.
- 2024 Rubin Strong Lensing 2024, Oxford, UK. Talk contribution.
- 2024 Euclid Strong Lensing Science Working Group meeting, Bologna, Italy. Online talk contribution.
- 2023 **LARIM 2023: XVII Reunión Regional Latinoamericana De La UAI, Montevideo, Uruguay. Invited speaker: "Strong-lens search through deep learning with both ground- and space-based imaging data"**
- 2023 Astrophysic seminar at Universidad de Valparaíso, Valparaíso, Chile. Talk contribution.
- 2023 MIAPbP 2023, Garching Bei Munchen, Germany, The Extragalactic Distance Scale and Cosmic Expansion in the Era of Large Surveys and the James Webb Telescope. Contributed talk.

- 2023 Strong Gravitational Lensing in the era of big data, Otranto Castle, Italy, Poster presentation: "Strong-lens search through deep learning with both ground- and space-based imaging data"
- 2022 LENSING ODYSSEY 2022, Kouremenos, Crete, Oral presentation: "Black hole mass estimation of 14 gravitational lensed quasars."
- 2020 Seminar at Universidad de Valparaíso, Oral presentation: "Supermassive black hole mass estimation of gravitational lensed quasars."
- 2019 LARIM 2019: XVI Latin American Regional IAU Meeting, Antofagasta, Chile, Oral presentation: "Supermassive Black Hole mass estimations using gravitational lensed quasars."
- 2019 PANORAMAS 2019, Valparaíso, Chile, Oral presentation: "Supermassive Black Hole mass estimations for 13 gravitational lensed quasars."
- 2018 PANORAMAS 2018, Valparaíso, Chile, Oral presentation: "Probing the source structure in lensed AGNs."
- 2016 XII Annual Meeting Sociedad Chilena de Astronomía (SOCHIAS), Puerto Varas, Chile, Oral presentation: "Infrared properties of hard X-ray emitters detected in the NuSTAR Serendipitous Survey."
- 2016 LARIM 2016: XV Latin American Regional IAU Meeting, Cartagena de Indias, Colombia, Poster presentation: "Physical Properties of hard X-ray NuSTAR in the NuSTAR Serendipitous Survey."
- 2015 SOCHIAS, Poster presentation: "Near IR Properties of NuSTAR hard X-ray Emitters Observed by Spitzer."
- 2015 Unveiling the AGN - Galaxy Evolution Connection, Puerto Varas, Chile, Poster presentation: "Near IR Properties of NuSTAR hard X-ray Emitters Observed by Spitzer."
- 2014 XIX Simposio Chileno de Física 2014, Concepción, Chile, Poster Presentation: "Utilización de Tecnologías de la Información en la Enseñanza de la Astronomía."

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## Summer schools and trainings

02/2018 - 03/2018 ESO/NEON Observing School at La Silla, Santiago and La Silla Observatory

### Scientific visit

Visit collaborator from ESO (PhD Julian Mejía-Restrepo) at ESO headquarters in Santiago, Chile, 2018 . He taught me to use his program to obtain black hole mass of AGNs.

Visit collaborator from Universidad Diego Portales (Astronomy Professor Roberto Assef) at Universidad de Valparaíso, Chile, 2019. Collaboration together for MMIRS and LUCIFER data.

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## Mentoring

- 2025 Catalina Sáez (Undergraduate student at Universidad de Valparaíso)
- 2025/present Allan Schweinfurth (Master student at Technical University of Munich)
- 2024 Allan Schweinfurth (Undergraduate student at Technical University of Munich)
- 2024/present Duy Anh Hoang (Undergraduate student at Technical University of Munich)
- 2024/present Filipe Da Silva Gois (PhD student at Universidad de Valparaíso)
- 2022/2023 Felipe Ávila Vera (PhDc at Universidad de Valparaíso)

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## Scientific community work

- 02-July-2019 Went to Cachiyuyo, Chile, to be part of the monitoring of the telescope group of Universidad de Valparaíso for the eclipse 2019
- 2019–2021 **Telescope instructor in Toki-Kura**, CASABLANCA, Chile.  
Observations open to the community.
- 2019 Reñaca, Chile: Talk for the community about eclipses.
- 2014–2017 **Telescope instructor**, UNIVERSIDAD DE CONCEPCIÓN, Chile.  
Observations open to the community.

2013–2016 **Part of Equipo de Divulgación Astronómica (E.D.A.),** UNIVERSIDAD DE CONCEPCIÓN, Chile.  
Workshops and talks for all audiences within the south of Chile.

**In Conferences** Local organizing committee for the 2025 Euclid strong lensing meeting in Garching bei München, Germany.  
Local organizing committee for the 2024 TDCOSMO annual meeting in Garching bei München, Germany.

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## Teaching experience

2025/Present Tutor of PH2206 Extragalactic Astrophysics, Technical University of Munich, Germany  
2022/Present FOPRA Experiment 85: Colour-Magnitude Diagrams of Star Clusters: Determining Their Relative Ages, Technical University of Munich, Germany.  
2023 Images reduction using Python, Universidad de Valparaíso.  
2021 Night observation at the 2.2m telescope at La Silla at Universidad de Valparaíso.  
2016/First semester Módulos Complementarios, Universidad de Concepción.  
2015/Second semester Programación Astronómica, Universidad de Concepción.  
2015/Second semester Ciencia y Tecnología, Universidad de Concepción.  
2015/First semester Física II: Fundamentos de Mecánica, Universidad de Concepción.  
2015/First semester Módulos Complementarios, Universidad de Concepción.  
2014/First semester Proyecto de Física II, Universidad de Concepción.  
2014/First semester Módulos Complementarios, Universidad de Concepción.  
2013/Second semester Proyecto de Física II, Universidad de Concepción.

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## List of Publications

**Melo, A.,** Cañameras, R., Schuldt, S., Suyu, S. H., Andika, I. T., Bag, S., and Taubenberger, S. (2025). "HOLISMOKES: XV . Search for strong gravitational lenses combining ground-based and space-based imaging" *Astronomy & Astrophysics*, 698,. doi: <https://doi.org/10.1051/0004-6361/202453195>

**Melo, A.,** Motta, V ., Mejía-Restrepo, J., Assef, R. J., Godoy, N., Mediavilla, E., Falco, E., Kochanek, C. S., Ávila-Vera, F., and Jerez, R. (2023). "Black hole masses for 14 gravitationally lensed quasars". *Astronomy and Astrophysics*, 680,. doi: <https://doi.org/10.1051/0004-6361/202347078>

**Melo, A.,** Motta, V ., Godoy, N., Mejia-Restrepo, J., Assef, R. J., Mediavilla, E., Falco, E., Ávila-Vera, F., and Jerez, R. (2021). "First black hole mass estimation for the quadruple lensed system WGD2038-4008". *Astronomy and Astrophysics*, 656,. doi: <https://doi.org/10.1051/0004-6361/202141869>

**Melo, A.;** Suyu, S.; et al.: "HOLISMOKES: Explainable AI for Strong Lens Identification" 2025, in prep.

**Melo, A.;** Caminha, G.; Suyu, S.; et al.: "Filament features in the quadruple lensed system WGD2038-4008" 2025, in prep.

**Melo, A.;** Motta, V.; et al.: "Accretion disk size estimation for four double lensed systems" 2025, in prep.

## As co-author

Shajib, Anowar J., Treu, Tommaso, Melo, Alejandra, Roberts-Borsani, Guido, Knabel, Shawn, Cappellari, Michele, and Frieman, Joshua A. (2025). "An accurate measurement of the spectral resolution of the JWST Near Infrared Spectrograph". *arXiv e-prints*,. doi: <https://doi.org/10.48550/arXiv.2507.03746>

Bag, Satadru, Canameras, Raoul, Suyu, Sherry H., Schuldt, Stefan, Taubenberger, Stefan, Taufik Andika, Irham, and Melo, Alejandra (2025). "HOLISMOKES XVIII: Detecting strongly lensed SNe Ia from time series of multi-band LSST-like imaging data". *arXiv e-prints*,. doi: <https://doi.org/10.48550/arXiv.2506.22076>

Shajib, Anowar J., Treu, Tommaso, Suyu, Sherry H., Law, David, Yıldırım, Akın, Cappellari, Michele, Galan, Aymeric, Knabel, Shawn, Wang, Han, Birrer, Simon, Courbin, Frédéric, Fassnacht, Christopher D., Frieman, Joshua A., Melo, Alejandra, Morishita, Takahiro, Mozumdar, Pritom, Sluse, Dominique, and Stiavelli, Massimo (2025). "TDCOSMO XXIII. First spatially resolved kinematics of the lens galaxy obtained using JWST-NIRSpec to improve time-delay cosmography". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2506.21665>

Dux, F., Millon, M., Galan, A., Paic, E., Lemon, C., Courbin, F., Bonvin, V., Anguita, T., Auger, M., Birrer, S., Buckley-Geer, E., Fassnacht, C. D., Frieman, J., McMahon, R. G., Marshall, P. J., Melo, A., Motta, V., Neira, F., Sluse, D., Suyu, S. H., Treu, T., Agnello, A., Ávila, F., Chan, J., Chijani, M., Rojas, K., Hempel, A., Hempel, M., Kim, S., Eigenthaler, P., Lachaume, R., and Rabus, M. (2025). "TDCOSMO: XVII. New time delays in 22 lensed quasars from optical monitoring with the ESO-VST 2.6m and MPG 2.2m telescopes". Astronomy and Astrophysics, 697,. doi: <https://doi.org/10.1051/0004-6361/202553807>

Euclid Collaboration, Holloway, P., Verma, A., Walmsley, M., Marshall, P. J., More, A., Collett, T. E., Lines, N. E. P., Leuzzi, L., Manjón-García, A., Vincken, S. H., Wilde, J., Pearce-Casey, R., Andika, I. T., Acevedo Barroso, J. A., Li, T., Melo, A., Metcalf, R. B., et al. (2025). "Euclid Quick Data Release (Q1). The Strong Lensing Discovery Engine E – Ensemble classification of strong gravitational lenses: lessons for Data Release 1". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2503.15328>

Euclid Collaboration, Li, T., Collett, T. E., Walmsley, M., Lines, N. E. P., Rojas, K., Nightingale, J. W., Enzi, W. J. R., Moustakas, L. A., Krawczyk, C., Gavazzi, R., Despali, G., Holloway, P., Schuldt, S., Courbin, F., Metcalf, R. B., Ballard, D. J., Verma, A., Clément, B., Degaudenzi, H., Melo, A., Acevedo Barroso, J. A., Leuzzi, L., Manjón-García, A., Pearce-Casey, R. et al. (2025). "Euclid Quick Data Release (Q1). The Strong Lensing Discovery Engine D – Double-source-plane lens candidates". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2503.15327>

Euclid Collaboration, Lines, N. E. P., Collett, T. E., Walmsley, M., Rojas, K., Li, T., Leuzzi, L., Manjón-García, A., Vincken, S. H., Wilde, J., Holloway, P., Verma, A., Metcalf, R. B., Andika, I. T., Melo, A., Melchior, M., Domínguez Sánchez, H., Díaz-Sánchez, A., Acevedo Barroso, J. A., Clément, B., Krawczyk, C., Pearce-Casey, R., Serjeant, S., Courbin, F., et al. (2025). "Euclid Quick Data Release (Q1). The Strong Lensing Discovery Engine C: Finding lenses with machine learning". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2503.15326>

Euclid Collaboration, Rojas, K., Collett, T. E., Acevedo Barroso, J. A., Nightingale, J. W., Stern, D., Moustakas, L. A., Schuldt, S., Despali, G., Melo, A., Walmsley, M., Ballard, D. J., Enzi, W. J. R., Li, T., Sainz de Murieta, A., Andika, I. T., Clément, B., Courbin, F.,(2025). "Euclid Quick Data Release (Q1) The Strong Lensing Discovery Engine B – Early strong lens candidates from visual inspection of high velocity dispersion galaxies". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2503.15325>

Euclid Collaboration, Walmsley, M., Holloway, P., Lines, N. E. P., Rojas, K., Collett, T. E., Verma, A., Li, T., Nightingale, J. W., Despali, G., Schuldt, S., Gavazzi, R., Melo, A., Metcalf, R. B., Andika, I. T., Leuzzi, L., Manjón-García, A., Pearce-Casey, R., Vincken, S. H., Wilde et al.. (2025). "Euclid Quick Data Release (Q1): The Strong Lensing Discovery Engine A – System overview and lens catalogue". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2503.15324>

Schuldt, S., Cañameras, R., Shu, Y., Andika, I. T., Bag, S., Grillo, C., Melo, A., Suyu, S. H., and Taubenberger, S. (2025). "HOLISMOKES XVI: Lens search in HSC-PDR3 with a neural network committee and post-processing for false-positive removal". Astronomy and Astrophysics, 699A 350S doi: <https://doi.org/10.48550/arXiv.2503.07733>

Nagam, B. C., Acevedo Barroso, J. A., Wilde, J., Andika, I. T., Manjón-García, A., Pearce-Casey, R., Stern, D., Nightingale, J. W., Moustakas, L. A., McCarthy, K., Moravec, E., Leuzzi, L., Rojas, K., Serjeant, S., Collett, T. E., Matavulj, P., Walmsley, M., Clément, B., Tortora, C., et al. (2025). "Euclid: Finding strong gravitational lenses in the Early Release Observations using convolutional neural networks". arXiv e-prints,. doi: <https://doi.org/10.48550/arXiv.2502.09802>

Andika, Irham T., Schuldt, Stefan, Suyu, Sherry H., Bag, Satadru, Cañameras, Raoul, Melo, Alejandra, Grillo, Claudio, and Chan, James H. H. (2025). "Accelerating lensed quasar discovery and modeling with physics-informed variational autoencoders". Astronomy and Astrophysics, 694,. doi: <https://doi.org/10.1051/0004-6361/202453474>

Schuldt, S., Cañameras, R., Andika, I. T., Bag, S., Melo, A., Shu, Y., Suyu, S. H., Taubenberger, S., and Grillo, C. (2025). "HOLISMOKES: XIII. Strong-lens candidates at all mass scales and their environments from the Hyper-Suprime Cam and deep learning".

*Astronomy and Astrophysics*, 693,. doi: <https://doi.org/10.1051/0004-6361/202450927>

Cañameras, R., Schuldt, S., Shu, Y., Suyu, S. H., Taubenberger, S., Andika, I. T., Bag, S., Inoue, K. T., Jaelani, A. T., Leal-Taixé, L., Meinhardt, T., Melo, A., and More, A. (2024). "HOLISMOKES: XI. Evaluation of supervised neural networks for strong-lens searches in ground-based imaging surveys".

*Astronomy and Astrophysics*, 692,. doi: <https://doi.org/10.1051/0004-6361/202347072>

Pearce-Casey, R., Nagam, B. C., Wilde, J., Busillo, V., Ulivi, L., Andika, I. T., Manjón-García, A., Leuzzi, L., Matavulj, P., Serjeant, S., Walmsley, M., Acevedo Barroso, J. A., O'Riordan, C. M., Clément, B., Tortora, C., Collett, T. E., Courbin, F., Gavazzi, R., Metcalf, R. B., Cabanac, R., Courtois, H. M., Crook-Mansour, J., Delchambre, L., Despali, G., Ecker, L. R., Franco, A., Holloway, P., Jahnke, K., Mahler, G., Marchetti, L., Melo, A., Meneghetti, M., et al. (2025). "Euclid: Searches for strong gravitational lenses using convolutional neural nets in Early Release Observations of the Perseus field".

*Astronomy and Astrophysics*, 696,. doi: <https://doi.org/10.1051/0004-6361/202453152>

Acevedo Barroso, J. A., O'Riordan, C. M., Clément, B., Tortora, C., Collett, T. E., Courbin, F., Gavazzi, R., Metcalf, R. B., Busillo, V., Andika, I. T., Cabanac, R., Courtois, H. M., Crook-Mansour, J., Delchambre, L., Despali, G., Ecker, L. R., Franco, A., Holloway, P., Jackson, N., Jahnke, K., Mahler, G., Marchetti, L., Matavulj, P., Melo, A., Meneghetti, M., et al. (2025). "Euclid: The Early Release Observations Lens Search Experiment".

*Astronomy and Astrophysics*, 697,. doi: <https://doi.org/10.1051/0004-6361/202451868>

Bag, Satadru, Huber, Simon, Suyu, Sherry H., Arendse, Nikki, Andika, Irham Taufik, Cañameras, Raoul, Kim, Alex, Linder, Eric, Lodha, Kushal, Melo, Alejandra, More, Anupreeta, Schuldt, Stefan, and Shafieloo, Arman (2024). "Detecting unresolved lensed SNe Ia in LSST using blended light curves".

*Astronomy and Astrophysics*, 691,. doi: <https://doi.org/10.1051/0004-6361/202450485>

Andika, Irham Taufik, Suyu, Sherry H., Cañameras, Raoul, Melo, Alejandra, Schuldt, Stefan, Shu, Yiping, Eilers, Anna-Christina, Jaelani, Anton Timur, and Yue, Minghao (2023). "Streamlined lensed quasar identification in multiband images via ensemble networks".

*Astronomy and Astrophysics*, 678, doi: <https://doi.org/10.1051/0004-6361/202347332>

Rojas, Karina, Collett, Thomas E., Ballard, Daniel, Magee, Mark R., Birrer, Simon, Buckley-Geer, Elizabeth, Chan, James H. H., Clément, Benjamin, Diego, José M., Gentile, Fabrizio, González, Jimena, Joseph, Rémy, Mastache, Jorge, Schuldt, Stefan, Tortora, Crescenzo, Verdugo, Tomás, Verma, Aprajita, Daylan, Tansu, Millon, Martin, Jackson, Neal, Dye, Simon, Melo, Alejandra, Mahler, Guillaume, Ogando, Ricardo L. C., Courbin, Frédéric, Fritz, Alexander, Herle, Aniruddh, Acevedo Barroso, Javier A. et al. . (2023). "The impact of human expert visual inspection on the discovery of strong gravitational lenses".

*Monthly Notices of the Royal Astronomical Society*, 523, 4430. doi: <https://doi.org/10.1093/mnras/stad1680>

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