

Sebastián Pérez | CV

Dr./Prof. at U. de Santiago de Chile – Astrophysicist, Musician and Author

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Summary

My name is Sebastián Pérez (Seba), I am an Assistant Professor of Astrophysics appointed in the Department of Physics at the University of Santiago de Chile. I work in astrophysics, art-science interplay, music and sound, and literature. My research focuses on the question of planetary origins. My latest papers include the prediction of the signatures of protoplanets in the kinematics of protoplanetary disks, the discovery of a migrating mini Neptune sculpting three rings of dust in a disk, and the first Doppler-flip expected for an accreting gaseous giant planet.

I authored the children's novel *Cazadores de eclipses*, aimed at sharing the essentials of scientific exploration and discovery and promote women in science. More than seven thousand copies are read by children in public schools today. In the interplay between art-science, outreach and education, I have led and participated in projects on embodied learning applied to astrophysics (Recreo), directed the Skies Concert project (Concierto Cielos), and worked on the Charango concerto "From the Big Bang, through the fundamental laws".

Employment

Assistant Professor, Physics Department

Leading the formation of the Center for Astrophysics at USACH

Universidad de Santiago de Chile

2019–current

Research experience and funding

Gemini-CONICYT research fellowship

Main line of research: Hydrodynamics and observations of planet formation

Universidad de Chile

2011–2019

FONDECYT Postdoc, young researcher at MAD

Main line of research: Modelling and observing on-going planet formation

Universidad de Chile

2014–2017

Millennium Nucleus on Protoplanetary Disks Postdoc

Main line of research: Protoplanetary disks research with ALMA

MAD, U. Chile

2011–2014

Postdoctoral fellow (STFC PDRA)

Main line of research: accretion disks around black holes with jets (microquasars)

University of Oxford

2009–2011

Education

Doctor of Philosophy, PhD

Inflow and outflow in stellar mass black holes. Supervisor: Prof. K. M. Blundell

University of Oxford

2006–2009

Licenciatura en Ciencias mención Astronomía, BSc

Graduated with distinction equivalent to a First-class honour (1st).

Universidad de Chile

2002–2005

Publications (WoS/ISI indexing, peer-reviewed)

58 publications in peer-reviewed international journals (WoS/ISI), 10 as first author, 32 as either first, second or third author, with a total of >2000 citations (Nov. 2020). *h-index*: 25.

See publication list at the end or click on: [Smithsonian/NASA ADS](#), [ORCID](#), [Google Scholar](#).

Synergetic projects on art, education, outreach and science

- Director of Concierto Cielos project on convergence between music and astronomy. www.conciertocielos.cl
- Director of Recreo Espacial an embodied learning project for education and motivation into science through experiential activities related to astrophysical concepts (2016–2019). recreo.das.uchile.cl
- Author of the children’s astronomy novel *Bitácora Planetaria: Cazadores de Eclipses*, 2016, LOM Ediciones, funded via Milenio PME. 2nd edition. About 5.000 copies distributed at schools and general public so far.

AATS 2014: Director of the Art, Astronomy, Technology and Society initiative. In which I produced:

- Art+Astronomy Day at Contemporary Arts Museum (MAC, Santiago) for artists, educators and the public.
- Art+Astronomy Incubator initiative. Coordination of 4 projects led by pairs of artists and astronomers.

Immersive installation AATS 2013 “El Origen del Sistema Solar”: Scientist in residency at National Contemporary Arts museum (lead by artist Olaf Peña).

Teaching experience, as supervisor and lecturer

U. de Chile (2016-2018): Co-supervision of MSc students M. Barraza and F. Alarcón.

U. de Chile (2016-2017): Supervisor of undergraduate research projects: M. Araya (hydrodynamics of multiple planets), A. Dumas (radiation hydrodynamics) and M. Briceño (FU Ori ALMA observations).

U. de Chile (2015-2016): Supervisor of undergraduate research projects: C. Flores, M. Barraza and F. Alarcón.

U. of Oxford (2007-2010): Lecturer Stellar Evolution and Cosmology (Astro B3, 3rd year Physics undergrads).

U. de Chile (2002-2006): Teaching assistant for Electromagnetism and Statistical Physics.

Grants

Science grants and awards

2019–2022: FONDECYT Regular grant (as PI). Four years. ~270k USD.

2018: ESO-Chile comité mixto grant for funding astrophysics professorship at USACH. Two years. ~90k USD.

2017: FONDECYT Regular grant (as co-investigator).

2015: FONDEQUIP grant (100k USD) for GPU Cluster for hydro 3D simulations (PI-ed along with S. Casassus).

2014: FONDECYT Postdoctoral fellowship (120k USD).

2008: Oxford University’s St John’s College special grant for research excellence.

2006: PPARC (STFC) PhD Studentship – Particle Physics and Astronomy Research Council (PPARC UK). I was awarded the only such studentship available for South American students.

2005: Outstanding Undergraduate Student at Universidad de Chile (top 10% students of Physics and Math).

Art grants and residencies

2018: Fondo de la Música (Fondos de Cultura, Chile) to make a record of the charango concerto based on the fundamental laws of astronomy (composer A. Yermakova in collaboration with S. Perez). 15k USD.

2018: Djerassi Artist Residency for the Scientific Delirium Madness art+science program, to explore and expand how the creativity of scientists and artists are connected. San Francisco, CA, USA. June 2018.

2016-2017: Research grant on embodied learning applied to astronomy (20k USD) via Iniciativa Milenio (PME MAD program, along with S. Casassus, A. Yermakova).

2015: Grant to create, illustrate, publish and distribute a children’s book about astronomy to encourage Women in Science (20k USD) via Iniciativa Milenio (PME MAD program).

2014: Outreach grant to fund art+astronomy initiatives “AATS 2014” (20k USD), along with S. Casassus, via Iniciativa Milenio (PME MAD program).

Review panel invitations and other services

- ALMA Science Assessor (2017–2019), Category 4 Circumstellar disks, exoplanets and the solar system. Reviewing ~100 proposals per year.
- Referee on major (WoS) astronomy journals ApJ, ApJ Letters, A&A and MNRAS.
- Science Assessor and evaluator for graduate travel scholarships/funding at U. de Chile.
- Science Assessor and evaluator for XXI Concurso de Proyectos Explora, Conicyt.

Recent telescope time allocated as PI (2014–2021)

- ALMA Cycle 7 rank A:** (long baselines) Revealing planet migration with ALMA, 7h
- ALMA Cycle 7 rank B:** (long baselines) Resolving the kinematics of FU Orionis, 8h
- ALMA Cycle 6 rank A:** (long baselines) Follow up observation on circumplanetary disk discovery, 16h
- VLT/SPHERE DDT P101:** SAM observations of a candidate protoplanet, 5h
- ALMA Cycle 5 rank A:** (long baselines) Survey of TTauri disks (DARTTS-A). 10h
- SPHERE/VLT P101:** Solar asteroid belt analogue. 0.5h
- ALMA Cycle 4 rank A:** (long baselines) CPD detection. 11h
- ALMA Cycle 4 rank A:** (long baselines) Kinematics of FU Ori. 3h
- ALMA Cycle 4 rank B:** Protolunar disks II. 3h
- VLA A-config 2017:** V883 Ori's snowline. 6h
- SPHERE/VLT P98 and P99:** Interacting protoplanetary disks Survey II. 0.9h
- SPHERE/VLT P97:** Interacting protoplanetary disks Survey I. 0.3h
- ALMA Cycle 3 rank B:** Protolunar disks. 3h
- ALMA Cycle 2 rank B:** Planet formation at a critical age. 5h
- NACO/VLT P96:** Circumstellar environ of ZCMa in high contrast polarimetry. 4h
- NACO/VLT P96:** Ionised nebula around black hole SS433. 2h in service + 4h visitor AGPM
- MagAO/Baade 2014:** Twin disks SR24, diffraction-limited imaging in Z' and K band. 2h

Invited seminars, conferences and workshops (selected)

- Invited talk at “Kinematics of Planet formation”, Flatiron Institute, NYC. Oct 2019
- Contributed talk at 2nd workshop “The UX Ori type stars and related topics”, St Petersburg. Oct 2019
- Invited talk at the “Great Barriers in Planet Formation”, Palm Cove, Australia. July 2019
- Contributed talk at “New Horizons in Planetary Systems”, Victoria, Canada. May 2019
- Invited seminar, “The Poladian Project: A festival of interdisciplinary research and surprising connections”, Sydney, Australia. Feb 2019
- Colloquium, Department of Physics, U. de Santiago, Chile. Jan 2019
- Colloquium, Department of Astronomy, U. de Chile. Dec 2018
- Invited seminar, Niels Bohr Institute, Copenhagen, Denmark. Oct 2018
- Invited seminar, Institute of Astronomy, Cambridge, UK. Oct 2018
- Contributed talk at “Circumplanetary Disks and Satellite Formation”, Nagoya, Japan. March 2018
- Contributed talk at “ESO Planet Formation 2016”, Santiago. March 2016
- Contributed talk at “Disc Dynamics & Planets”, Larnaka, Cyprus. June 2015
- Contributed talk at “Transition Disks and Planet Formation”, Leiden, Netherlands. March 2015

- Chair and coordinator for “Protoplanetary disks and the planets they form”, U. Chile. Nov 2014
- Contributed talk at “Characterising planetary systems across the HR diagram”, Cambridge, UK. July 2014
- Poster at “Transformational Science with ALMA: From Dust to Rocks to Planets”, Hawaii, USA. May 2014
- Contributed talk at “Herbig Ae/Be stars: the missing link in star formation”, ESO, Chile. March 2014
- Contributed talk at “ALMA Early Science conference”, Puerto Varas, Chile. Dec 2013

Tools and technical expertise

Numerical Simulations: 3D/2D hydrodynamic simulations (`FARGO`, `FARGO2D-ADSG`, `FARGO3D`, `GADGET-2`).

Radiative Transfer: Continuum and line emission calculations with `RADMC3D`. Listed as developer in `RADMC3D` website. Also have experience with `MCFOST` and `LIME`.

Image synthesis: NRAO CASA, GPU-UVMEM.

Programming languages: Python (astropy, numpy, scipy), Perl (PDL), C, CUDA GPU, OpenGL, Fortran.

Recent outreach activity

- Odessa House of Scientists, Astronomy society, Odessa, Ukraine. Oct 2018.
- Keynote speaker at “Simposio de Arte y Astronomía”, UDP, Santiago, Chile. Mar 2018
- Workshop talk on art and astronomy at UNESCO’s “Learning through Art” week. Coyhaique, Chile. 2016
- >50 outreach talks at schools since 2013, in Chile (50), UK (4), India (2), Ukraine (1) and South Africa (1).
- Invited to 7 radio shows at four major radio stations and four appearances on national TV (including S02E10 Hijos de las Estrellas, Metropolitros).
- Invited to several “Diálogos en movimiento” by Ministry of Cultures at schools in Chile.

Other highlights

- Observing experience on VLT/SPHERE, ALMA, Gemini North and South, 6m Magellan, VLA, SAAO 2m
- Advanced English and Native Spanish.

Reference letters / People who are familiar with my work

Prof. Katherine M. Blundell

- Astrophysics, University of Oxford
- katherine.blundell@physics.ox.ac.uk

Prof. Lucas Cieza

- Nucleo de Astronomia, U. Diego Portales
- lucas.cieza@mail.udp.cl

Prof. Simon Casassus

- DAS, Universidad de Chile
- simon@das.uchile.cl

Prof. Dame Jocelyn Bell-Burnell

- Astrophysics, University of Oxford
- Jocelyn.BellBurnell@physics.ox.ac.uk

Publications list (WoS/ISI, peer-reviewed)

[1] Camilo González-Ruilova, Lucas A. Cieza, Antonio S. Hales, **Pérez, Sebastián**, Alice Zurlo, Carla Arce-Tord, Simón Casassus, Hector Cánovas, Mario Flock, Gregory J. Herczeg, Paola Pinilla, Daniel J. Price, David A. Principe, Dary Ruíz-Rodríguez, and Jonathan P. Williams. A Tale of Two Transition Disks: ALMA Long-baseline Observations of ISO-Oph 2 Reveal Two Closely Packed Nonaxisymmetric Rings and a ~ 2 au Cavity. *ApJL*, 902(2):L33, October 2020.

[2] Antonio S. Hales, **Pérez, Sebastián**, Camilo Gonzalez-Ruilova, Lucas A. Cieza, Jonathan P. Williams,

- Patrick D. Sheehan, Cristián López, Simon Casassus, David A. Principe, and Alice Zurlo. ALMA Observations of Young Eruptive Stars: Continuum Disk Sizes and Molecular Outflows. *ApJ*, 900(1):7, September 2020.
- [3] S. Marino, A. Zurlo, V. Faramaz, J. Milli, Th Henning, G. M. Kennedy, L. Matrà, **Pérez, S.**, P. Delorme, L. A. Cieza, and A. M. Hughes. Insights into the planetary dynamics of HD 206893 with ALMA. *MNRAS*, 498(1):1319–1334, August 2020.
- [4] Alice Zurlo, Lucas A. Cieza, **Pérez, Sebastián**, Valentin Christiaens, Jonathan P. Williams, Greta Guidi, Hector Cánovas, Simon Casassus, Antonio Hales, David A. Principe, Dary Ruíz-Rodríguez, and Antonia Fernandez-Figueroa. The Ophiuchus DIsc Survey Employing ALMA (ODISEA) - II. The effect of stellar multiplicity on disc properties. *MNRAS*, 496(4):5089–5100, July 2020.
- [5] A. Zurlo, G. Cugno, M. Montesinos, **Pérez, S.**, H. Canovas, S. Casassus, V. Christiaens, L. Cieza, and N. Huelamo. The widest H α survey of accreting protoplanets around nearby transition disks. *A&A*, 633:A119, January 2020.
- [6] **Pérez, Sebastián**, Simon Casassus, Antonio Hales, Sebastián Marino, Anthony Cheetham, Alice Zurlo, Lucas Cieza, Ruobing Dong, Felipe Alarcón, Pablo Benítez-Llambay, Ed Fomalont, and Henning Avenhaus. Long Baseline Observations of the HD 100546 Protoplanetary Disk with ALMA. *ApJL*, 889(1):L24, Jan 2020.
- [7] Satoshi Mayama, **Pérez, Sebastián**, Nobuhiko Kusakabe, and Takayuki Muto et al. Subaru Near-infrared Imaging Polarimetry of Misaligned Disks around the SR 24 Hierarchical Triple System. *AJ*, 159(1):12, Jan 2020.
- [8] **Pérez, Sebastián**, Antonio Hales, Haoyu Baobab Liu, Zhaohuan Zhu, Simon Casassus, Jonathan Williams, Alice Zurlo, Nicolás Cuello, Lucas Cieza, and David Principe. Resolving the FU Orionis System with ALMA: Interacting Twin Disks? *ApJ*, 889(1):59, Jan 2020.
- [9] A. Garufi, H. Avenhaus, **Pérez, S.**, S. P. Quanz, R. G. van Holstein, G. H. M. Bertrang, S. Casassus, L. Cieza, D. A. Principe, G. van der Plas, and A. Zurlo. Disks Around T Tauri Stars with SPHERE (DARTTS-S). II. Twenty-one new polarimetric images of young stellar disks. *A&A*, 633:A82, Jan 2020.
- [10] Simon Casassus, **Pérez, Sebastián**, Axel Osses, and Sebastián Marino. Erratum: Cooling in the shade of warped transition disks. *MNRAS*, 491(1):L17–L17, January 2020.
- [11] Philipp Weber, **Pérez, Sebastián**, Pablo Benítez-Llambay, Oliver Gressel, Simon Casassus, and Leonardo Krapp. Predicting the Observational Signature of Migrating Neptune-sized Planets in Low-viscosity Disks. *ApJ*, 884(2):178, Oct 2019.
- [12] Simon Casassus and **Pérez, Sebastián**. Kinematic Detections of Protoplanets: A Doppler Flip in the Disk of HD 100546. *ApJL*, 883(2):L41, Oct 2019.
- [13] Haoyu Baobab Liu, Antoine Mérand, Joel D. Green, **Pérez, Sebastián**, Antonio S. Hales, Yao-Lun Yang, Michael M. Dunham, Yasuhiro Hasegawa, Thomas Henning, Roberto Galván-Madrid, Ágnes Kóspál, Michihiro Takami, Eduard I. Vorobyov, and Zhaohuan Zhu. Diagnosing 0.1-10 au Scale Morphology of the FU Ori Disk Using ALMA and VLTI/GRAVITY. *ApJ*, 884(1):97, Oct 2019.
- [14] **Pérez, Sebastián**, Sebastián Marino, Simon Casassus, Clément Baruteau, Alice Zurlo, Christian Flores, and Gael Chauvin. Upper limits on protolunar disc masses using ALMA observations of directly imaged exoplanets. *MNRAS*, 488(1):1005–1011, September 2019.
- [15] C. Pinte, G. van der Plas, F. Ménard, D. J. Price, V. Christiaens, T. Hill, D. Mentiplay, C. Ginski, E. Choquet, Y. Boehler, G. Duchêne, **Pérez, S.**, and S. Casassus. Kinematic detection of a planet carving a gap in a protoplanetary disk. *Nature Astronomy*, 3:1109–1114, August 2019.

- [16] **Pérez, Sebastián**, Simon Casassus, Clément Baruteau, Ruobing Dong, Antonio Hales, and Lucas Cieza. Dust Unveils the Formation of a Mini-Neptune Planet in a Protoplanetary Ring. *AJ*, 158(1):15, Jul 2019.
- [17] Clément Baruteau, Marcelo Barraza, **Pérez, Sebastián**, Simon Casassus, Ruobing Dong, Wladimir Lyra, Sebastián Marino, Valentin Christiaens, Zhaohuan Zhu, Andrés Carmona, Florian Debras, and Felipe Alarcon. Dust traps in the protoplanetary disc MWC 758: two vortices produced by two giant planets? *MNRAS*, 486(1):304–319, Jun 2019.
- [18] Simon Casassus, **Pérez, Sebastián**, Axel Osses, and Sebastián Marino. Cooling in the shade of warped transition discs. *MNRAS*, 486(1):L58–L62, Jun 2019.
- [19] G. van der Plas, F. Ménard, J. F. Gonzalez, **Perez, S.**, L. Rodet, C. Pinte, L. Cieza, S. Casassus, and M. Benisty. ALMA study of the HD 100453 AB system and the tidal interaction of the companion with the disk. *A&A*, 624:A33, Apr 2019.
- [20] Jonathan P. Williams, Lucas Cieza, Antonio Hales, Megan Ansdell, Dary Ruiz-Rodriguez, Simon Casassus, **Perez, Sebastian**, and Alice Zurlo. The Ophiuchus Disk Survey Employing ALMA (ODISEA): Disk Dust Mass Distributions across Protostellar Evolutionary Classes. *ApJ*, 875(2):L9, Apr 2019.
- [21] Simon Casassus, Sebastián Marino, Wladimir Lyra, Clément Baruteau, Matías Vidal, Alwyn Wootten, **Pérez, Sebastián**, Felipe Alarcon, Marcelo Barraza, Miguel Cárcamo, Ruobing Dong, Anibal Sierra, Zhaohuan Zhu, Luca Ricci, Valentin Christiaens, and Lucas Cieza. Cm-wavelength observations of MWC 758: resolved dust trapping in a vortex. *MNRAS*, 483(3):3278–3287, Mar 2019.
- [22] L. A. Cieza, D. Ruíz-Rodríguez, A. Hales, S. Casassus, **Pérez, S.**, C. Gonzalez-Ruilova, H. Cánovas, J. P. Williams, A. Zurlo, M. Ansdell, H. Avenhaus, A. Bayo, G. H.-M. Bertrang, V. Christiaens, W. Dent, G. Ferrero, R. Gamen, J. Olofsson, S. Orcajo, K. Peña Ramírez, D. Principe, M. R. Schreiber, and G. van der Plas. The Ophiuchus Disc Survey Employing ALMA (ODISEA) - I: project description and continuum images at 28 au resolution. *MNRAS*, 482:698–714, January 2019.
- [23] Daniel J. Price, Nicolás Cuello, Christophe Pinte, Daniel Mentiplay, Simon Casassus, Valentin Christiaens, Grant M. Kennedy, Jorge Cuadra, **Perez M., Sebastian**, Sebastian Marino, Philip J. Armitage, Alice Zurlo, Attila Juhasz, Enrico Ragusa, Guillaume Laibe, and Giuseppe Lodato. Publisher Note: Circumbinary, not transitional: On the spiral arms, cavity, shadows, fast radial flows, streamers and horseshoe in the HD142527 disc. *MNRAS*, 481(3):3169–3169, December 2018.
- [24] **Pérez, S.**, S. Casassus, and P. Benítez-Llambay. **Observability of planet-disc interactions in CO kinematics**. *MNRAS*, 480:L12–L17, October 2018.
- [25] A. S. Hales, **Pérez, S.**, M. Saito, C. Pinte, L. B. G. Knee, I. de Gregorio-Monsalvo, B. Dent, C. López, A. Plunkett, P. Cortés, S. Corder, and L. Cieza. The Circumstellar Disk and Asymmetric Outflow of the EX Lup Outburst System. *ApJ*, 859(2):111, June 2018.
- [26] Henning Avenhaus, Sascha P. Quanz, Antonio Garufi, **Perez, Sebastian**, Simon Casassus, Christophe Pinte, Gesa H. M. Bertrang, Claudio Caceres, Myriam Benisty, and Carsten Dominik. Disks around T Tauri Stars with SPHERE (DARTTS-S). I. SPHERE/IRDIS Polarimetric Imaging of Eight Prominent T Tauri Disks. *ApJ*, 863(1):44, August 2018.
- [27] Simon Casassus, Henning Avenhaus, **Pérez, Sebastián**, Víctor Navarro, Miguel Cárcamo, Sebastián Marino, Lucas Cieza, Sascha P. Quanz, Felipe Alarcón, Alice Zurlo, Axel Osses, Fernando R. Rannou, Pablo E. Román, and Marcelo Barraza. An inner warp in the DoAr 44 T Tauri transition disc. *MNRAS*, 477(4):5104–5114, July 2018.

- [28] D. J. Price, N. Cuello, C. Pinte, D. Mentiplay, S. Casassus, V. Christiaens, G. M. Kennedy, J. Cuadra, M. **Sebastian Perez**, S. Marino, P. J. Armitage, A. Zurlo, A. Juhasz, E. Ragusa, G. Laibe, and G. Lodato. **Circumbinary, not transitional: on the spiral arms, cavity, shadows, fast radial flows, streamers, and horseshoe in the HD 142527 disc.** *MNRAS*, 477:1270–1284, June 2018.
- [29] G. H.-M. Bertrang, H. Avenhaus, S. Casassus, M. Montesinos, F. Kirchschrager, **Perez, S.**, L. Cieza, and S. Wolf. **HD 169142 in the eyes of ZIMPOL/SPHERE.** *MNRAS*, 474:5105–5113, March 2018.
- [30] L. A. Cieza, D. Ruíz-Rodríguez, **Perez, S.**, S. Casassus, J. P. Williams, A. Zurlo, D. A. Principe, A. Hales, J. L. Prieto, J. J. Tobin, Z. Zhu, and S. Marino. **The ALMA early science view of FUor/EXor objects - V. Continuum disc masses and sizes.** *MNRAS*, 474:4347–4357, March 2018.
- [31] D. A. Principe, L. Cieza, A. Hales, A. Zurlo, J. Williams, D. Ruíz-Rodríguez, H. Canovas, S. Casassus, K. Mužić, **Perez, S.**, J. J. Tobin, and Z. Zhu. **The ALMA early science view of FUor/EXor objects - IV. Misaligned outflows in the complex star-forming environment of V1647 Ori and McNeil’s Nebula.** *MNRAS*, 473:879–895, January 2018.
- [32] L. A. Cieza, S. Casassus, **Pérez, S.**, A. Hales, M. Cárcamo, M. Ansdell, H. Avenhaus, A. Bayo, G. H.-M. Bertrang, H. Cánovas, V. Christiaens, W. Dent, G. Ferrero, R. Gamen, J. Olofsson, S. Orcajo, A. Osses, K. Peña-Ramirez, D. Principe, D. Ruíz-Rodríguez, M. R. Schreiber, G. van der Plas, J. P. Williams, and A. Zurlo. **ALMA Observations of Elias 2-24: A Protoplanetary Disk with Multiple Gaps in the Ophiuchus Molecular Cloud.** *ApJL*, 851:L23, December 2017.
- [33] T. Stolker, M. Sitko, B. Lazareff, M. Benisty, C. Dominik, R. Waters, M. Min, **Perez, S.**, J. Milli, A. Garufi, J. de Boer, C. Ginski, S. Kraus, J.-P. Berger, and H. Avenhaus. **Variable Dynamics in the Inner Disk of HD 135344B Revealed with Multi-epoch Scattered Light Imaging.** *ApJ*, 849:143, November 2017.
- [34] D. Ruíz-Rodríguez, L. A. Cieza, J. P. Williams, J. J. Tobin, A. Hales, Z. Zhu, K. Mužić, D. Principe, H. Canovas, A. Zurlo, S. Casassus, S. **Perez**, and J. L. Prieto. **The ALMA early science view of FUor/EXor objects - II. The very wide outflow driven by HBC 494.** *MNRAS*, 466:3519–3532, April 2017.
- [35] A. Zurlo, L. A. Cieza, J. P. Williams, H. Canovas, S. **Perez**, A. Hales, K. Mužić, D. A. Principe, D. Ruíz-Rodríguez, J. Tobin, Y. Zhang, Z. Zhu, S. Casassus, and J. L. Prieto. **The ALMA early science view of FUor/EXor objects - I. Through the looking-glass of V2775 Ori.** *MNRAS*, 465:834–842, February 2017.
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- [37] G. van der Plas, C. M. Wright, F. Ménard, S. Casassus, H. Canovas, C. Pinte, S. T. Maddison, K. Maaskant, H. Avenhaus, L. Cieza, S. **Perez**, and C. Ubach. **Cavity and other radial substructures in the disk around HD 97048.** *A&A*, 597:A32, January 2017.
- [38] S. Marino, L. Matrà, C. Stark, M. C. Wyatt, S. Casassus, G. Kennedy, D. Rodriguez, B. Zuckerman, S. **Perez**, W. R. F. Dent, M. Kuchner, A. M. Hughes, G. Schneider, A. Steele, A. Roberge, J. Donaldson, and E. Nesvold. **Exocometary gas in the HD 181327 debris ring.** *MNRAS*, 460:2933–2944, August 2016.
- [39] L. A. Cieza, S. Casassus, J. Tobin, S. P. Bos, J. P. Williams, S. **Perez**, Z. Zhu, C. Caceres, H. Canovas, M. M. Dunham, A. Hales, J. L. Prieto, D. A. Principe, M. R. Schreiber, D. Ruiz-Rodriguez, and A. Zurlo. **Imaging the water snow-line during a protostellar outburst.** *Nature*, 535:258–261, July 2016.
- [40] M. Montesinos, S. **Perez**, S. Casassus, S. Marino, J. Cuadra, and V. Christiaens. **Spiral Waves Triggered by Shadows in Transition Disks.** *ApJL*, 823:L8, May 2016.

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- [42] S. Casassus, S. Marino, **Pérez, S.**, P. Roman, A. Dunhill, P. J. Armitage, J. Cuadra, A. Wootten, G. van der Plas, L. Cieza, V. Moral, V. Christiaens, and M. Montesinos. **Accretion Kinematics through the Warped Transition Disk in HD142527 from Resolved CO(6–5) Observations.** *ApJ*, 811:92, October 2015.
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