SAGNICK MUKHERJEE

5th Year Ph.D. Candidate, Department of Astronomy & Astrophysics, UC Santa Cruz

51 Pegasi b Fellow 2025, SESE, Arizona State University (September, 2025 -)

samukher@ucsc.edu

sagnickm@github.io

0000-0003-1622-1302

Publications

- 10 First Authored
- 35 Co-authored
- Citations: 1973
- h-index: 20

Softwares Developed

- PICASO 3.0
- VIRGA

Students Advised

- High School Students: 6
- Undergraduate: 2
- Papers with Students: 1

Talks & Posters

- Invited Seminars: 10
- Conference Talks: 12
- Conference Posters: 6

Research Interests

1. Theory of Exoplanet & Brown Dwarf Atmospheres
2. Interior and Evolution of substellar objects
3. Characterization of Exoplanet Atmospheres with JWST, HST, and other ground-based observatories.
4. Open-source Software Development in Astronomy

Education

51 Pegasi b Postdoctoral Fellow

September 2025 -
SESE, Arizona State University

Ph.D. Candidate
December 2022 to Present, UC Santa Cruz
Expected Graduation: Summer, 2025
Thesis: Understanding Atmospheres and Interiors of Exoplanets and Brown Dwarfs with JWST

M.S. in Astronomy & Astrophysics
October 2020 to December 2022
UC Santa Cruz
GPA: 4/4

M.Sc. in Physics
September 2018 to July 2020
Presidency University, Kolkata, India
GPA: 9.65/10 (Gold Medalist)

B.Sc. in Physics
August 2015 to September 2018
Presidency University, Kolkata, India
GPA: 9.21/10 (Gold Medalist)

Awards and Fellowships

1. 51 Pegasi b postdoctoral fellowship 2025 from the Heising-Simons Foundation to be hosted at SESE, ASU.
2. Templeton Theory-Experiment Cross Training (TEX) fellowship co-hosted by UCSC and JHU.
3. UC President's Lindau Fellow 2024, Participant in the 73rd Lindau Nobel Laureate Meeting (Physics), July 2024, Lindau, Germany.
4. Barbara Walker Best Paper Award 2023-24 for "PICASO 3.0: A One-dimensional Climate Model for Giant Planets and Brown Dwarfs".
5. UC Regent's fellowship for first year graduate study at Department of Astronomy and Astrophysics, UCSC.
6. Whitford Prize for highest achievement in research, coursework, and teaching as a 2nd year Graduate Student in the Astronomy department at UCSC.
7. Awarded the S.N. Bose Scholarship from Indo-US Science and Technology Forum (IUSSTF), 2019 for participating in short-term summer research at University of California, Santa Cruz.
8. Stood first in M.Sc Physics (Gold medalist) (2018-2020) and B.Sc Physics (Gold Medalist) (2015-18).
9. Jagadis Bose National Science Talent Search scholarship for undergraduate research (2015-2020).

Colloquia and Seminars

1. “Constraints on Atmospheric Mixing in Brown Dwarf and Transiting Exoplanet Atmospheres in the JWST Era”, September 2024, Dept. of Astronomy, UT Austin, Texas.
2. “Constraints on Atmospheric Mixing in Transiting Exoplanet and Brown dwarf Atmospheres in the JWST Era”, September 2024, Lunar and Planetary Laboratory, University of Arizona, Tucson.
3. “Constraints on Atmospheric Mixing in Brown Dwarf and Exoplanet Atmospheres in the JWST Era”, Februrary 2024, Carnegie Earth and Planets Laboratory, Washington DC.
4. “Constraints on Atmospheric Mixing in Brown Dwarf and Exoplanet Atmospheres in the JWST Era”, November 2023, CTC Seminar, University of Maryland, College Park.

5. “Constraints on Atmospheric Mixing in Brown Dwarf and Exoplanet Atmospheres in the JWST Era”, November 2023, Dept. of Astronomy, Cornell University, Ithaca.
6. “Constraints on Atmospheric Mixing in Brown Dwarf and Exoplanet Atmospheres in the JWST Era”, October 2023, School of Earth and Planetary Sciences, NISER Bhubaneswar, India.
7. “Constraints on Atmospheric Mixing in Brown Dwarf and Exoplanet Atmospheres in the JWST Era”, November 2023, Department of Astrophysics and High Energy Physics, SNBNCBS, Kolkata, India.
8. “Constraints on Atmospheric Mixing in Brown Dwarf and Exoplanet Atmospheres in the JWST Era”, July 2023, Imperial College London, London.
9. “Constraining Vertical Mixing, Metallicity, and C/O Ratio of Giant Planet and Brown Dwarf Atmospheres", March 2023, SESE, Arizona State University, Tempe.
10. “Understanding Exoplanet and Brown Dwarf Atmospheres in the JWST Era”, June 2022, CESSI Seminar, IISER Kolkata.

Conferences, Talks, & Posters

1. Dissertation Presentation, “Disequilibrium Chemistry in Planet Atmospheres: from Brown Dwarfs to sub-Neptunes”, January 2025, 245th AAS, National Mall, Washington DC
2. Contributed Talk, “Effects of Planetary Parameters on Disequilibrium Chemistry: From Gas Giants to Sub-Neptunes”, July 2024, Challenge Accepted! Linking Planet Formation with Present-Day Atmospheres, MPIA Heidelberg, Germany.
3. Contributed Talk, “Revisiting GJ 436b’s Atmosphere with Panchromatic JWST Emission Spectroscopy”, June 2024, Exoplanets V, Leiden, Netherlands.
4. Contributed Talk, “PICASO: An Unified Atmospheric Model of Exoplanetary Atmospheres with Photochemistry and Vertical Mixing”, June 2023, ERES Conference, Yale University.
5. Poster Presentation, “Constraints on Atmospheric Vertical Mixing in Giant Exoplanets and Brown Dwarfs”, September 2023, Exoplanets: Atmospheres to Architecture, Washington DC.
6. Poster Presentation, “PICASO: An Unified Atmospheric Model of Exoplanetary Atmospheres with Photochemistry and Vertical Mixing”, June 2023, Exoclimes Conference, University of Exeter.
7. Contributed Talk , “Atmospheric and Evolutionary Models of Substellar Objects with Disequilibrium Chemistry for the JWST Era”, January 2023, AAS Conference, Seattle.

8. Contributed Talk , 'Atmospheric and Evolutionary Models of Substellar Objects with Disequilibrium Chemistry for the JWST Era', January 2023, ExoPAG 27, Seattle.
9. Contributed Talk , ‘PICASO 3.0: A One-Dimensional Open Source Climate Model for Giant Planets and Brown Dwarfs’, October 2022, 42nd Bay Area Exoplanets Meeting, SETi.
10. Contributed Talk , ‘Understanding Atmospheric Mixing with Disequilibrium Chemistry in Brown Dwarfs’, July 2022, Other Worlds Laboratory (OWL) Summer Program.
11. Poster Presentation, 'Measuring Vertical Mixing in Giant Planets and Brown Dwarf Atmospheres', September 2023, Ninth Annual Giant Magellan Telescope Community Science Meeting, Washington DC.
12. Poster Presentation, 'PICASO+VULCAN: Modeling Exoplanetary Atmospheres Self-Consistently with Photochemistry and Vertical Mixing', June 2023, Exoclimes VI, June 2023, University of Exeter, UK.
13. Poster Presentation, 'Probing Atmospheric Mixing with Disequilibrium Chemistry in Brown Dwarfs and Warm Exoplanets', May 2022, Exoplanets IV, Las Vegas.
14. Contributed Talk , ‘Understanding Atmospheric Mixing with Disequilibrium Chemistry in Brown Dwarfs’, January 2022, CHAMPs Exoplanet Early Career Seminar.
15. Contributed Talk , ‘Modeling Polarization Signals from Cloudy Brown Dwarfs: Luhman 16 A and B in Three Dimensions’, September 2021, Bay Area Exoplanet Meeting 38.
16. Poster Presentation, ‘Modeling Polarization signals in 3D from brown dwarfs Luhman 16 and B’, April 2021, STScI Spring Symposium.
17. Contributed Talk , ‘Cloud Complexity Required for Retrievals on Reflected Spectroscopy of Cool Giants’, September 2020, Bay Area Exoplanet Meeting 34.
18. Contributed talk, ‘The accretion disc-jet connection in blazars’, 37th Annual meeting of the Astronomical Society of India , Christ University, Bangalore, Spring 2019

Grants & Observing Proposal Awards

1. **PI** of Awarded James Webb Space Telescope Cycle 4 AR GO program 7358 named “The Other Extreme: Enabling Characterization of Metal-poor Brown Dwarfs and testing our Understanding of Jupiter and Saturn”
2. **Co-PI** and theory lead of Awarded James Webb Space Telescope Cycle 2 time for the GO program 4094 named “Probing the Depths: Disequilibrium Chemistry as a Tracer of Mixing Processes in Brown Dwarf Atmospheres".
3. **PI** of Awarded James Webb Space Telescope Cycle 2 AR GO program 3245 named “Up to the Task? A New Generation of Atmospheric and Interior Models of Brown Dwarfs for the JWST Era".
4. **Co-I** of Awarded James Webb Space Telescope Cycle 4 GO program 9025 named “The Warm Jupiter Opportunity for Understanding Giant Exoplanet Evolution”
5. **Co-I** of Awarded James Webb Space Telescope Cycle 4 GO program 8004 named “Cliff Hangers: Testing for Atmosphere-Mantle Interactions in Radius Cliff Planets”.
6. **Co-I** of Awarded James Webb Space Telescope Cycle 4 GO program 9095 named “Combining Emission and Transmission Spectroscopy to reveal Exo-Neptune Aerosols, Chemistry, and Formation”.
7. **Co-I** of Awarded James Webb Space Telescope Cycle 3 Large GO program 5959 named “KRONOS: Keys to Revealing the Origin and Nature Of sub-neptune Systems".
8. **Co-I** of Awarded James Webb Space Telescope Cycle 3 GO program 6122 named “Cool kids on the block: The direct detection of cold ice giants and gas giants orbiting young low-mass neighbors".
9. **Co-I** of Awarded James Webb Space Telescope Cycle 2 AR GO program 3201 named “The Utility of Self-Consistent Models and Photochemistry in Understanding Transiting Planet Atmospheres".
10. **Co-I** of Awarded uGMRT Cycle 47 GO program named “Investigating the Auroral Heating of Brown Dwarf Atmosphere with uGMRT and JWST".
11. **Co-I** of Awarded uGMRT Cycle 47 GO program named “Can rogue super-Jupiters be radio-bright? A search for radio emission from at the deuterium burning limit".
12. Awarded Hubble Space Telescope Cycle 30 GO time for the proposal “Photometry of a Young Planetary-Mass Companion to a Taurus M Dwarf Star" (Co-I).

Teaching & Mentoring Experience

1. Mentoring undergraduate student Anna Gagnebin (California State University, Sacramento) for the project “Exoplanet Atmosphere Models for JWST Spectroscopy", 2022.
2. Mentoring undergraduate student Arya Jhamb (UCSC) for the project “Retrievals on Brown Dwarf Spectra in the JWST Era”, 2024
3. Teaching Assistant for ASTR-10 “From the Big Bang to Planet Earth" with Prof. Alexie Leauthead, Spring 2023.
4. Teaching Assistant for ASTR-16 “Astrobiology: Life in the Universe" with Prof. Natalie Batalha, Fall 2021.
5. Mentored 6 high school students for the astronomy project “Photometrically variable stars in M31" as a part of the Science Internship Program (SIP) 2019 and 2020.

Professional Service

1. Referee for multiple publications in The Astrophysical Journal and Astronomy and Astrophysics
2. Served as a trainer for the **PICASO** software in the Sagan Summer Workshop, 2023.
3. Served as a mentor for the **PICASO** hands-on session in the Sagan Summer Workshop, 2021.

Software Development and Scientific Computing

1. Developed the open-source atmospheric model PICASO 3.0 for exoplanets and brown dwarfs.
2. 5 years experience with exoplanet atmospheric simulation package **PICASO**.
3. Contributed to development of exoplanet cloud modeling package VIRGA.
4. Proficient scientific programming with Python and Fortran.
5. Proficient in GPU based Python programming with Numba Cuda and CuPy.
6. Selected and Participated in the NASA GPU Hackathon 2022 co-organized by NASA and NVIDIA.

Press Coverage

1. “Methane Throughout The Atmosphere Of The Warm Exoplanet WASP-80b", Astrobiology, September 7, 2023.
2. “Astronomy PhD candidate researching mysteries of sub-Neptune planets wins fellowship”, UCSC Newscenter, March, 2025.
3. “JWST makes first unequivocal detection of carbon dioxide in an exoplanet atmosphere", UCSC Newscenter, August 25, 2022.
4. “James Webb telescope detects dust storm on distant world", BBC News, March 22, 2023.
5. “NASA's Webb Detects Carbon Dioxide in Exoplanet Atmosphere", NASA JPL, August 25, 2022. Also covered by leading news platforms across the world.
6. “JWST’s First Direct Spectrum of a Planetary-Mass Object", Astrobites, September 2, 2022.
7. “NASA releases Webb telescope's first exoplanet image", UCSC Newscenter, September 1, 2022. Also covered by leading news platforms across the world.

Please see next page for a complete list of publications

Publication List

Updated: June 1, 2025

Sagnick Mukherjee

Designation: 5th Year PhD Candidate,
PhD Program in Astronomy and Astrophysics,
Department of Astronomy and Astrophysics,
University of California, Santa Cruz
Expected Graduation: Summer, 2025
Email: samukher@ucsc.edu
ORCID: 0000-0003-1622-1302
h-index: 20
Total Citations: 1973

First Authored Publications

1. "Cloudy Mornings and Clear Evenings in a Giant Extrasolar World", **Sagnick Mukherjee**, David Sing, Guangwei Fu, et al., (2025, under review in *Science*)

2. "Effects of Planetary Parameters on Disequilibrium Chemistry in Irradiated Planetary Atmospheres: From Gas Giants to Sub-Neptunes", **Sagnick Mukherjee**, Jonathan J. Fortney, Nicholas F. Wogan, David K. Sing, Kazumasa Ohno, (2025, The Astrophysical Journal, Volume 985, 209)

3. "A JWST Panchromatic Thermal Emission Spectrum of the Warm Neptune Archetype GJ 436b", **Sagnick Mukherjee**, Everett Schlawin, Taylor J. Bell, Jonathan J. Fortney, et al., (2025, The Astrophysical Journal Letters (ApJL), Volume 982, L39)

4. "The Sonora Substellar Atmosphere Models. IV. Elf Owl: Atmospheric Mixing and Chemical Disequilibrium With Varying Metallicity and C/O Ratios", **Sagnick Mukherjee**, Jonathan J. Fortney, Caroline V. Morley, Natasha E. Batalha, Mark S. Marley, Theodora Karalidi, Channon Visscher, Roxana Lupu, Richard Freedman, Ehsan Gharib-Nezhad, (2023, The Astrophysical Journal)

5. "Probing the Extent of Vertical Mixing in Brown Dwarf Atmospheres with Disequilibrium Chemistry", **Sagnick Mukherjee**, Jonathan J. Fortney, Natasha E. Batalha, Theodora Karilidi, Mark S. Marley, Channon Visscher, Brittany E. Miles, Andrew J. I. Skemer (**2022**, The Astrophysical Journal (ApJ), Volume 938, 107)

6. "PICASO 3.0: A One-Dimensional Climate Model for Giant Planets and Brown Dwarfs", **Sagnick Mukherjee**, Natasha E. Batalha, Jonathan J. Fortney, Mark S Marley (**2022**, The Astrophysical Journal (ApJ, Volume 942, Number 2))

7. "Modeling Polarization Signals from Cloudy Brown Dwarfs Luhman 16 A and B in Three Dimensions", **Sagnick Mukherjee**, Jonathan J. Fortney, Rebecca Jensen-Clem, Xianyu Tan, Mark S. Marley, and Natasha E. Batalha (**2021**, The Astrophysical Journal, Volume 923, Number 1)

8. "Cloud Parameterizations and their Effect on Retrievals of Exoplanet Reflection Spectroscopy", **Sagnick Mukherjee**, Natasha E. Batalha, and Mark S. Marley (**2021**,The Astrophysical Journal, Volume 910, Number 2)

9. "The accretion disc-jet connection in blazars", **Sagnick Mukherjee**, Kaustav Mitra, and Ritaban Chatterjee (**2019**, Monthly Notices of the Royal Astronomical Society, Volume 486, Issue 2)

10. "X-Ray Surface Brightness Profiles of Optically Selected Active Galactic Nuclei: Comparison with X-Ray AGNs", **Sagnick Mukherjee**, Anirban Bhattacharjee, Suchetana Chatterjee, Jeffrey A. Newman, and Renbin Yan (**2019**, The Astrophysical Journal, Volume 872, Number 1)

2nd & 3rd-Authored Publications

1. "Disequilibrium Chemistry, Diabatic Thermal Structure, and Clouds in the Atmosphere of COCONUTS-2b", Zhang, Zhoujian; **Mukherjee, Sagnick**; Liu, Michael C.; et al. (**2024**, AJ, in press)

2. "A Tale of Two Molecules: The Underprediction of CO 2 and Overprediction of PH 3 in Late T and Y Dwarf Atmospheric Models", Beiler, Samuel A. ; **Mukherjee, Sagnick** ; Cushing, Michael C., et al. (**2024**, ApJ, in press)

3. "The atmosphere of HD 149026b: Low metal-enrichment and weak energy transport", Anna Gagnebin, **Sagnick Mukherjee**, Jonathan J. Fortney, Natasha E. Batalha. (**2024**, ApJ)

4. "Multiple Clues for Dayside Aerosols and Temperature Gradients in WASP-69 b from a Panchromatic JWST Emission Spectrum" Schlawin, Everett ; **Mukherjee, Sagnick** ; Ohno, Kazumasa ; Bell, Taylor., et al. (**2024**, AJ)

5. "High-Precision Atmospheric Constraints for a Cool T Dwarf from JWST Spectroscopy", Hood, Callie E. ; **Mukherjee, Sagnick** ; Fortney, Jonathan J. ; Line, Michael R. ; Faherty, Jacqueline K.,et al. (**2024**, Nature Astronomy, Under Review)

6. "The Sonora Substellar Atmosphere Models. III. Diamondback: Atmospheric Properties, Spectra, and Evolution for Warm Cloudy Substellar Objects" Morley, Caroline V. ; **Mukherjee, Sagnick** ; Marley, Mark S. ; Fortney, Jonathan J., et al. (**2024**, ApJ, in press)

7. "Early Release Science of the exoplanet WASP-39b with JWST NIRSpec PRISM", Rustamkulov, Z. ; Sing, D. K. ; **Mukherjee, Sagnick** ; May, E. M., et al. (**2023**, Nature)

8. "The Infrared Colors of 51 Eridani b: Micrometeoroid Dust or Chemical Disequilibrium?", Madurowicz, Alexander; **Mukherjee, Sagnick**; Batalha, Natasha E., et al., (**2022**, AJ)

9. "Witnessing the early evolution of a young sub-Neptune progenitor", Barat, Saugata; Désert, Jean-Michel; **Mukherjee**, Sagnick, et al., (Under review, ApJL, 2024)

Other Co-Authored Publications

1. "Statistical trends in JWST transiting exoplanet atmospheres", Fu, Guangwei; Stevenson, Kevin B.; Sing, David K.; **Mukherjee, Sagnick**, et al. (ApJ, in press)

2. "Atmospheric abundances and bulk properties of the binary brown dwarf Gliese 229 Bab from JWST/MIRI spectroscopy", Xuan, Jerry; Perrin, Marshall D.; ...; **Mukherjee, Sagnick**, et al. (ApJL, in press)

3. "Quartz Clouds in the Dayside Atmosphere of the Quintessential Hot Jupiter HD 189733 b", Inglis, Julie; Batalha, Natasha E.,..., **Mukherjee, Sagnick**, et al. (**2024**, ApJL)

4. "Precise Bolometric Luminosities and Effective Temperatures of 23 late-T and Y dwarfs Obtained with JWST", Beiler, Samuel A. ; Cushing, Michael C. ; Kirkpatrick, J. Davy ; Schneider, Adam C. ; **Mukherjee, Sagnick**, et al. (**2024**, AAS journals, in press)

5. "Sulfur Dioxide and Other Molecular Species in the Atmosphere of the Sub-Neptune GJ 3470 b ", Beatty, Thomas G. ; Welbanks, Luis ; Schlawin, Everett ;..., **Mukherjee, Sagnick**, et al. (**2024**, ApJL)

6. "The Complete CEERS Early Universe Galaxy Sample: A Surprisingly Slow Evolution of the Space Density of Bright Galaxies at z 8.5–14.5" Finkelstein, Steven L. ; Leung, Gene C. K. ; Bagley, Micaela B.,...,**Mukherjee, Sagnick**; et al. (**2024**, ApJL)

7. "JWST/NIRCam 4-5 μ m Imaging of the Giant Planet AF Lep b", Franson, Kyle ; Balmer, William O. ; Bowler, Brendan P. ; Pueyo, Laurent ;..., **Mukherjee, Sagnick**, et al. (**2024**, ApJL)

8. "Probing the Heights and Depths of Y Dwarf Atmospheres: A Retrieval Analysis of the JWST Spectral Energy Distribution of WISE J035934.06−540154.6", Kothari, Harshil ; Cushing, Michael C. ; Burningham, Ben ;..., **Mukherjee, Sagnick**, et al. (**2024**, ApJ)

9. "High-precision Atmospheric Characterization of a Y Dwarf with JWST NIRSpec G395H Spectroscopy: Isotopologue, C/O Ratio, Metallicity, and the Abundances of Six Molecular Species", Lew, Ben W. P. search by orcid ; Roellig, Thomas ;..., **Mukherjee, Sagnick**, et al. (**2024**, AJ)

10. "A high internal heat flux and large core in a warm Neptune exoplanet", Welbanks, Luis ; Bell, Taylor J. ; Beatty, Thomas G. ; Line, Michael R. ;..., **Mukherjee, Sagnick**, et al. (**2024**, Nature)

11. "The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems. V. Do Self-consistent Atmospheric Models Represent JWST Spectra? A Showcase with VHS 1256–1257 b", Petrus, Simon ; Whiteford, Niall ; Patapis, Polychronis ; Biller, Beth A.;..**Mukherjee, Sagnick**;..., et al., (**2024**, ApJ)

12. "Sulfur dioxide in the mid-infrared transmission spectrum of WASP-39b", Powell, Diana ; Feinstein, Adina D. ; Lee, Elspeth K. H;...,**Mukherjee, Sagnick**;..., et al. (**2024**, Nature)

13. "Methane throughout the atmosphere of the warm exoplanet WASP-80b", Bell, Taylor J. ; Welbanks, Luis ; Schlawin, Everett ; Line, Michael R. ; Fortney, Jonathan J.;...,**Mukherjee, Sagnick**;...,et al. (**2023**, Nature)

14. "The *JWST* Early Release Science Program for Direct Observations of Exoplanetary Systems III: Aperture Masking Interferometric Observations of the star HIP 65426 at 3.8μm", Ray, Shrishmoy ; Sallum, Steph ; Hinkley, Sasha;...,**Mukherjee, Sagnick**, et al. (**2023**, ApJL)

15. "Awesome SOSS: transmission spectroscopy of WASP-96b with NIRISS/SOSS", Radica, Michael ; Welbanks, Luis ; Espinoza, Néstor ; Taylor, Jake;...,**Mukherjee, Sagnick**, et al. (**2023**, MNRAS)

16. "The First JWST Spectral Energy Distribution of a Y Dwarf", Beiler, Samuel A. ; Cushing, Michael C. ; Kirkpatrick, J. Davy ; Schneider, Adam C. ; **Mukherjee, Sagnick** ; Marley, Mark S. (**ApJL**, 2023)

17. "The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems I: High-contrast Imaging of the Exoplanet HIP 65426 b from 2 to 16 μm", Carter, Aarynn L. ; Hinkley, Sasha ; Kammerer, Jens ; Skemer, Andrew;...,**Mukherjee, Sagnick**, et al. (**2023**, ApJL)

18. "Photochemically produced SO2 in the atmosphere of WASP-39b", Tsai, Shang-Min ; Lee, Elspeth K. H. ; Powell, Diana ; Gao, Peter;...,**Mukherjee, Sagnick**, et al. (**2023**, Nature)

19. "The JWST Early-release Science Program for Direct Observations of Exoplanetary Systems II: A 1 to 20 μm Spectrum of the Planetary-mass Companion VHS 1256-1257 b", Miles, Brittany E. ; Biller, Beth A. ; Patapis, Polychronis;...,**Mukherjee, Sagnick**, et al. (**2023**, ApJL)

20. "First Observations of the Brown Dwarf HD 19467 B with JWST", Greenbaum, Alexandra Z. ; Llop-Sayson, Jorge ; Lew, Ben W. P.;..., **Mukherjee, Sagnick**, et al. (**2023**, ApJ)

21. "Early Release Science of the exoplanet WASP-39b with JWST NIRISS", Feinstein, Adina D. ; Radica, Michael ; Welbanks, Luis;...,**Mukherjee, Sagnick**, et al. (**2023**, Nature)

22. "Early Release Science of the exoplanet WASP-39b with JWST NIRSpec G395H", Alderson, Lili ; Wakeford, Hannah R. ; Alam, Munazza K. ; Batalha, Natasha E.;...,**Mukherjee, Sagnick**, et al. (**2023**, Nature)

23. "Early Release Science of the exoplanet WASP-39b with JWST NIRCam", Ahrer, Eva-Maria ; Stevenson, Kevin B. ; Mansfield, Megan ; Moran, Sarah E.;...,**Mukherjee, Sagnick**, et al. (**2023**, Nature)

24. "Identification of carbon dioxide in an exoplanet atmosphere", JWST Transiting Exoplanet Community Early Release Science Team (including **Mukherjee, Sagnick**), (**2023**, Nature)

25. "A Clear View of a Cloudy Brown Dwarf Companion from High-resolution Spectroscopy", Xuan, Jerry W. ; Wang, Jason ; Ruffio, Jean-Baptiste,...,**Mukherjee, Sagnick**, et al. (**2022**, ApJ)

26. "PHAT XX. AGB Stars and Other Cool Giants in M31 Star Clusters", Girardi, Léo ; Boyer, Martha L. ; Johnson, L. Clifton ; Dalcanton, Julianne J.,...,**Mukherjee, Sagnick**, et al. (**2020**, ApJ)