Korash Assani

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RESEARCH INTEREST

Observational Astronomy, Computational Astrophysics, Star and Planet formation, Protostellar Outflows, Protoplanetary Disks, Planet Formation, Astrochemistry

EDUCATION

University of Cincinnati — **Cincinnati, OH**
B.S. in Astrophysics — *August, 2016-May, 2020*
B.S. in Physics — GPA: 3.769/4.000
B.A. in Mathematics

University of Virginia — **Charlottesville, VA**
PhD in Astronomy — *August, 2020- Current*
GPA: 3.981/4.000

RESEARCH EXPERIENCE

University of Cincinnati — **Cincinnati, OH**
Research Assistant — *August, 2016-May, 2020*

University of Virginia — **Charlottesville, VA**
Research Assistant — *June, 2020-Current*

PUBLICATIONS

- **Assani, Korash D.**, Daniel Harsono, Zhi-Yun Li, Jonathan Ramsey, Klaus Pontoppidan, et al. "The Asymmetric Bipolar [Fe II] Jet and H2 Outflow of TMC1A Resolved with JWST's NIRSpec IFU" Astrophysics & Astronomy, Accepted 4/30/2024
- Sitko, Michael L., Ray W. Russell, **Korash Assani**, Ammar Bayyari, and Dakotah Tyler. "Gas Dynamics in 'Dippers'." AAS Journals (in review).
- Berghea, Ciprian T., Ammar Bayyari, Michael L. Sitko, Jeremy J. Drake, Ana Mosquera, Cecilia Garraffo, Thomas Petit, Ray W. Russell, and **Korash D. Assani**. "Dracula's Chivito: discovery of a large edge-on protoplanetary disk with Pan-STARRS." arXiv preprint arXiv:2402.01063 (2024).
- Sitko, Michael L., Ray W. Russell, Dakotah Tyler, **Korash Assani**, and Ammar Bayyari. "The Calibration of Brackett Alpha Emission in Pre-Main Sequence Stars." AAS Journals (in review).
- Sitko, Michael L., Ray W. Russell, Zachary C. Long, **Korash Assani**, Monika Pikhartova, Ammar Bayyari, Carol A. Grady et al. "Wavelength-dependent Extinction and Grain Sizes in "Dippers"." The Astronomical Journal 166, no. 1 (2023): 24.
- Wagner, Kevin, Jordan Stone, Andrew Skemer, Steve Ertel, Ruobing Dong, Dániel Apai, Eckhart Spalding,...,**Korash Assani**, et al. "Direct images and spectroscopy of a giant protoplanet driving spiral arms in MWC 758." Nature Astronomy 7, no. 10 (2023): 1208-1217.
- Pikhartova, Monika, Zachary C. Long, **Korash D. Assani**, Rachel B. Fernandes, Ammar Bayyari, Michael L. Sitko, Carol A. Grady et al. "Variability of Disk Emission in Pre-main Sequence and

Related Stars. V. Occultation Events from the Innermost Disk Region of the Herbig Ae Star HD 163296." The Astrophysical Journal 919, no. 1 (2021): 64.

- Long, Zachary C., Eiji Akiyama, Michael Sitko, Rachel B. Fernandes, **Korash Assani**, Carol A. Grady, Michel Cure et al. "Differences in the gas and dust distribution in the transitional disk of a sun-like young star, PDS 70." The Astrophysical Journal 858, no. 2 (2018): 112.

PRESENTATIONS

- *Modeling the Circumstellar Disk of HD 166191* — Nov, 2018
  UC Department of Phsyics, MUSE Fellowship Presentation — Cincinnati, OH
- *Modeling the Circumstellar Disk of HD 166191* — Jan, 2019
  233rd American Astronomical Society Meeting, Poster #163.19 — Seattle, WA
- *Variability in the Gas and Dust Emission of the UX Orionis Star CQ Tau* — Jan, 2020
  235th American Astronomical Society Meeting, Poster #451.01 — Honolulu, HI
- *Global Simulations of Planetary Growth via Pebble Accretion* — June, 2021
  Sagan Exoplanet Summer Virtual Workshop, Poster #54
- *Global Models of Pebble Accretion onto Rocky Planets* — Nov, 2021
  VICO-CICO Workshop — Charlottesville, VA
- *Building Rocky Worlds: Global Simulations of Planetary Growth via Pebble Accretion* — April, 2023
  Bob Rood Symposium — Charlottesville, Va
- *Global Simulations of Planetary Growth via Pebble Accretion* — June, 2023
  Gordon Research Conference — Mount Holyoke, MA

Workshops

- Dynamic and Chemical Connection Workshop — July 4-8, 2022
  Lorentz Center, Leiden, Netherlands
- NASA GPU Hackathon — September 12, 20-28, 2022
  Remote Workshop

Observing Proposals

- Assani, Korash D., Daniel Lin, et al., "Is the Abnormally Low Spectral Index of the Elias 2-27 Disk Caused by Dust Scattering? ", Project Code: 2023.1.00377.S, Accepted rank-C, ALMA Cycle 10, 2023, not observed. Resubmitted for Cycle 11, 2024
- Harsono, Daniel, Korash Assani et al. "ALMA meets JWST: is there warm molecular gas near the [Fe] jet?" Project Code 2024.1.00046.S
- Wagner, Kevin, Korash Assani et al. " Imaging Planet Formation at its Earliest Stages: Measuring The Extinction Level of an Enshrouded Protoplanet", Proposal ID 4010, Accepted, JWST Cycle 2, 2022
- Assani, Korash D., Jonathan Ramsey, Daniel Harsono, Zhi-Yun Li et al. "Searching for and Characterizing Atomic [Fe II] Jets in Class 0 Protostars with JWST", Proposal ID 5350, Submitted JWST Cycle 3, 2023
- Harsono, Daniel, Korash Assani et al. "Unveiling the diversity of protostellar jets in low-mass protostars", Proposal ID 4765, Submitted JWST Cycle 3, 2023

TEACHING EXPERIENCE

News Highlight: UC Triple Major Seeks to Inspire and Educate

- **Learning Assistant** — Jan, 2017-April, 2017
  University of Cincinnati, Learning Commons
- **Teaching Assistant** — Aug, 2017-Dec, 2017
  University of Cincinnati, Physics Department
- **Supplemental Instructor** — Aug, 2017-April, 2018
  University of Cincinnati, Learning Commons
- **Peer Leader** — Aug, 2018-May, 2019
  University of Cincinnati, Learning Commons
- **Peer Tutor** — Aug,2018-May, 2019
  University of Cincinnati, Learning Commons
- **Teaching Assistant** — Fall, 2020, Spring 2022
  University of Virginia, Astronomy Department

Extracurriculars

- UC College of Arts and Sciences Student Ambassadors — Dec, 2016- May, 2020
  Roles: Treasurer, Vice President, President
- Circle K International — Aug, 2016-April, 2018
  Roles: Head of Recruitment
- Society of Physics Students — Aug, 2018-May, 2020
  Roles: Vice President
- UVA Astronomy Graduate Journal Club — Jan, 2021-Current
  Roles: Coordinator

Volunteer and Outreach

- Cincinnati Observatory — Nov, 2016-Aug, 2017
  Volunteer Docent
- University of Virginia, Astronomy Mentoring Program — Aug, 2021- Aug,2022
  Undergraduate Mentor
- Public Nights at McCormick Observatory — 2021-Current
  Telescope Operator
- Dark Sky Bright Kids — 2021,2022
  Star Party Volunteer, Semester Club
- Virginia Piedmont Regional Science Fair — March 30th, 2023
  Judge

Academic Honors

- Sigma Pi Sigma, Physics Honorary Society — 2019
- Phi Beta Kappa, Honorary Society — 2020
- Magma Cum Laude — 2020
- Distinguished University Honors Scholar — 2020