

Sean DILLON

CONTACT

INFORMATION

University of Texas at San Antonio
Physics and Astronomy Department
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EDUCATION

University of Texas–San Antonio, San Antonio, TX, USA

Doctoral Student in Astrophysics

Advisor: Dr. Angela Speck

August 2020–Present

California State University–Chico, Chico, California, USA

B.S., Physics

Minor: Mathematics

Advisor: Dr. Nicholas Nelson

August 2018–May 2020

RESEARCH

EXPERIENCE

Graduate Research Assistant (Jan 2021– Present)

Advisor: Dr. Angela Speck

University of Texas–San Antonio, San Antonio, TX

Modeling cosmic minerals around AGB star Rx Boo

Research Experience for Undergraduates Internship (May 2019 – August 2019)

Advisor: Dr. Karen Masters

Haverford College, Haverford, PA

Plotting correlations between neutral hydrogen and other cosmic quantities using principle component analysis techniques

Undergraduate Research Assistant (August 2018 – May 2020)

Advisor: Dr. Nicholas Nelson

California State University–Chico, Chico, California

Modeling solar convection around Sun-like stars

RESEARCH

INTERESTS

- Modeling dust around AGB stars
- Evolution of chemical abundances around galaxies
- Computational astrophysics and data analysis in Python

PAPERS:

REFEREED

2. Stark, David V.; Masters, Karen L.; Avila-Reese, Vladimir; Riffel, Rogemar; Riffel, Rogerio; Boardman, Nicholas Fraser; Zheng, Zheng; Weijmans, Anne-Marie; **Dillon, Sean**; et al. *HI-MaNGA: Tracing the physics of the neutral and ionized ISM with the second data release*, Accepted to MNRAS 2021, arXiv: 2101.12680

1. **Dillon, Sean** & 314 others, *The 16th Data Release of the Sloan Digital Sky Surveys: First Release from the APOGEE-2 Southern Survey and Full Release of eBOSS Spectra*, 2020, ApJS, 249, 1, arXiv: 1912.02905

CONFERENCE

POSTERS (2019–)

- “Crystal Math: Modeling Distributions of Dust Grain Shapes” **Dillon, Sean M.**; Speck, Angela K; Sargent, Beth
iPoster for 243rd AAS Meeting, New Orleans, LA

- “Implementing Non-Spherical Grain Shape and Size Distributions into Radiative Transfer Code DUSTY: Application to AGB Stars” **Dillon, Sean M.**, Speck, Angela K.
iPoster for 242nd AAS Meeting, Albuquerque, NM
- “Using Radiative Transfer Modeling to Determine Nature of Dust Around RX Boo” **Dillon, Sean M.**, Speck, Angela K.
iPoster for 240th AAS Meeting, Pasadena, CA
- “A Principle Component Analysis of the HI Mass Fraction of Galaxies in the MaNGA Survey” **Dillon, Sean M.**, Masters, K.L., Stark, D.
Poster for the 235th AAS Meeting (Abstract 207.06), Honolulu, HI
- “Modeling Convection in Slowly-Rotating Stars” **Dillon, Sean**, Swenson, T., Grijalva, T.,
College of Sciences Poster Session (Abstract UF46), California State University–Chico, Chico, CA, USA

PROFESSIONAL
TALKS
(2019–)

Oct 17, 2023 “Counting Down to the Solar Eclipse” **Public Outreach** talk in downtown San Antonio on the day of the solar eclipse

Sept 2023 - Oct 2023 Getting Ready for the Solar Eclipse
Public Outreach given at numerous libraries and public schools

Sept 2023 “Implementing Non-Spherical Grain Shape and Size Distributions into Radiative Transfer Code DUSTY: Application to AGB Stars”
Qualifying Exam advanced to candidacy

Aug 2023 “Stars the Size of San Antonio”
Astronomy on Tap talk at Blue Star Brewing Company, San Antonio, Texas

Nov 2019 “A Principle Component Analysis of the HI Mass Fraction of Galaxies in the MaNGA Survey”
Contributed 2019 Annual Meeting of the American Physical Society Far West Section
Dillon, Sean M., Masters, K.L., Stark, D.
(Abstract E03.00010), Stanford University, Menlo Park, CA

Oct 2019 “A Principle Component Analysis of the HI Mass Fraction of Galaxies in the MaNGA Survey”
Invited Annual Meeting of Keck Northeast Astronomy Consortium (KNAC), Vassar College, Poughkeepsie, New York

PROFESSIONAL
WORKSHOPS

Sept 2023 *Solar Eclipse Planning Workshop* in San Antonio, TX in collaboration with the Scobee Education Center at San Antonio College to plan for the 2023 and 2024 solar eclipses and how we can engage the public by talking about the eclipse.

Jun 2023 *Solar Eclipse Planning Workshop* in Albuquerque, NM in collaboration with *New Mexico Museum of Natural History and Science* to plan for the 2023 and 2024 solar eclipses and how we can engage the public by talking about the eclipse.

Jan 2020 Using Python to Search NASA's Astrophysics Archive workshop at the 235th
AAS Meeting to understand how python can be used for direct data analysis.

PROFESSIONAL AND
ACADEMIC
AFFILIATIONS

- American Astronomical Society (AAS): 2018–present
- American Physical Society: 2018–present
- Society of Physics Students: 2018–2020