KENNETH WAYNE CARRELL

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Education

Texas Tech University, Lubbock, Texas USA
Ph.D., Physics, December 2009
M.S., Physics, Non-Thesis, May 2004
B.S., Physics, *Cum Laude*, Minor in Mathematics, May 2002

Experience

Angelo State University, San Angelo, Texas USA
Associate Professor of Physics & Planetarium Director **August 2022 to Present**
Assistant Professor of Physics & Planetarium Director **August 2016 to July 2022**

Irion County ISD, Mertzon, Texas USA
Classroom Teacher **August 2015 to July 2016**
Classroom Teacher / Coach **August 2008 to December 2010**

CH4 Labs, LLC, Mertzon, Texas USA
Lab Manager **February 2014 to August 2015**

Max Planck Institute for Astronomy, Heidelberg, Germany
Postdoc **July 2013**

National Astronomical Observatories,
Chinese Academy of Sciences, Beijing, China
LAMOST Postdoctoral Fellow **March 2011 to June 2013**

Texas Tech University Lubbock, Texas USA
Teaching Assistant / Graduate Part-time Instructor **August 2005 to May 2008**
Student Research Assistant / Research Assistant **January 2001 to May 2005**

Observing Proposals and Runs

McDonald Observatory Ft. Davis, Texas USA

- I have had multiple successful proposals submitted to McDonald Observatory. I have also been granted many unallocated nights to continue the projects from the proposals. I have used all three telescopes available at the observatory to outside astronomers: the 2.7m, the 2.1m, and the 0.8m.

Older Than 5 Years

I have had several successful proposals and observing runs to observatories spread across the entire Earth, including:

- Kitt Peak National Observatory Tucson, Arizona USA
- Cerro Tololo Inter-American Observatory La Serena, Chile
- The Anglo-Australian Telescope Siding Spring Observatory, Australia
- The MMT Observatory Tucson, Arizona USA

Funded Grants

Angelo State University Faculty Research Enhancement Program

- Measurements of the Gravitational Deflections of Stars During the 2024 Total Solar Eclipse (September 1, 2023 - August 31, 2024)
- Varying Variables: Changes in RR Lyrae in TESS Data (September 1, 2020 - August 31, 2021)
- A Detailed Study of Shockwaves in RR Lyrae Stars (September 1, 2018 - August 31, 2019)

Sloan Digital Sky Survey Faculty and Student Team Initiative

- Do All Globular Clusters Have Multiple Stellar Populations? (July 1, 2023 - June 30, 2024)
- Elemental Abundance Characteristics of Distinct Stellar Populations in NGC3201 (July 1, 2022 - June 30, 2023)
- Calibrating Metal Abundances of RR Lyrae Using APOGEE and TESS Data (May 15, 2021 - June 30, 2022)

National Science Foundation LEAPS-MPS Program, Award #2137787

- LEAPS-MPS: A Systematic Investigation of Transient Behavior in RR Lyrae Variable Stars (January 1, 2022 - December 31, 2023)

Preparing for Astrophysics with LSST

- Building a Diverse Generation of Rubin Scientists Kickstarter Grant (April 1, 2022 - August 1, 2022)

Recent Publications

Carrell, K., Gray Cherry, J., & Gillespie, C. "The Discovery of New Binary Systems Using Value-Added Catalogs and TESS Data" 2022, *The Astronomical Journal*, 164, 77

Carrell, K., et al. "The Changing Lightcurve of the Double-mode RR Lyrae Variable Star V338 Boo" 2021, *The Astrophysical Journal Letters*, 916, L12 *Erratum: ApJL 954, 34*

Carrell, K. "ATARRI: A TESS Archive RR Lyrae Classifier" 2021, *Astrophysics Source Code Library*, ascl:2105.003

Spalding, E., **et al.** "rrlfe: Software for Generating and Applying Metallicity Calibrations for RR Lyrae Variable Stars Across a Wide Range of Phases and Temperatures" 2023, *Monthly Notices of the Royal Astronomical Society*, *accepted*

Wilhelm, R., **Carrell, K.**, et al. "Modulation of the Blazhko Cycle in LS Her" 2023, *The Astronomical Journal*, 165, 194

Di Criscienzo, M., **et al.** "Light-curve Recovery with the Vera Rubin Observatory's LSST. I. Pulsating Stars in Local Group Dwarf Galaxies" 2023, *The Astrophysical Journal Supplement Series*, 265, 41

Vetters, G., Vishnevskaya, A., Ji, E.Y., & **Carrell, K.** "The Cosmic Ray Rate in Earth's Atmosphere" 2023, *accepted to JURPA*

Zhang, Z., Shi, W.B., Chen, Y.Q., Zhao, G., **Carrell, K.**, & Zhang, H.P. "The Substructures in the Anticenter Region of the Milky Way" 2022, *The Astrophysical Journal*, 933, 151