

KENNETH WAYNE CARRELL

CONTACT INFORMATION

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EDUCATION

TEXAS TECH UNIVERSITY, Lubbock, Texas USA

- Ph.D., Physics, December 2009
 - Dissertation Topic: *Red Clump Stars in the Sagittarius Tidal Streams*
 - Advisor: Professor Ronald J. Wilhelm
- 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

- *Assistant Professor of Physics & Planetarium Director* **August 2016 to Present**
 - I am the planetarium director and teach freshman astronomy classes at ASU.

IRION COUNTY ISD, Mertzon, Texas USA

- *Classroom Teacher* **August 2015 to August 2016**
 - I taught physics, chemistry, and integrated physics and chemistry at ICISD.

CH4 LABS, LLC, Mertzon, Texas USA

- *Lab Manager* **February 2014 to August 2015**
 - I was in charge of analyzing natural gas samples using a gas chromatograph and maintaining the machine and equipment. I occasionally did work in the field. In addition, I was in charge of almost all administrative work for this small business.

MAX PLANCK INSTITUTE FOR ASTRONOMY, Heidelberg, Germany

- *Postdoc* **July 2013**
 - I was in CU8 of GAIA working on astrophysical parameters of stars.

NATIONAL ASTRONOMICAL OBSERVATORIES, CHINESE ACADEMY OF SCIENCES,
Beijing, China

- *LAMOST Postdoctoral Fellow* **March 2011 to June 2013**
 - I was a postdoctoral fellow at NAOC and a member of the Stellar Abundances and Galactic Evolution Group (SAGE). I worked on various projects related to our Milky Way system.

IRION COUNTY ISD, Mertzon, Texas USA

- *Classroom Teacher / Coach* **August 2008 to December 2010**
 - I taught junior high science, physics and astronomy at ICISD.

TEXAS TECH UNIVERSITY Lubbock, Texas USA

- *Teaching Assistant / Graduate Part-time Instructor* **August 2005 to May 2008**
 - I taught undergraduate physics labs at all levels as well as freshman astronomy labs at TTU and helped develop curriculum for the advanced undergraduate laboratory class.
- *Student Research Assistant / Research Assistant* **January 2001 to May 2005**
 - As part of these two positions I spent two summers at Fermi National Accelerator Laboratory (Fermilab) in Chicago and two summers at the European Organization for Nuclear Research (CERN) in Geneva, Switzerland.

OBSERVING
PROPOSALS

- I was the PI for an accepted service time proposal for semester 2013A using AAOmega on AAT and the spectra were successfully obtained. I was also a CoI for a successful proposal submitted by Dr. Chao Liu to the Telescope Access Program, which provides access to large aperture telescopes to China-based astronomers.
- Through the Telescope Access Program, I was a CoI for an approved program in semester 2011B led by Dr. Martin Smith to spectroscopically observe stars using Hectospec on MMT. In semester 2012B I was a CoI for a program led by Dr. Chao Liu using the same telescope and instrument. Both observing programs were successfully completed and results were published.
- I was the PI for successful observing proposals two semesters in a row submitted to the National Optical Astronomy Observatory to use the Hydra instrument on WIYN for my dissertation work.
- As a graduate student I was also a CoI on successful observing proposals submitted to the National Optical Astronomy Observatory to use the Hydra instrument on Blanco, and on proposals submitted to McDonald Observatory to use several telescopes and instruments.

OBSERVING
RUNS

MCDONALD OBSERVATORY Ft. Davis, Texas USA

- I have been on several observing runs using three different telescopes at McDonald Observatory. Most of the runs were spectroscopic observations using the 2.7m telescope but I have also made spectroscopic observations on the 2.1m telescope and photometric observations on the 0.8m telescope.

KITT PEAK NATIONAL OBSERVATORY Tucson, Arizona USA

- Most of the data used for my dissertation (and the publication from it) was taken on the WIYN telescope at KPNO during two observing runs. I used the Hydra instrument to spectroscopically observe several hundred stars.

CERRO TOLOLO INTER-AMERICAN OBSERVATORY La Serena, Chile

- I used the Hydra instrument on the Blanco telescope at CTIO to spectroscopically observe nearly one hundred stars for my dissertation and a few hundred stars for another project.

ASTRONOMY
PUBLICATIONS

- Carrell, K.**, Chen, Y.Q., & Zhao, G. “Metallicity Gradients of Disk Dwarf Stars” 2012, *The Astronomical Journal*, 144, 185
- Carrell, K.**, Wilhelm, R., & Chen, Y.Q. “Red Clump Stars in the Sagittarius Tidal Streams” 2012, *The Astronomical Journal*, 144, 18
- Rahimi, A., **Carrell, K.**, & Kawata, D. “Numerical simulation of a possible origin of the positive radial metallicity gradient of the thick disk” 2014, *Research in Astronomy and Astrophysics*, 14, 11
- Chen, Y.Q., **et al.** “Red Giant Stars from Sloan Digital Sky Survey. I. The General Field” 2014, *The Astrophysical Journal*, 795, 52
- Tan, K., Chen, Y.Q., **Carrell, K.**, Zhao, J.K., & Zhao, G. “Red Giant Stars from the Sloan Digital Sky Survey. II. Distances” 2014, *The Astrophysical Journal*, 794, 60
- Yang, F., **et al.** “Hydrogen lines in LAMOST low resolution spectra of RR Lyrae stars” 2014, *New Astronomy*, 26, 72
- Chen, Y.Q., Zhao, G., **Carrell, K.**, Zhao, J.K., & Tan, K.F. “The CH(G) Index as a New Criterion for Selecting Red Giant Stars” 2013, *The Astrophysical Journal*, 765, 156
- Zhang, Y.Y., **et al.** “DA White Dwarfs Observed in the LAMOST Pilot Survey” 2013, *The Astronomical Journal*, 146, 34
- Shi, W.B., Chen, Y.Q., **Carrell, K.**, & Zhao, G. “The Kinematics and Chemistry of Red Horizontal Branch Stars in the Sagittarius Streams” 2012, *The Astrophysical Journal*, 751, 130
- Liu, C., **et al.** “A resonant feature near the Perseus arm revealed by red clump stars” 2012, *Astrophysical Journal Letters*, 753, L24
- Chen, Y.Q., Zhao, G., **Carrell, K.**, & Zhao, J.K. “The Metallicity Gradient of the Thick Disk Based on Red Horizontal-branch Stars from SDSS DR8” 2011, *The Astronomical Journal*, 142, 184

PHYSICS
PUBLICATIONS

I was co-author on 11 publications between 2003 and 2009 in the field of High-Energy Physics. These were published in the journals: *The European Physical Journal C*, *Journal of Instrumentation*, *Nuclear Instruments and Methods in Physics Research Section A*, and *Physical Review D*. They included papers from work done in the CDF and CMS experiments at Fermilab and CERN, respectively, as well as a series of 4 papers published in 2005 and 2008 in *NIMPA* on the results from a small R&D project built at TTU and tested on a CERN beamline.