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Keith McBride, PhD

Education

2015 – 2021	Ph.D. in Physics, Thesis - *Cosmic Ray Instrumentation and Simulations* Advisor: Prof. James J. Beatty Department of Physics at The Ohio State University, Columbus, OH
2015 – 2017	M.S Physics, 2017 Department of Physics at The Ohio State University, Columbus, OH
2010 – 2014	B.S Physics, *Summa Cum Laude*, 2014 Department of Physics and Astronomy at Bowling Green State University Bowling Green, OH

Research Experience

2021 – Present	Postdoctoral Scholar in CCAPP collaborating with the HELIX and PUEO projects, The Ohio State University
2016 – 2021	Research Associate on HELIX and ANITA collaborations, The Ohio State University
2020	The Erdős Institute Data Science Boot Camp Project: Categorize Spotify Podcasts with Neural Networks.
2012 – 2014	Undergraduate Researcher, Bowling Green State University

Awards

2018	Cosmology and Astroparticle Student and Postdoc Exchange Network Award, University College London
2015 – 2018	University Fellowship from the Graduate School, The Ohio State University
2018	William R. Riley Excellence in Teaching Physics Award, The Ohio State University
2017	Hazel Brown Teaching Award, The Ohio State University
2014	President's Award (4.0 GPA), Bowling Green State University

Publications

[1] L. Cremonesi et al. including **K. McBride**. The simulation of the sensitivity of the antarctic impulsive transient antenna (ANITA) to askaryan radiation from cosmogenic neutrinos interacting in the antarctic ice. *Journal of Instrumentation*, 14(08):P08011–P08011, aug 2019.

[2] Makoto Tabata and others including **K. McBride**. Developing a silica aerogel radiator for the HELIX ring-imaging Cherenkov system. *Nucl. Instrum. Meth. A*, 952:161879, 2020.

[3] W. Osborn, A. Layden, G. Kopacki, H. Smith, M. Anderson, A. Kelly, **K. McBride**, and B. Pritzl. Variable Stars in M13. II.The Red Variables and the Globular Cluster Period-Luminosity Relation. *Acta Astronomica*, 67:131–158, June 2017.

[4] Pavel Moroz, Natalia Kholmicheva, Bryan Mellott, Geethika Liyanage, Upendra Rijal, Ebin Bastola, Kyla Huband, Elena Khon, **McBride, Keith**, and Mikhail Zamkov. Suppressed carrier scattering in cds-encapsulated pbs nanocrystal films. *ACS Nano*, 7(8):6964–6977, 2013. PMID: 23889162.

[5] N. Park et al. including **K. McBride**. Cosmic-ray Isotope Measurements with HELIX. *PoS*, ICRC2019:121, 2020.

[6] I. Wisher et al. including **K. McBride**. The Design and Construction of the HELIX RICH Detector. *PoS*, ICRC2019:152, 2020.

[7] P. Allison et al. including **K. McBride**. Calibration of the Aerogel Tiles for the HELIX RICH. *PoS*, ICRC2019:133, 2020.

[8] P. Allison et al. including **K. McBride**. Production of Silica Aerogel Radiator Tiles for the HELIX RICH Detector. *PoS*, ICRC2019:139, 2020.

Talks

2021 - Invited	Marietta College Physics and Astronomy Department Colloquium. Marietta, OH
2021	Center for Cosmology and AstroParticle Physics (CCAPP) Research Symposium, The Ohio State University, Columbus, OH
2020	The Ohio State University Physics Summer Seminar Series, Columbus, OH
2019	The Ohio State University Physics Summer Seminar Series, Columbus, OH
2018	Ohio-Region Section of the American Physics Society annual meeting. Volume 63, Number 15. *The High Energy Light Isotope Experiment (HELIX): A Balloon-borne Superconducting Magnetic Spectrometer*

Teaching Experience

2021	Teaching Assistant for physics combined graduate and undergraduate computational physics course. Physics Department, The Ohio State University.
2019 – 2020	Teaching Assistant Orientation Facilitator for the Michael V. Drake Insitute for Teaching and Learning, The Ohio State University.
2016–2018	Teaching Assistant for physics undergraduate courses. Physics Department, The Ohio State University.

Outreach & Committees

2022	Metro High School Capstone Mentor, The Ohio State University affiliated program
2020	Polaris Mentor, The Ohio State University program
2018 – 2019	Achieving in Science through Physics Instrumention, Research, and Exploration Program Manager
2018	State Science Day Judge, Scientific Thinkers Volunteer, Breakfast of Science Champions Volunteer
2018 – 2019	Colloquium Committee Graduate Student Representive Physics Department, The Ohio State University
2015 – 2016	Elected Representative of Physics Graduate Student Council Physics Department, The Ohio State University

Skills

Computer:	C++, Python, Vivado, CAD, Docker, Bash, Mathematica, ROOT, Latex, MS Office
Data Science:	Numpy, Pandas, Scipy, Seaborn, scikitlearn, NLTK, Decision Trees, Linear Regression
Electronics:	KiCad EDA, Board-design and Debugging, Soldering, High-Voltage testing
Lab:	Cryogens, Vacuum Chamber Operation, Scintallator Tests, Oscilliscope
Machining:	Mill and Lathe