

Curriculum Vitae

Donna M. Pierce

Department of Physics and Astronomy

P.O. Box 5167

Mississippi State, MS 39762-5167

Phone: 662-325-2914

Fax: 662-325-8898

E-Mail: dmp149@msstate.edu

Education

Ph.D. Astronomy, University of Maryland, College Park	2006
Dissertation: <i>Formation and Destruction of Carbon Monoxide in Cometary Comae</i>	
Advisor: Michael F. A'Hearn	
M.S. Astronomy, University of Maryland, College Park	2000
B.S. Physics, University of Kentucky	1997
<i>Summa Cum Laude</i>	
<i>Departmental Honors in Physics</i>	

Employment History

Associate Professor	Department of Physics and Astronomy Mississippi State University	Aug. 2013 – Present
Assistant Professor	Department of Physics and Astronomy Mississippi State University	Jan. 2007 – Aug. 2013
Postdoctoral Fellow	Department of Astronomy University of Texas at Austin	May – Dec. 2006
Research Fellow	Department of Astronomy University of Texas at Austin	Oct. 2005 – April 2006
Graduate Research Assistant	Department of Astronomy University of Maryland, College Park	June 2000 – Sept. 2005
Astronomy Tutor	University of Maryland Academic Achievement Programs	Oct. – Dec. 2001
Graduate Teaching Assistant	Department of Astronomy University of Maryland, College Park	June 1999 – May 2000
Summer Intern	Laboratory for High Energy Astrophysics NASA's Goddard Space Flight Center	June – Aug. 1997 & 1998
Laboratory Assistant	Optics and Spectroscopy Laboratory Department of Physics and Astronomy University of Kentucky	Aug. – Dec. 1996
REU Student	Department of Physics and Astronomy University of Nevada Las Vegas	June – Aug. 1996

Honors

Faculty Appreciation Award Bagley College of Engineering Office of Diversity Programs, Mississippi State University	2012
Distinguished Teaching Assistant University of Maryland Center for Teaching Excellence	2000
Outstanding Teaching Assistant Department of Astronomy, University of Maryland, College Park	2000
High Energy Astrophysics Fellowship NASA's Goddard Space Flight Center	1997 – 1999
Outstanding Senior Physics Major Department of Physics and Astronomy, University of Kentucky	1997
Phi Beta Kappa	1997
Golden Key International Honour Society	1996
Outstanding Junior Physics Major Department of Physics and Astronomy, University of Kentucky	1995
Sigma Pi Sigma	1995
Physics and Astronomy Scholarship, University of Kentucky	1993 – 1997
Academic Excellence Scholarship, University of Kentucky	1993 – 1997

Sponsored Programs**Current Programs:**

<u>Source / Award No.</u>	<u>Title</u>	<u>Role</u>	<u>Timeline</u>	<u>Total Budget</u>
NSF: Scholarships in STEM Program (DUE-1458449)	<i>Breaking the Silo: Mathematics as a Common Language in Science</i>	Co-PI	7/1/2015 – 6/30/2021	\$623,903

Completed Programs:

<u>Source / Award No.</u>	<u>Title</u>	<u>Role</u>	<u>Timeline</u>	<u>Total Budget</u>
Southeastern Conference Academic Consortium: SEC Visiting Faculty Travel Grants	<i>Ion Chemistry of Comets</i>	PI	12/16/2019 - 12/20/2019	\$750
NASA: Planetary Atmospheres (NNX14AH18G)	<i>Investigation of Comets with an Integral Field Spectrograph</i>	PI	4/11/2014 – 4/10/2018	\$239,000
NSF: Graduate K-12 STEM Teaching Fellows (DGE-0947419)	<i>New GK-12: Initiating New Science Partnerships in Rural Education (INSPIRE)</i>	Co-PI	5/16/2010 – 4/30/2016	\$2,881,903

Fund for Astrophysical Research, Inc.	<i>Comprehensive Studies with the Sangre Telescope at Rainwater Observatory</i>	Science PI	1/1/2014 – 12/31/2014	\$2870
Fund for Astrophysical Research, Inc.	<i>Spectroscopic Survey of Comets</i>	PI	1/1/2013 – 12/31/2013	\$2116
MSU Office for Research and Economic Development	<i>Working Group: Center for Earth Systems, Education, and Society C(ES)</i>	Senior Personnel	1/1/2013 – 12/31/2013	\$2000
MSU Office for Research and Economic Development	<i>Working Group: Cross-Disciplinary Undergraduate Research and Education (CURE)</i>	Senior Personnel	1/1/2012 – 12/31/2012	\$2000

Invited Presentations (Non-Conference)

Seminars and Colloquia:

- *Fragment Species in the Comae of Comets: Observations and Challenges*, Department of Physics and Astronomy Colloquium, Mississippi State University, February 19, 2021
- *Fragment Species in the Comae of Comets: Observations and Challenges*, Department of Physics Colloquium, Auburn University, October 23, 2020
- *Fragment Species in the Comae of Comets: Observations and Challenges*, Physical Chemistry Seminar, Department of Chemistry and Biochemistry, Auburn University, October 20, 2020
- *Comet ISON*, Astronomy Club Seminar, Mississippi State University, November 22, 2013
- *Comets: Sentinels of the Outer Solar System*, Physics Graduate Student Association Seminar, Mississippi State University, September 22, 2011
- *Comets: Sentinels of the Outer Solar System*, Society of Physics Students Seminar, Mississippi State University, September 21, 2011
- *Initiating New Science Partnerships in Rural Education*, Mississippi Association of Physicists Meeting, March 27, 2010
- *Cosmic Time Capsules: Cometary Atmospheres and the Origin of the Solar System*, MSU Arts & Sciences 1st Annual Research Showcase, October 17, 2008
- *Understanding Cometary Atmospheres*, Physics and Astronomy Colloquium, University of Alabama (Tuscaloosa), March 12, 2008
- *Understanding Cometary Atmospheres*, Physics and Astronomy Colloquium, University of Alabama at Huntsville, March 11, 2008
- *Modeling the Chemical Properties of Cometary Atmospheres*, Physics and Astronomy Colloquium, Mississippi State University, August 28, 2006
- *Formation of Carbon Monoxide in the Near-Nucleus Coma of Comets*, Laboratory for Extraterrestrial Physics Seminar, NASA's Goddard Space Flight Center, October 9, 2003

Workshop Presentations:

- *CVs and Cover Letters 101*, Physics Graduate Student Association Professional Development Seminar, December 12, 2013
- *GRAIL Launch at Cape Canaveral*, INSPIRE GK-12 Fall Workshop, Mississippi State University, October 22, 2011
- *A Comet's Tale*, NASA's Lunar Reconnaissance Orbiter Teacher Workshop, Hinds Community College, Utica, MS, June 29, 2011
- *INSPIRE: Initiating New Science Partnerships in Rural Education*, Lunar Reconnaissance Orbiter Teacher Workshop, Utica, MS, June 29, 2011

Public Lectures:

- *Comets: Sentinels of the Outer Solar System*, Astronomy on Tap — Baton Rouge Virtual Presentation, October 8, 2020
- *Chasing Shadows: Understanding the Great American Solar Eclipse of 2017*, Mississippi State University, Starkville, MS, August 20, 2017
- *Rosetta: ESA's Great Comet Exploration Mission*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, April 18, 2015
- *Comets: Sentinels of the Outer Solar System*, Cafe Scientifique, Starkville, MS, March 31, 2015
- *The Year of the Comets: What We Learned in 2013*, Rainwater Observatory Public Open House, French Camp, MS, May 9, 2014
- *The Year of the Comets: What We Learned in 2013*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, March 29, 2014
- *Comet ISON This Way Comes!*, Rainwater Observatory Public Open House, French Camp, MS, November 8, 2013
- *Awaiting Comet ISON*, Von Braun Astronomical Society's Astronomy Day, Huntsville, AL, October 19, 2013
- *The Year of the Comets!*, Rainwater Observatory Public Open House, French Camp, MS, May 10, 2013
- *The Year of the Comets: What We Want to Learn in 2013*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, April 13, 2013
- *Insights from Comets Garradd and Lovejoy*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, April 21, 2012.
- *New Science with Old Friends: Visits to Comets Tempel 1 and Hartley 2*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, April 29, 2011
- *There and Back Again: Solar System Sample Return Missions*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, April 24, 2009
- *Deep Impact, Stardust, and the Future of Comet Exploration*, Mid-South Stargaze, Rainwater Observatory, French Camp, MS, April 11, 2007

Media Interactions

Print Interviews for Research:

- “MSU faculty’s astronomy research shines on NEOWISE comet”, *Research in the Headlines*, College of Arts & Sciences, Mississippi State University, August 19
- “Pierce part of SEC physics and chemistry collaboration on comet research”, *Maroon Memo*, Office of Public Affairs, Mississippi State University, February 17
- “SEC Physics and Chemistry Faculty Collaborate on Comet Research”, *COSAM News*, Auburn University, January 7, 2020

Photography:

- Photo of comet C/2020 F3 (NEOWISE) featured on weather segment with Chief Meteorologist Keith Gibson, WCBI (CBS Affiliate), Columbus, MS, July 13, 2020

Articles of Public Interest:

- Jupiter’s Great Red Spot: A 300-year-old cyclone persists but is shrinking, *The Conversation*, March 19, 2019

Television/Video Interviews for Service and Outreach:

- *The Department of Physics and Astronomy*, MSU College of Arts & Sciences, November 9, 2017
- *Solar Eclipse of 2017*, WTVA (NBC Affiliate), Tupelo, MS, August 21, 2017
- *Solar Eclipse of 2017*, WCBI (CBS Affiliate), Columbus, MS, August 20, 2017
- *Solar Eclipse of 2017*, “Midmorning with Aundrea”, WCBI (CBS Affiliate), Columbus, MS, August 15, 2017
- *Solar Eclipse of 2017*, WCBI (CBS Affiliate), Columbus, MS, August 14, 2017
- *Solar Eclipse of 2017*, WTVA (NBC Affiliate), Tupelo, MS, August 10, 2017
- *Solar Eclipse of 2017*, MSU – “Arts & Sciences Vision Magazine”, July 21, 2017
- *Comet ISON*, WTVA (NBC Affiliate), Tupelo, MS, November 7, 2013
- *Close Approach of Asteroid 1998 QE₂*, WTVA (NBC Affiliate), Tupelo, MS, May 29, 2013
- *Comet PanSTARRS*, WTVA (NBC Affiliate), Tupelo, MS, March 13, 2013

- *Mars Science Laboratory Successful Landing*, WCBI (CBS Affiliate), Columbus, MS, August 7, 2012
- *The Changing Zodiac*, MSU Student Broadcast – “Take 30”, February 4, 2011

Print Interviews for Service and Outreach:

- “MSU, Starkville gear up for historic solar eclipse”, *Starkville Daily News*, August 15, 2017
- “Eyes to the Sky: Sun, moon to put on light show Aug. 21”, *Northeast Mississippi Daily Journal*, August 13, 2017
- “MSU astronomer discusses ‘Chasing Shadows’ prior to historic solar eclipse this month”, MSU Newsroom, August 11, 2017
- “Area residents have ‘rare’ chance to see eclipse”, *The Commercial Dispatch*, Columbus, MS, August 11, 2017
- “Spend Saturday under the stars”, *The Reflector* (MSU Student Newspaper), September 13, 2013
- “Stargazers gather at MSU to get look at rare comet”, *Starkville Daily News*, March 17, 2013
- “Celestial events will light up the sky in 2013; comets included”, *The Reflector* (MSU Student Newspaper), February 18, 2013

Radio Interviews:

- *Solar Eclipse of 2017*, JT Show, SuperTalk Mississippi, August 18, 2017
- *Solar Eclipse of 2017*, WMSV (MSU Campus Radio), August 9, 2017
- *Launch of OSIRIS-REx*, WMSV (MSU Campus Radio) – “What’s In the Sky at MSU”, September 9, 2016
- *New Horizons at Pluto*, WMSV (MSU Campus Radio) – “What’s In the Sky at MSU”, July 1, 2015
- *Supermoon*, Mississippi Radio Network, May 5, 2012

New Faculty Mentorship for College of Arts & Sciences

- Assistant Professor Catherine Shi, Department of Mathematics and Statistics (2019 – Present)
- Assistant Professor Bin Liu, Department of Biological Sciences (2018 – 2019)

Student Mentorship

Graduate Student Research:

- Ien A. Harris (Current Ph.D.): *Title TBD*
- Ahmad Sohani (Current M.S.): *Title TBD*
- Benjamin K. Lewis (M.S. Physics, with Thesis 2016): *Molecular Parentage of Radical Species in the Comae of Comets*
- Charles M. Vaughan (Ph.D. Applied Physics 2015): *Jet Morphology and Coma Analysis of Comet 103P/Hartley 2*
- Chandrasiri A. Ihalawela, (M.S. Physics, with Thesis 2009): *The Spatial Distribution of CN Radicals in the Coma of Comet Encke*

Undergraduate Student Research:

- Ronald J. Unz (B.S. Physics, 2009)
- Charles M. Vaughan (B.S. Physics, 2008)

Other Mentorship:

- Career-path mentoring to 18 undergraduate S-STEM scholarship recipients (2016 – 2021)
- Mentorship in teaching, research, and professional development to 48 graduate student NSF GK-12 Fellows and 7 GK-12 partner teachers (2010 – 2016)

Thesis/Dissertation Committee Member:

<u>Student</u>	<u>Degree</u>	<u>Title</u>	<u>Advisor</u>
Farzaneh Zohrabi	M.S., 2020	<i>Investigating the Presence of Stellar Companions around Hot Jupiter Host Stars Using MagAO</i>	Angelle Tanner
Zhangjin Xu	Ph.D., 2020	<i>Near-Field Phenomena in Dipole Radiation</i>	Henk Arnoldus

Shane Clark	M.S., 2018	<i>Optical Characterization of an APPJ using OES and CRDS</i>	Chuji Wang
Che Fuh	Ph.D., 2018	<i>Microwave Plasma-Assisted Ignition and Combustion Diagnostics</i>	Chuji Wang
Maheshwar Ghimire	Ph.D., 2018	<i>Fiber Loop Ringdown for Physical and Chemical Sensors and Sensing</i>	Chuji Wang
Amy Ray	M.S., 2017	<i>A Survey of Nearby M-Dwarfs Using Robotic AO</i>	Angelle Tanner
Adam Powers	M.S., 2017	<i>Development of a Portable Laser-Induced Fluorescence Sensor</i>	Gombojav Ariunbold
Nava Subedi	Ph.D., 2016	<i>Characterization of Microparticles Using Digital Holography</i>	Matthew Berg
Cameron Clarke	B.S. 2015 (Honors)	<i>Determining the Photometric Capabilities of the CTIO 0.9m Telescope</i>	Angelle Tanner
Katja (Schäfer) Biswas	Ph.D., 2011	<i>Arbitrary Projections onto a Reduced Discrete Set of States with Applications to Mean First Passage Time Problems</i>	Mark Novotny
Xin Li	Ph.D., 2010	<i>Vortices in the Near Field of Optical Dipole Radiation</i>	Henk Arnoldus

Service Activities & Professional Organizations

Departmental and University Service Activities at MSU:

Current and Ongoing Activities:

- Phi Beta Kappa (Gamma of Mississippi Chapter):
 - Charter Member, 2019 – Present
 - Committee on Members-in-Course, 2019 – Present
- Physics and Astronomy Promotion and Tenure Committee, 2019 – Present
- College of Arts & Sciences New Faculty Mentor, 2018 – Present
- Quantum Mechanics Graduate Preliminary Exam Committee, 2017 – Present
- Chair, Physics and Astronomy Recruitment Committee, 2013 – Present (Member 2010 – Present)
- Faculty Advisor, Physics Graduate Student Association, 2013 – Present
- Rainwater Observatory Partnership Committee, 2010 – Present
- MSU Howell Observatory Committee, 2010 – Present

Previous and Fixed-Term Activities:

- Physics and Astronomy Instructor and Assistant Clinical Professor Search Committee, 2019 – 2020
- President's and Provost's Scholars Candidate Interview Committee, 2020
- Physics and Astronomy Undergraduate Program Committee, 2018 – 2019
- Physics and Astronomy Colloquium Committee, 2018 – 2019
- Provost's Internal Review Committee for the Department of Mathematics and Statistics, 2017
- Physics and Astronomy Facility Resources Committee, 2016 – 2019
- College of Arts & Sciences Dean's Search Committee, 2016 – 2017
- Physics and Astronomy Visiting Faculty Search Committee, 2016
- Physics and Astronomy Business Manager Search Committee, 2016
- Judge, Undergraduate Research Symposium Poster Presentations, 2015
- Judge, Graduate Research Symposium Poster Presentations, 2015
- Provost's Scholar Awards Selection Committee, 2015
- Mathematical Physics Graduate Preliminary Exam Committee, 2015 – 2017
- College of Arts & Sciences Promotion and Tenure Committee, 2015 – 2018
- Physics and Astronomy Outreach Committee, 2014 – 2019

- Physics and Astronomy Faculty Search Committee, 2014 – 2015
- Donald Zacharias Graduate Teaching Assistant of the Year Awards Selection Committee, 2014
- Mathematical Physics Graduate Preliminary Exam Committee, 2012 – 2013
- Physics and Astronomy Benchmarking Survey Committee, 2013
- Physics and Astronomy Laboratory Operations Manager Search Committee, 2013
- Committee to Establish the Physics Ph.D. Program in the College of Arts & Sciences, 2013
- College of Arts & Sciences Faculty Senate, 2011 – 2012
- Director, MSU Howell Observatory, 2010 – 2011
- Chair, Physics and Astronomy Faculty Search Committee, 2010 – 2011
- Physics and Astronomy Graduate Program Committee, 2009 – 2014
- Faculty Advisor, MSU Astronomy Club, 2009 – 2010
- Society of Scholars Council of Advisors, 2007 – 2018
- Quantum Mechanics Graduate Preliminary Exam Committee, 2007 – 2010

Departmental and University Service Activities Prior to MSU:

- Postdoc-Faculty Liaison, Astronomy Department, University of Texas, 2006
- Member, Graduate Student Government, University of Maryland, 1999 – 2003
 - Chair, Elections Committee, 2003
 - Plan of Organization Overhaul Committee, 2003
- Departmental Representative for Graduate Student Recruitment Fair, University of Maryland, 2001
- Graduate-Faculty Liaison, Astronomy Department, University of Maryland, 2000
- Panelist for Graduate Student Orientation, University of Maryland, 2000
- President, Society of Physics Students, University of Kentucky, 1996 – 1997

Professional Service Activities and Consulting:

Recurring and Recent Activities:

- Referee for *Icarus* and *The Planetary Science Journal*
- Chair, Comets and Icy Bodies Panel, NASA Solar System Observations (SSO) Program
- Panelist or External Reviewer for NASA Programs: Discovery Data Analysis Program (DDAP), Lunar Advanced Science and Exploration Research (LASER), NASA's Postdoctoral Program (NPP), Planetary Astronomy (PAST), Rosetta Data Analysis Program (RDAP), Solar System Observations (SSO)

Previous and Fixed-Term Activities:

- External Reviewer for Louisiana Board of Regents Physics and Astronomy Enhancements Awards, 2018
- External Reviewer of high-school physics questions for the NSF-Funded “Misconceptions Oriented Standards-based Assessment Resources for Teachers (MOSART)” project at Harvard University, 2018
- Panel Reviewer for Louisiana Board of Regents Physics and Astronomy Enhancements Awards, 2014
- Scientific and Technical Evaluator for NASA's Discovery Program, 2012
- Judge for AGU Outstanding Student Research Awards, AGU Fall Meeting, 2011
- External Reviewer for Arkansas Academy of Sciences Undergraduate Research Grants, 2010
- Reviewer for National Science Foundation's Astronomy and Astrophysics Research Grants
- Maintained lists of comet discoveries for the IAU Committee on Small Body Nomenclature and the Small Bodies Node of the Planetary Data System, 2000 – 2003

Outreach Activities:

Recurring Activities:

- Public Open Houses, MSU Howell Observatory
- Exhibitor, Mississippi Science Fest, Mississippi Children's Museum, 2017 – Present

Previous and Fixed-Term Activities:

- Transit of Mercury Public Viewing, Mississippi State University, November 11, 2019
- Solar Eclipse Public Viewing, Mississippi State University, August 21, 2017
- Assembly guest speaker, Armstrong Middle School, August 17, 2017
- Assembly guest speaker, Henderson Ward Stewart Elementary School, August 17, 2017
- Guest speaker to Starkville Boys' and Girls' Club, January 30, 2015
- Assisted with Public Tour of the Very Large Array (VLA), Socorro, NM, July 19, 2014

- Guest speaker to 6th grade gifted and talented students from Bomar Elementary School (Vicksburg, MS), Rainwater Observatory, French Camp, MS, October 28, 2013
- Guest speaker to 4th grade classes, Louisville Elementary School, Louisville, MS, May 10, 2013
- Guest speaker to 2nd and 3rd grade classes, Louisville Elementary School, Louisville, MS, April 17, 2013
- Assisted with scheduling the visit of astronomer Neil deGrasse Tyson to MSU, February 2011
- Judge, Region V High School Science Fair, Mississippi State University, March 12, 2010
- Guest speaker to 1st grade classes, East Silver Spring Elementary School, Silver Spring, MD, 2003
- Guest speaker to career program for at-risk elementary school girls, University of Maryland, 1999
- Guest speaker to 1st grade classes, Adelphi Elementary School, Adelphi, MD, 1998

Professional Society Memberships:

- American Astronomical Society (AAS)
 - Division for Planetary Sciences (DPS)
- American Chemical Society (ACS)
 - Computers in Chemistry Division
 - Physical Chemistry Division
 - Astrochemistry Subdivision
- American Geophysical Union (AGU)

Courses Taught at Mississippi State University

<u>Course Number/Title</u>	<u>Description</u>	<u>No. Semesters Taught</u>
MA1001 First Year Seminar	Problem-solving exploration of the integrated nature of mathematics with chemistry and physics (Required course for S-STEM scholarship recipients; team-taught with the project PI and Co-PIs)	2 assisting
PH1063 Descriptive Astronomy	Concept-based survey of modern astronomy for students of all majors Current Text:	14
PH1123 General Physics II	Waves, optics, and thermodynamics (Non-calculus physics sequence) Current Text:	2
PH1133 General Physics III	Electricity, magnetism, quantum mechanics, and nuclear physics (Non-calculus physics sequence) Current Text:	5
PH2213 Physics I	Classical Newtonian mechanics (Calculus-based physics sequence) Current Text: <i>Physics for Scientists and Engineers (with Modern Physics), 4</i>	12 regular 1 honors
PH3063 Astrophysics	Planetary dynamics, stellar evolution, radiative processes, galaxy evolution, and cosmology Current Text: Peterson, plus extensive supplementals from other sources	4
PH4000 Directed Individual Study	Supervised independent study	1
PH4513/6513 Optics (Undergraduate/graduate split-level class)	Wave motion, electromagnetic theory, geometrical optics, polarization, interference, and diffraction Current Text: other sources	3

PH6990 Special Topics in Physics: Principles of Pedagogical Design with STEM Research Products	Course lesson planning, strengthening communication skills, and incorporating scientific research into classroom activities (Training course for INSPIRE GK-12 graduate fellows; team-taught with the project PI, a master teacher, and a technology specialist) Text: <i>Understanding by Design, Expanded 2</i> McTighe, plus extensive supplementals from other sources	2 as lead; 3 assisting
PH6990 Special Topics in Physics: Astrophysics	Celestial coordinate systems, planetary dynamics, spectroscopy, stellar evolution, radiative processes, galaxy evolution, and cosmology (More advanced treatment than PH3063) Current Texts: Peterson, <i>Radiative Processes in Astrophysics</i> , by Rybicki and Lightman, <i>Celestial Mechanics</i> by Danby, plus extensive supplementals from other sources	1 course developer

Publications in Refereed Journals

ORCID: 0000-0002-3946-780X

Fortenberry, R. C., Bodewits, D., & **Pierce, D. M.**, 2021. Knowledge Gaps in the Emission Spectra of Oxygen-Bearing Molecular Cations, *submitted to Astrophysical Journal Supplement Series*.

Pierce, D. M., & Cochran, A. L., 2021. Examination of Fragment Species in the Comae of Several comets Using an Integral Field Unit Spectrograph, *The Planetary Science Journal*, 2, 19.
<https://iopscience.iop.org/article/10.3847/PSJ/abd037>

Vaughan, C. M., **Pierce, D. M.**, & Cochran, A. L., 2017. Jet Morphology and Coma Analysis of Comet 103P/Hartley 2, *Astronom. J.*, 154, 219
<http://iopscience.iop.org/article/10.3847/1538-3881/aa9382>

McNeal, K. S., Radencic Lalk, S., Cartwright, J., **Pierce, D.**, & Schmitz, D. 2017. An Earth Hazards Approach to Implementing GIS with Middle School Students through a University-School Partnership. *The Earth Scientist*, 32, 16

Dorman, G. R., **Pierce, D. M.**, & Cochran, A. L., 2013. The Spatial Distribution of C₂, C₃, and NH in Comet 2P/Encke, *Astrophys. J.*, 778, 140
<http://iopscience.iop.org/0004-637X/778/2/140/>

Ihalawela, C. A., **Pierce, D. M.**, Dorman, G. R., & Cochran, A. L. 2011. The Spatial Distribution of OH and CN Radicals in the Coma of Comet Encke, *Astrophys. J.*, 741, 89
<http://iopscience.iop.org/0004-637X/741/2/89/>

Li, X., **Pierce, D. M.**, & Arnoldus, H. F. 2011. Damping of the Dipole Vortex, *J. Opt. Soc. Am. A.*, 28, 778
<http://www.opticsinfobase.org/josaa/abstract.cfm?URI=josaa-28-5-778>

Li, X., **Pierce, D. M.**, & Arnoldus, H. F. 2011. Redistribution of Energy Flow in a Material Due to Damping, *Optics Letters*, 36, 349
<http://www.opticsinfobase.org/ol/abstract.cfm?URI=ol-36-3-349>

Pierce, D. M., & A'Hearn, M. F. 2010. Analysis of CO Production in Cometary Comae: Contributions from Gas-Phase Phenomena. *Astrophys. J.*, 718, 340
<http://iopscience.iop.org/0004-637X/718/1/340/>

Rothschild, R. E., Band, D. L., Blanco, P. R., Gruber, D. E., Heindl, W. A., MacDonald, D. R., Marsden, D. C., Jahoda, K., **Pierce, D.**, Madejski, G., Elvis, M., Schwartz, D. A., Remillard, R., Zdziarski, A. A., Done, C., Svensson, R. 1999. Observation of Centaurus A by the Rossi X-Ray Timing Explorer. *Astrophys. J.*, 510, 651
<http://iopscience.iop.org/0004-637X/510/2/651/>

Refereed Book Chapters

Li, X., **Pierce, D. M.**, & Arnoldus, H. F. 2012. Vortices in Electric Dipole Radiation, *Electromagnetic Radiation*, S. O. Bashir ed. (InTech, Rijeka, Croatia)
<http://www.intechopen.com/books/electromagnetic-radiation/vortices-in-electric-dipole-radiation>

Refereed Conference Presentations and Proceedings

Bruce, L. M., McNeal, K. S., **Pierce, D.**, Radencic, R., Schmitz, D. INSPIRE: Linking Graduate Students with K12 Teachers to Address Remote Sensing Educational Needs. International Geoscience and Remote Sensing Symposium (IGARSS), Quebec City, Quebec, Canada, 13 – 18 July 2014

Invited Conference Presentations

Pierce, D. M. *Fragment Species in the Comae of Comets: Observations and Challenges*, Astrochemistry in the Southeast and Beyond, Southeastern Regional Meeting of the American Chemical Society, Savannah, GA, October 22, 2019

Pierce, D. M. *Rosetta: A Comet Exploration Mission*, 1st Annual MSU/Ole Miss Joint Physics Symposium, National Center for Physical Acoustics, Oxford, MS, February 27, 2016

Contributed Conference Presentations

Pierce, D. M., & Cochran, A. L. 2019. Fragment Species in the Comae of Several Comets Observed with an Integral Field Unit Spectrograph and the Unusual Case of 168P/Hergenrother, A Symposium in Celebration of Mike A'Hearn, College Park, MD, August 6 - 8, 2019

Harris, I., **Pierce, D. M.**, & Cochran, A. L. 2017. Spectroscopic Profiles of Comets Garradd and McNaught. *Bull. Am. Astron. Soc.*, 49, 414.09

Harris, I., **Pierce, D. M.**, & Cochran, A. L. 2016. Using Spectroscopic Profiles to Study the Morphology of Comets. *Bull. Am. Astron. Soc.*, 48, 217.06

Lewis, B. K., **Pierce, D. M.**, & Cochran, A. L. 2015. Using an Integral-Field Unit Spectrograph to Study Radical Species in Cometary Comae, *Bull. Am. Astron. Soc.*, 225, 137.21

Pierce, D. M., Vaughan, C. M., Lewis, B. K., & Cochran, A. L. Spectroscopic Investigations of the Chemical Composition and Coma Morphology of Comets, AGU Fall Meeting, San Francisco, CA, 15 – 19 December 2014

Radencic, S. P., Dawkins, K., Jackson, B., Walker, R. M., Schmitz, D. W., **Pierce, D. M.**, Funderburk, W. K., & McNeal, K. S. Initiating New Science Partnerships in Rural Education (INSPIRE): STEM Graduate Students Bring Current Research into 7th – 12th Grade Science Classrooms, AGU Fall Meeting, San Francisco, CA, 15 – 19 December 2014

Pierce, D. M., Radencic, S. P., Funderburk, W. K., Walker, R. M., Jackson, B., Dawkins, K. Schmitz, D. W. Bruce, L. M., & McNeal, K. S. “Initiating New Science Partnerships in Rural Education (INSPIRE): Enhancing Scientific Communication by Bringing STEM Research into the Classroom”, AGU Fall Meeting, San Francisco, CA, 15 – 19 December 2014

Vaughan, C. M., **Pierce, D. M.**, Lewis, B. K., & Cochran, A. L., 2014. Jet Morphology and Coma Analysis of 103P/Hartley 2: Temporal Evolution and Interspecies Comparisons, *Bull. Am. Astron. Soc.*, 46. 209.28

Lewis, B. K., **Pierce, D. M.**, & Cochran, A. L., 2014. Using an Integral-Field Unit Spectrograph to Study Radical Species in Cometary Comae, *Bull. Am. Astron. Soc.*, 46. 209.34

Pierce, D. M., Radencic, S. P., Walker, R. M., Cartwright, J., Schmitz, D. W., Bruce, L. M., & McNeal, K. S., 2014. From the Green Screen to the Classroom: Training Graduate Students to Communicate Science and Mathematics Effectively through the INSPIRE Program, *Bull. Am. Astron. Soc.*, 46. 212.13

Radencic, S. P., Pounders, D., Testa, M. P., Schmitz, D. W., **Pierce, D. M.**, & McNeal, K. S., INSPIRE-ING Engagement and Interest in Geosciences with 7th – 8th Grade Underrepresented Populations of Mississippi. GSA Annual Meeting, Vancouver, BC, October 19 – 22

McNeal, K. S., Radencic, S., **Pierce, D.**, Hare, D., & Schmitz, D. Linking Graduate Student Research in the 7-12 Grade Science Classrooms Through a Graduate K-12 Training Program. GSA Annual Meeting, Denver, CO, 27 – 30 October 2013

Radencic, S. P., McNeal, K., & **Pierce, D. M.** Initiating New Science Partnerships in Rural Education (INSPIRE) Bringing STEM Research to 7th – 12th Grade Science and Math Classrooms. AGU Fall Meeting, San Francisco, CA, 3 – 7 December 2012

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