Peter J. Brown

Office Address
M311 Mitchell Institute for Fundamental Physics and Astronomy
Department of Physics & Astronomy, Texas A&M University
4242 TAMU, College Station, TX 77843

Contact Information
E-mail: pbrown@physics.tamu.edu
Cell: (979) 402-4523 Skype: grbpeter
www.linkedin.com/in/peter-brown-supernova

Highlights

- Observational Astrophysicist with experience in ground and space-based Ultraviolet and Optical Photometry and Spectroscopy of Supernovae and other Transients
- **Leader of Swift supernova team since 2005 and Swift Cycle 14 Key Project**
- **PI of 5 Hubble Space Telescope Programs**
- Principal Investigator of External Grants Totaling over **$2,600,000**
- **19** Refereed, First Author Journal Articles, **140+** Coauthored Journal Articles
- 2017 Texas A&M College of Science **Undergraduate Research Mentoring Award**

Education

Ph.D. in Astronomy & Astrophysics – Pennsylvania State University August 2009
Thesis Title: "The Ultraviolet Properties of Supernovae"
Thesis Advisor: Dr. P. W. A. Roming

B.S. in Physics and Astronomy – Brigham Young University August 2004
Senior Thesis Title: "Observing Gamma Ray Burst Afterglows from BYU's Orson Pratt Observatory"
Thesis Advisor: Professor J. W. Moody

Academic Positions

Associate Research Professor – Texas A&M University 2023 – current
Visiting Associate Professor – TAMU Springs 2020-2022
Research Scientist – Mitchell Institute, TAMU 2016 – 2023
Visiting Assistant Professor – TAMU Spring 2018

Mitchell Fellow, Postdoctoral Research Associate – TAMU 2012 – 2016
Supervisor: Professor Lifan Wang

Postdoctoral Research Associate – University of Utah 2009 – 2012
Supervisor: Professor Kyle Dawson

Graduate Research Assistant – Pennsylvania State University 2004 – 2009
Supervisor: Dr. P. W. A. Roming

Funded Grant Proposals

Total > $ 2.6 M

Unlocking Type Ia Supernovae with an Ultraviolet Key 2020-2024
PI – NASA Astrophysics Theory Program, 2019 – $705,188 ($360,303 to A&M)

SOUSA's Sequel: Improving Standard Candles by Improving UV Calibration 2020-2024
PI – NASA Astrophysics Data Analysis Program, 2019 – $472,032

Decontaminating the Swift UV-Grism Sample of CC Supernovae 2023-2024
Institutional PI – Swift Guest Investigator, Cycle 19 (Science PI – Grad Student Mica Rowe)

Ultraviolet Spectroscopy of Extreme Standard Candles 2020-2022
PI – Hubble Space Telescope Cycle 28 Guest Observer
62 Orbits – $202,214 ($99,747 to A&M)

Red or Reddened Supernovae? Understanding the Ultraviolet Differences of Normal Standard Candles 2020-2022
PI – Hubble Space Telescope Cycle 28/29 Guest Observer – 28 Orbits – $135,586

Swift and SIRAH: UV to NIR observations of Type Ia Supernovae Beyond the Twilight Zone 2020-2021
PI – Swift Guest Investigator Program, 2020 – $40,000

Supernova Key Project: Swift Response to Nearby Supernovae 2018-2019
PI – NASA Swift Guest Investigator Program, Cycle 14 – $100,000

Seeing Core-Collapse Supernovae in the Ultraviolet 2017-2019
PI – NASA Astrophysics Data Analysis Program, 2016 – $478,291

Ultraviolet Spectra of a Normal Standard Candle 2016-2017
PI – Hubble Space Telescope Cycle 24 GO #14665 14 orbits– $87,896

Ultraviolet Spectroscopy of the Unprecedented Rebrightening of the Most Luminous Supernova 2015-2016
PI – Hubble Space Telescope Cycle 23 DDT 2 orbits #14450– $18,449

An Ultraviolet View of Overluminous Type Ia Supernovae 2015-2016
PI – Hubble Space Telescope Cycle 23 GO #14144 7 orbits – $61,169

Ultraviolet Properties of Superluminous Supernovae over Ten Billion Years 2015-2016
PI – Swift Guest Investigator program, Cycle 11 – $40,000

Decontaminating the Swift UV-Grism Sample of SNe Ia to Measure the UV Diversity 2015-2016
Co-I – Swift Guest Investigator program, Cycle 11 (PI – N. Suntzeff, Texas A&M)
Led by Graduate student M. Smitka

Understanding Supernovae With A Swift Ultraviolet Archive 2013-2017
PI – NASA Astrophysics Data Analysis Program, 2012 – $276,007

Swift Ultraviolet Spectroscopy of Superluminous and 2002cx-like Type Ia Supernovae 2014-2015
Co-I – Swift Guest Investigator program, Cycle 10 (PI – N. Suntzeff, Texas A&M)
Led by Graduate student M. Smitka

Improving Type Ia Supernovae as Standard Candles by Correlating the Ultraviolet and Optical Properties 2013-2014
PI – Swift Guest Investigator program, Cycle 9 – $37,000

Improving Standard Candles through Ultraviolet Studies: The Effect of Host Galaxy Environment on Type Ia Supernovae 2010-2011
PI – Swift Guest Investigator program, Cycle 7 – $15,000

Ultra-Violet Effects of Environment on Type Ia Supernovae 2009-2010
PI – Swift Guest Investigator program, Cycle 6 – $34,998

Environmental Effects on Type Ia Supernovae as Standard Candles in the Ultra-Violet 2006-2009
Science PI – Swift Guest Investigator program, Cycles 3,4,5

Observing Proposals

Not Done Yet: Template Observations to Complete Swift Supernovae — 2022
PI – Swift Guest Investigator Fill-in program, Cycle 18

Completing the Ten Year Swift Supernova Archive — 2015-2016
PI – Swift Guest Investigator Fill-in program, Cycle 12

HET Observations of Dark Energy Survey Supernovae — 2012 – 2013
PI – Spectroscopic classification of Dark Energy Survey transients

HET Observations of Swift Supernovae — 2005 – 2009
PI – Low resolution spectroscopy with the Hobby-Eberly Telescope

Swift Ultraviolet/X-ray Observations of Supernovae — 2005 – Present
PI – over four hundred seventy accepted Target of Opportunity requests

Collaborative Programs

Precision Observations of Infant Supernova Explosions — 2020-present

Carnegie Supernova Project (PI: Phillips) — 2019-present

Swift Key Project: Maximizing Swift's Impact
With The Global Supernova Project (PI: Howell) — 2019-2021

Global Supernova Project — 2017-present

Dark Energy Science Collaboration — 2019-present

LSST Transient and Variable Stars working group — 2016-present

Dark Energy Survey: Supernova working group member — 2012-2020

Spectropolarimetry of Infant Supernovae
Co-I – Very Large Telescope, PI – Y. Yang (Weizmann Institute) — 2018

Supernova Ia Polarization Survey
Co-I – Very Large Telescope, PI – A. Cikota (ESO, Max Plank Institute for Astrophysik) — 2018

A Second Ladder: Testing for Bias in the Type Ia Distance Scale with Surface Brightness Fluctuations
Co-I – Hubble Space Telescope, Cycle 24, PI – P. Milne (U. Arizona) — 2016-2017

Far UV Spectroscopy of Superluminous Supernovae — 2016-2017
Co-I – Hubble Space Telescope, Cycle 24, PI – R. Quimby (SDSU)

Polarimetry of ASASSN-15lh as a probe of explosion physics of the most luminous supernova ever discovered — 2015
Co-I – Hubble Space Telescope, Director's Discretionary Time
PI – Y. Yang (grad student, Texas A&M)

Imaging Polarimetry of Light Echoes around SN 2014J — 2015-2017
Co-I – Hubble Space Telescope, Cycle 23, PI – L. Wang (Texas A&M)

Understanding the Progenitor Systems, Explosion Mechanisms, and Cosmological Utility of Type Ia Supernovae — 2014-2015
Co-I – Hubble Space Telescope, Cycle 22, PI – R. Foley (U. Illinois)

Testing the Standardizability of Type Ia Supernovae
with the Cepheid Distance of a Twin Supernova 2014-2015
Co-I – Hubble Space Telescope, Cycle 22, PI – R. Foley (U. Illinois)

Polarimetry of SN 2014J in M82 as a Probe of Its Dusty Environment 2014-2015
Co-I – Hubble Space Telescope, Cycle 22, PI – L. Wang (Texas A&M)

Survey Using DECam for Superluminous Supernovae (SUDSS) Co-I 2014-2015

Sloan Digital Sky Survey II: Supernova Survey Ext. Collaborator 2009-2011

Sloan Digital Sky Survey III: Baryon Oscillation Spec. Survey 2009-2012

Swift Science/Ultraviolet Optical Telescope Instrument Teams 2004-present

Teaching Experience

ASTR104 — Visiting Associate Professor, Texas A&M Spring 2022
Teaching "Introduction to Galaxies and Cosmology"
Natural Science core curriculum course using the free, online Open Stax Astronomy textbook.

ASTR111 — Visiting Associate Professor, Texas A&M Spring 2020-1
Teaching "Overview of Modern Astronomy"
using the free, online Open Stax Astronomy textbook
and training the graduate students teaching the lab portion.
2020 was an in-person class until spring break,
online via zoom afterward due to the COVID19 pandemic.
2021 was taught in a hybrid simultaneous in-class and zoom mode.

ASTR101 — Visiting Assistant Professor, Texas A&M Spring 2018
Taught "Basic Astronomy" ASTR101 to a class of 104 students
using The Essential Cosmic Perspective with Pearson online homework
along with self-made observing and self-reflection projects.

CIRTL Associate, Texas A&M Summer 2018
Certification as a Center for the Integration of Research, Teaching,
and Learning Associate for participation in
An Introduction to Evidence-Based Undergraduate STEM Teaching MOOC

ASTR111 — Lab Coordinator, Texas A&M 2015-2016
Supervised the graduate student assistants teaching the ASTR111 labs,
trained in the lab instruction, taught labs as needed, updated lab manuals,
tested telescopes, and other equipment, coordinated class schedules
with department and instructors

**Substitute/Guest Instructor, Texas A&M, Penn State University,
U. of Utah, Utah Valley State College** 2004-2017
Substituted or gave guest lectures for large undergraduate classes
in physics and astronomy

Teaching Assistant, Pennsylvania State University Fall 2004
Astronomy 011 "Elementary Astronomy Lab" – Independently led lab-based course,
taught class lectures, gave lab demonstrations, held office hours,
graded assignments, and assigned final grades

Teaching Assistant, Brigham Young University 2003 – 2004
Physics 329 "Astronomical Observing" – taught and supervised use of the on-campus telescopes and CCDs, IRAF data reduction, and period analysis of short-period variable stars
Physics 127 "Introductory Astronomy" – taught constellations in the night sky and planetarium, conducted review sessions, assisted with and graded observation project reports

Mentoring Experience

Recipient of 2017 Texas A&M College of Science Undergraduate Research Mentoring Award

Team leader in Aggie Research Program 2017-2023

Certification as an Aggie Research Leader Spring 2017

Mentored Undergraduate (UG: >65) and Graduate (G:8) Students
First six graduate students were formally advised by their faculty advisor but mentored by Dr. Brown. Upon nomination to the Graduate Faculty at Texas A&M I am the co-chair for the PhD committee and funding source of two current students.

• Micalyn Rowe (G: Summer 2020–current) – Ultraviolet spectroscopy of type II supernovae
• Yaswant Devarakonda (G: Fall 2020–Spring 2023) – PCA fitting of type Ia supernova light curves, SED modeling of type Ia supernovae
• Andrew Jozwiak (UG: Fall 2022-current) Honors Thesis, Spectral Velocities of Type Ia Supernovae • Macie Robertson (UG: Spring 2021-current) Honors Thesis, AAS 2022: X-ray Measurements of Swift Supernovae • Emily Sarria (UG: Spring 2020-current) AAS 2022: Swift Archive, Spectrophotometric Comparisons • Jack Padgett (UG: Spring 2021-current) AAS 2022: Swift and SIBEX Spectral Simulations, Photoclassification comparisons • Aggienova Team (UG: Fall 2022 virtual) Abbie Couvillon, Jessica Allen, Macie Roberson, Colton Buross, Mrinal Yadev – Various projects related to the Swift SN program
• Aggienova Team (UG: Spring 2022 virtual) Abbie Couvillon, Andrew Jozwiak, Jared Bull, Ghassan Ahmad, Max Martakov– Various projects related to the Swift SN program
• Aggienova Team (UG: Fall 2021 virtual) Rafael Maltos, Savera Sahai, Nathan Armour, Ryan Hurrell, Max Martakov– Various projects related to the Swift SN program
• Aggienova Team (UG: Spring 2021 virtual) Adrian Martinez, Jack Padgett, Thomas Magee, Macie Robertson – learning python to plot theoretical light curve and spectral models for comparison with SN observations
• Gesa Chen (G: Fall 2020 – 2021) – theoretical modeling of Type Ia UV spectra from HST
• Emily Sarria (UG: Summer 2020) – Reducing Swift supernova grism observations
• Mahir Pirmohammed (UG: Summer 2020) – Supernova templates and website
• Aggienova Team (UG: Spring 2020) Emily Sarria, Katherine Guo, Will Robinson, Christopher Lopez, Stanley Johnson, Nandini Janapati, Avi Subramanian – Comparing Swift UVOT photometry of SN2018hna to International Ultraviolet Explorer spectra of SN1987A
• Nicole Crumpler (UG/REU: 2019) – Independent check of Swift/UVOT calibration using supernova fields. Also coauthored a paper together on the lack of correlation between supernova colors and host galaxy properties.
• Aggienova SOUSA Research Team (UG: Spring 2019) Brent Loving, Yung-Hsin, Kelli Templeton, Kevin Kuriachan, Ariel McClain – creating, visualizing, and working with light curves for the Swift Optical Ultraviolet Supernova Archive
• Aggienova Template Research Team (UG: Spring 2019) Tate Walker, Nathan Mandell, Emily Hay, Shea Kirwin, Zuhary Ali – Creating the AggieNova spectral template series pipeline
• Aggienova Swift Research Team (UG: Spring 2019) Mahir Pirmohammed, Sean Waters, Ali Khowaja, Leah Tomotaki, Zaal Buhariwalla – processing and instagramming Swift images
• Tate Walker (UG: 2017-current) – contamination of reddening maps by nearby galaxies
• Tiffany Lee (UG: Fall 2018) – documentation of existing UV samples
• Katya Leidig (UG/REU: 2018) – IIb or not IIb? Archive light curves and template generation

• Aggienova Research Team (UG: Fall 2017) Srinivas Tankasala, Alci-Lou Pena, Mark Turpen, Noah McHugh, Britton Beeny, Cooper Dix, Ethan Viera – Creating the AggieNova spectral template series and supernova color phototyping
• Sarah Walker (UG/REU: 2017) – UVOT photometry and SN Ia light curve fitting
• Britton Beeny (UG: 2016-2017) – Host Galaxy Photometry and Morphology, Data retrieval, template generation
• Cooper Dixon (UG: 2017) – SED creation
• Andrew Quick (G: 2014-2017) – Ultraviolet photometry of type IIP supernovae
• Yi Yang (G: 2014-2017) – HST Imaging Polarimetry, Supernova dust reddening, Ultraviolet studies of supernova galaxies
• Aggienova Research Team (UG: Spring 2017) Britton Beeny, Cooper Dix, Ethan Viera, Leslie Laguna, Javier Romero – Creating Supernova Templates for Cosmological Simulations
• Madison Smith (UG/REU: 2016) – Machine Learning and Photometric Classification of Supernovae with Ultraviolet Photometry
• Nancy Landez (UG: 2016) – Disentangling Red and Reddened SNe Ia
• Mike Smitka (G: 2013-2016) – Ultraviolet spectroscopy and bolometric light curves of SNe Ia
• Shiqing Zhang (UG: fall 2015) – database of supernova host galaxy properties
• Joanna Schiefelbein (UG: summer 2014) – producing Swift UV photometry of 100+ supernovae
• Ben Forrest (G: 2013-2014) – color-magnitude diagrams of type Ia supernovae
• Matt Olmstead (G: 2009-2012) – host galaxy spectroscopy of Sloan supernovae

Mentoring Mentors

Team Leader and Core Facilitator in DeBakey Leadership Program Spring 2020

"Faculty" mentor in Aggie Research Program 2019-2023

• Aggienova Team (UG: Spring 2022) Andrew Jozwiak, Gabby Cruz, Kylie Lofton – Various projects related to the Swift SN program, led by Yaswant Devarakonda
• Aggienova Team (UG: Spring 2022 virtual) Emily Sarria, Savannah Miller, Afiya Dhanani– Various projects related to the Swift SN program, led by Micalyn Rowe
• Aggienova Team (UG: Fall 2022) Andrew Jozwiak, Gabby Cruz, Evan Batteas, Lara Amiouny – Various projects related to the Swift SN program, led by Yaswant Devarakonda
• Aggienova Team (UG: Spring 2022 virtual) Emily Sarria, Savannah Miller, Jack Padgett– Various projects related to the Swift SN program, led by Micalyn Rowe
• Aggienova Team (UG: Fall 2020, Spring 2021 virtual) Emily Sarria, Alexander Crabtree, Landon Holcomb – Various projects related to the Swift SN program and Aggienova templates, led by undergrad Mahir Pirmohammed
• Aggienova Template Research Team (UG: Spring 2020) "Faculty" advisor to undergraduate team leader Tate Walker with Akash Gajendra, Mahir Pirmohammed, Andrew Chang, and Mark Rios – Continued work on the AggieNova spectral template series
• Aggienova Template Research Team (UG: Fall 2019) "Faculty" advisor to undergraduate team leader Tate Walker with Akash Gajendra, Drager Landry, Jennifer Martin, Mahir Pirmohammed, and Noah Sharp – Continued work on the AggieNova spectral template series

Service

Organizing Committee, Texas A&M Astronomy Symposium

Organizer, Dimebox Institute for Supernova Astrophysics Coordinate meetings amongst researchers at Texas A&M, the U. of Texas, UT-San Antonio, UT-Arlington, Southern Methodist U.,Texas Tech, and Southwest Research Institute.

Referee – Astrophysical Journal, MNRAS, Nature, Astronomy & Astrophysics

Chair of a NASA proposal review committees

Member of multiple NSF proposal review committees

Member of multiple NASA proposal review committee

Graduate Student representative on Graduate Program Committee, Pennsylvania State University Represented students in issues of curriculum, recruiting, and compensation.

Outreach

Coordinator for Summer Reading Program
at Bryan/College Station Public Libraries, Texas A&M 2019
Organizing panel discussions of astronomers and helping suggest programming ideas for a variety of ages and interests. Obtained internal funding for and led telescope-building classes for community members aged 3-73.

Physicsfest Volunteer, Texas A&M 2012 – 2019
Described the process of supernova hunting to enthusiastic visitors
Assisted visitors in creating their own colorful astronomical images

Special Guest Speaker, Pennsylvania, Utah, Texas 2009-2012
Talk about astronomy to school classes and amateur astronomy groups

Boy Scounts of America volunteer 2015 – 2016
Taught a class from the new STEM NOVA program
Led a star party for summer camp instructors to teach them how to teach astronomy

Astrofest Volunteer, Pennsylvania State University 2005 – 2008
Assisted with roof top observing, discussed Swift satellite, and gave public talks –
"The Swift Gamma Ray Burst Explorer" and "My Trip to Mars"

Planetarium Presenter, Rooftop Observing Guide, Brigham Young University 2002 – 2004
Gave public presentations in the planetarium and assisted with roof top observing

Honors

Postdoctoral Research Symposium Distinguished Flash Talk Presentation 2nd place 2018

College of Science Undergraduate Research Mentoring Award 2017

Bruno Rossi Prize – Neil Gehrels and the Swift Team 2007

NASA Group Achievement Award – Swift Ground Team 2007

National Merit/Heritage Scholar – Brigham Young University 1997–1998, 2000–2003

Eagle Scout – Boy Scouts of America 1997

Invited Talks

15 Years of Swift Supernova Explosions
HEAD II Special Session: Explosive Science: 15 Years of Discovery with Swift
237th AAS meeting, Virtual, January 12, 2021

Invited Poster: AGGIENOVA: Rising Star Students Studying Exploding Stars
High Impact Teaching Practices
Texas A&M University, College Station, Texas, February 18, 2020

Measuring the Universe with Exploding Stars
Texas State University Department of Physics seminar
San Marcos, Texas, March 25, 2019

When Stars Explode
Brigham Young University Physics & Astronomy Colloquium
Provo, Utah, January 14, 2019

The Past, Present, and Future of Ultraviolet Supernova Observations
Southwest Research Institute invited seminar
San Antonio, Texas, October 11, 2018

Early Ultraviolet Observations of Supernovae with Swift
Time Domain Astrophysics with Swift III Conference
Clemson, October 2, 2018

Measuring the Universe with Exploding Stars
Texas Tech Physics & Astronomy Colloquium
Lubbock, Texas, USA, February 13, 2018

Measuring the Universe with Exploding Stars
University of Houston-Clear Lake Physics Seminar Series
Clear Lake, Texas, USA, February 5, 2018

The Future of Supernova Cosmology
Brigham Young University Physics & Astronomy Colloquium
Provo, Utah, USA, January 31, 2018

Measuring the Universe with Exploding Stars
University of Nevada-Reno Colloquim
Reno, Nevada, USA, January 26, 2018

Understanding Astronomers' Tools
University of Nevada-Reno Student Lunch Talk
Reno, Nevada, USA, January 26, 2018

Calibrating Exploding Stars to Measure the Universe
Trinity University Colloquium
San Antonio, Texas, USA, October 10, 2017

Classifying Millions of Supernovae with LSST
Statistics & Astronomy Workshop
College Station, Texas, USA, June 15, 2017

Comparing Superluminous Supernovae in the Ultraviolet
Across the History of the Universe
MIAPP Workshop: SUPERLUMINOUS SUPERNOVAE IN THE NEXT DECADE
Garching, Germany, May 3, 2017

Calibrating Exploding Stars to Measure the Universe
University of Texas-Arlington Colloquium
Arlington, Texas, USA, March 1, 2017

Measuring the Universe with Exploding Stars
Texas A&M Astronomy seminar
College Station, Texas, USA, December 5, 2016

Type Ia Supernova Ultraviolet Outliers
SUPERNOVAE: THE OUTLIERS
Garching bei Muenchen, Germany, September, 2016

Measuring the Universe with Ultraviolet Explosions
Brigham Young University Physics & Astronomy Colloquium
Provo, UT, USA, January 20, 2016

Calibrating Exploding Stars for Precision Cosmology
University of Texas-San Antonio Colloquium
San Antonio, Texas, USA, February 13, 2015

Calibrating Exploding Stars for Precision Cosmology
Sam Houston State University Colloquium
Huntsville, Texas, USA, February 12, 2015

Swift Supernovae: The Next Ten Years
Swift: Ten Years of Discovery Meeting
Rome, Italy, Dec 4, 2014

Ultraviolet Explosions
INAF – Astronomical Observatory of Padova Research Seminar
Padova, Italy, Dec 1, 2014

Calibrating Exploding Stars for Precision Cosmology
Baylor University Colloquium
Waco, Texas, USA, Sep 3, 2014

Ultraviolet Observations of Supernovae with Swift:
Past, Present, and Future
Swift Science Team Planning Meeting
State College, Pennsylvania, USA, Oct 28-30, 2013

An Ultraviolet View of Type Ia Supernova Progenitors
Mitchell Workshop
Cook's Branch Nature Conservancy, Texas, April 9-11, 2013

Ultraviolet Studies of Supernovae: The Peril and the Promise
Mitchell Workshop
Cook's Branch Nature Conservancy, Texas, April 12-14, 2012

Ultraviolet Studies of Supernovae: The Peril and the Promise
Texas A&M Particle-Astrophysics-Cosmology Seminar
College Station, Texas, August 29, 2012

Stellar Explosions
Utah Valley University Physics Department Colloquium
Orem, Utah, USA, Mar 30, 2011

Improving Standard Candles with Ultraviolet Observations of Type Ia Supernovae
SNOWPAC conference
Snowbird, Utah, USA, Jan 31-Feb 5, 2011

Collaboration and Contributed Talks and Posters

– Intrinsically faint UV flux from an intrinsically red high-velocity Type Ia supernova
Twelfth Mitchell Institute Workshop on Cosmology and Supernovae
Cook's Branch Nature Conservancy, Montgomery, Texas, March 13-17, 2023

Ultraviolet Diversity of "Standard Candle" Supernovae: Complications for analysis and implications for Cosmology.
ULTRAVIOLET ASTRONOMY IN THE XXI CENTURY – Network for UltraViolet Astronomy, October 3-7, 2022

Ultraviolet Explosions
- Institute of Space Sciences, September 30, 2022

Swift Ultraviolet Supernova Discoveries
Network for UV Astronomy e-meeting, October 26, 2021

Ultraviolet Explosions – An overview of Swift and HST observations and how to use them
BigBOOM, Virtual visit at U Arizona, October 6, 2021

Rest-frame UV observations of Ia SNe at high z
Science with UV-efficient ground-based spectrographs
Online workshop, Feb 5, 2021

Poster: How well do you know the line-of-sight Milky Way reddening to that nearby galaxy?
AAS Meeting, Virtual, January 2021

Poster: Swift Observations of Nearby Supernovae in the Ultraviolet
The extragalactic explosive Universe: the new era of transient surveys and data-driven discovery
European Southern Observatory, Munich, Germany, September 16-19, 2019

Poster: Ultraviolet SEDs and Bolometric Luminosity
Enabling Multi-Messenger Astrophysics in the Big Data Era
Space Telescope Science Institute, Baltimore, Maryland, April 25-26, 2019

Poster: Ultraviolet Diversity of Standard Candles
The Deaths and Afterlives of Stars
Space Telescope Science Institute, Baltimore, Maryland, April 22-24, 2019

Poster: Ultraviolet-Bright Supernovae
Shocking Supernovae
Stockholm, Sweden, May 2018

Red or Reddened? Ultraviolet Colors of Type Ia Supernovae
Supernova group seminar
Stockholm, Sweden, May 25, 2018

Ultraviolet diversity of Type Ia Supernovae
Mitchell Workshop / Carnegie Supernova Project Team Meeting
Cook's Branch Nature Conservancy, Texas, April 4, 2018

AggieNova UVOIR Spectral Templates
Deciphering the Violet Universe
Playa Del Carmen, Mexico, December, 2017

Ultraviolet Spectroscopy of a Super-Chandra Type Ia Supernova Candidate
American Astronomical Society Meeting
Austin, TX, June, 2017

Using the Ultraviolet to Understand the Infrared
Mitchell Workshop For James Webb Space Telescope Early Release Science planning
Cook's Branch Nature Conservancy, Texas, April 26, 2017

Ultraviolet Update
Mitchell Workshop with Carnegie Supernova Project
Cook's Branch Nature Conservancy, Texas, April 12, 2017

Transparency and Reproducibility with the
Swift Optical Ultraviolet Supernova Archive
Texas A&M Postdoc Symposium
College Station, TX, USA, September, 2016

The Ultraviolet Superluminous ASASSN-15lh
The Transient Sky
Boston, MA, May, 2016

UV Photometric Classification of Supernovae
Photometric Classification of SuperNovae Ia
Chicago, IL, USA, April, 2016

Understanding the Ultraviolet Flux from Supernovae
American Astronomical Society Meeting
Kissimmee, FL, USA, January, 2016

Improving the Swift Supernova Results
Time Domain Astrophysics with Swift II
Clemson, South Carolina, USA, Oct 18-21, 2015

The Ultraviolet Diversity of Type Ia Supernovae
Fifty-One Ergs
Raleigh, North Carolina, USA, June 1-5, 2015

Swift Ultraviolet Supernova Observations: Past and Future
Hotwiring the Transient Universe - IV
Santa Barbara, California, USA, May 12-15, 2015

Swift Ultraviolet Observations of Supernovae
Texas Joint APS-AAPT-SPS Meeting
College Station, TX, Oct 18, 2014

An Ultraviolet View of Supernova Progenitors
Supernovae in the Local Universe
Coffs Harbour, Australia, Aug 11-15, 2014

Ultraviolet Observations of Supernovae
ESO Workshop on Challenges in UV Astronomy
Garching bei Muenchen, Germany, October 7-11, 2013

Ultraviolet Observations of Supernovae with Swift
Supernovae Illuminating the Universe from Individuals to Populations
Garching bei Muenchen, Germany, September 10-14, 2012

Swift Ultraviolet Observations of Supernovae and their Host Galaxies
Supernovae and their Host Galaxies
Sydney, Australia, June 20-24, 2011

Ultraviolet Supernova Observations: One of Swift's Greatest Legacies
Time Domain Astrophysics with Swift
Clemson, South Carolina, USA, October 24-26, 2011

Ultraviolet Properties of Supernovae
Progenitors and Environments of Stellar Explosions
Paris, France, June 28-July 2, 2012

Are Type Ia Supernovae Standard Candles in the UV?
American Astronomical Society Meeting
Long Beach, California, USA, January, 2009

Ultraviolet Lightcurves of Supernovae with Swift UVOT
American Astronomical Society Meeting
Austin, Texas, USA, January, 2008

Swift UVOT Observations of Core-Collapse Supernovae
20 Years of SN1987A
Aspen, Colorado, USA, February, 2007

Swift Supernova Observations
American Astronomical Society Meeting
Washington, D.C., USA, January 8-12, 2006

References

Professor Nicholas Suntzeff
Mitchell/Munnerlyn/Heep Professor of Observational Astronomy
Department of Physics & Astronomy
Mitchell Institute for Fundamental Physics and Astronomy
Texas A&M University
4242 TAMU, College Station, TX 77843
(979) 458-1786 nsuntzeff@tamu.edu

Professor Dieter Hartmann
Department of Physics & Astronomy
Clemson University
302C Kinard
Clemson, SC 29631-0978
(864) 656-5298 hdieter@clemson.edu

Dr. Mark Phillips
Las Campanas Observatory
Carnegie Institution of Washington
Casilla 601, La Serena, Chile
56-51-2207313 mmp@lco.cl

Professor Christopher Quick
Executive Director Aggie Research Program
Professor Biomedical Engineering, Physiology & Pharmacology
Texas A&M University
VMA 326E, College Station, TX 77843
(979) 845-2645 cquick@cvm.tamu.edu

Dr. Peter W. A. Roming
Ph.D. Advisor and Continued Collaborator
Director of Space Engineering, Southwest Research Institute
Space Science and Engineering Division
P.O. Drawer 28510
San Antonio, Texas 78228-0510
(210) 522-3410 proming@swri.edu

First-Author Refereed Publications - H Index: 14 (first author only)

* indicates mentored student

20. A Swift Response to Newly-Discovered, Nearby Transients
Brown, P. J. et al., 2023, Universe, 9, 218

19. Galaxian Contamination of Galactic Reddening Maps
Brown, P. J. & *Walker, T., 2022, AJ, 163, 14

18. A Photometric Analysis of the Relationship between the UV flux of Type Ia Supernovae and Host-galaxy Metallicity
Brown, P. J. & *Crumpler, N. R., 2020, ApJL, 872, 30

17. Red and Reddened: Ultraviolet through Near-Infrared Observations of Type Ia Supernova 2017erp
Brown, P. J., Hosseinzadeh, G., Jha, S., et al. 2019, ApJ, 877, 152

16. The Ultraviolet Colors of Type Ia Supernovae and their Photospheric Velocities
Brown, P. J., *Perry, J., *Beeny, B., Milne, P., Wang, X. 2018, ApJ, 867, 1

15. Reddened, Redshifted, or Intrinsically Red?
Understanding Near-Ultraviolet Colors of Type Ia Supernovae
Brown, P. J., *Landez, N., Milne, P. A., & Stritzinger, M. 2017, ApJ, 836, 2

14. ASASSN-15lh: A Superluminous Ultraviolet Rebrightening Observed by Swift and Hubble
Brown, P. J., et al. 2016, ApJ, 828, 3

13. Interpreting Flux from Broadband Photometry
Brown, P. J., et al. 2016, AJ, 152, 4

12. Theoretical Clues to the Ultraviolet Dispersion of Type Ia Supernovae
Brown, P. J., et al. 2015, ApJ, 809, 37

11. The First Ten Years of Swift Supernovae
Brown, P. J., Roming, P. W. A., & Milne, P. A. 2015, JHEAP, 7, 111
Invited Review Paper for special Ten Years of Swift issue

10. Swift Ultraviolet Observations of Supernova 2014J in M82:
Large Extinction from Interstellar Dust
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9. The Ultraviolet Brightest Type Ia Supernova 2011de
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8. SOUSA: the Swift Optical/Ultraviolet Supernova Archive
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7. Ultraviolet Observations of Super-Chandrasekhar Mass
Type Ia Supernova Candidates with Swift UVOT
Brown, P. J., et al. 2014, ApJ, 787, 29

6. A Swift Look at SN2011fe:
The Earliest Ultraviolet Observations of a Type Ia Supernova
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5. Constraints on Type Ia Supernova Progenitor Companions
from Early Ultraviolet Observations with Swift
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4. The Absolute Magnitudes of Type Ia Supernovae in the Ultraviolet
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3. Ultraviolet Light Curves of Supernovae with Swift UVOT
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2. Early Ultraviolet, Optical, and X-Ray Observations of the Type IIP SN2005cs in M51 with Swift
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1. Ultraviolet, Optical, and X-Ray Observations of the Type Ia Supernova 2005am with Swift
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White Paper

1. Keeping an Ultraviolet Eye on Supernovae
Brown, P. J. & Suntzeff, N. ASTRO2020 Decadal Survey

Coauthored Publications - H Index: 60

179. JWST Low-Resolution MIRI Spectral Observations of SN 2021aefx: High-density Burning in a Type Ia Supernova
DerKacy, J., et al., including **Brown, P. J.**, 2023, submitted

178. SN 2020bio: A Double-peaked Type IIb Supernova with Evidence of Early-time Circumstellar Interaction
Pellegrino, C., et al., including **Brown, P. J.**, 2023, submitted

177. A long life of excess: The interacting transient SN 2017hcc
Moran, S., et al., including **Brown, P. J.**, 2023, A&A, 669, 51

176. SN 2021fxy: Mid-Ultraviolet Flux Suppression is a Common Feature of Type Ia Supernovae
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175. Artificial Intelligence Assisted Inversion (AIAI): Quantifying the Spectral Features of 56 Ni of Type Ia Supernovae
Chen, X., et al., including **Brown, P. J.**, 2023, submitted

174. Supernova Shock Breakout/Emergence Detection Predictions for a Wide-field X-Ray Survey
Bayless, A. J., et al., including **Brown, P. J.**, 2022, ApJ, 931, 15

173. Comparisons of Type Ia Supernova Light Curves in the UV and Optical with the Swift Ultra-Violet/Optical Telescope
Devarakonda, Y. & **Brown, P. J.**, 2022, AJ, 163, 258

172. Using 1991T/1999aa-like Type Ia Supernovae as Standardizable Candles
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171. Observations of the very young Type Ia Supernova 2019np with early-excess emission
Sai, H., et al., including **Brown, P. J.**, 2022, MNRAS, 514, 3541

170. The Diverse Properties of Type Icn Supernovae Point to Multiple Progenitor Channels
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Garnavich, P., et al., including **Brown, P. J.**, 2022, arXiv:2204.12060

167. The First Data Release of CNIa0.02-A Complete Nearby (Redshift <0.02) Sample of Type Ia Supernova Light Curves
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166. Weak Mass Loss from the Red Supergiant Progenitor of the Type II SN 2021yja
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165. Early-Time Ultraviolet Spectroscopy and Optical Follow-up Observations of the Type IIP Supernova 2021yja
Vasylyev, S., et al., including **Brown, P. J.**, 2022, ApH, 934, 134

164. The Pantheon+ Analysis: Cosmological Constraints
Brout, D., et al., including **Brown, P. J.**, 2022, ApJ, 938, 110

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162. Infant-phase reddening by surface Fe-peak elements in a normal type Ia supernova
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