DIVYA MISHRA

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EDUCATION

Texas A&M University, College Station, TX, USA
2nd year Ph.D. Student, Department of Physics and Astronomy 2022 – Present
Concentration : Astrostatistics
Advisor : Prof. Lifan Wang, Dr. Peter Brown

Madan Mohan Malaviya University of Technology, Gorakhpur, UP, India
Bachelor of Technology in Electronics and Communication Engineering 2017 - 2021
Advisor : Dr. Dharmendra Kumar
Thesis : *Photonic Crystal Fibre based refractive index sensor for early detection of blood cancer.*

RESEARCH INTERESTS

Stars : Type Ia supernovae (SNeIa), SNeIa progenitor systems, Core-collapse supernovae (CCSNe); ISM : dust polarization; Galaxy : Magnetic fields, Star-formation.

PROFESSIONAL SKILLS

Programming : Python, C++, C, MySQL, Bash, Git, Wolfram Mathematica, LaTeX
Scientific Packages : Astropy, SNCosmo, yt, Pynbody, SFFT, PyRAF, photutils, imageio
Softwares : DS9, COMSOL, IRAF, ATMEL-AVR, Arduino – IDE, PartSim simulator, Adobe Photoshop, Adobe Illustrator, Microsoft Word, Microsoft Excel, Microsoft PowerPoint
Operating Systems : Linux, MacOS, Windows

RESEARCH EXPERIENCE

Undergraduate:

- **European Southern Observatory**, Garching, Germany Jul. 2021 - Nov. 2021
  Advisor: Dr. Ferdinando Patat
  Project: Imaging polarimetry of nearby galaxy.
- **Stockholm University**, Stockholm, Sweden Jun. 2020 - Oct. 2020
  Advisor: Prof. Ariel Goobar
  Project: Validated Type Ia and core-collapse supernovae photometric models for the SNCosmo package.
- **Astroparticle & Cosmology Laboratory**, Paris, France May 2020 - Oct. 2020
  Advisor: Dr. Gabriel Chardin
  Project: Studied Dirac-Milne cosmological model
- **Aryabhatta Research Institute of Observational Sciences**, India June 2019 - July 2019
  Advisor: Dr. Shashi Bhushan Pandey
  Project: Photometric analysis of different types of supernovae obtained from the "Open Supernova Catalog".

Graduate:

- **Texas A&M University**, College Station, Texas 2022 - present
  Advisor: Prof. Lifan Wang
  Project: Studying optical polarization in NGC 5236

- **Texas A&M University**, College Station, Texas 2024 - present
  Advisor: Dr. Peter Brown
  Project: Spectroscopic analysis of high velocity supernova SN2022hrs

PUBLICATIONS

1. Hoeflich, P., et al., including **Mishra, Divya**, 2023, *The Core Normal Type Ia Supernova 2019np - An Overall Spherical Explosion with an Aspherical Surface Layer and an Aspherical ^{56}Ni Core*, MNRAS, Volume 520, Issue 1
2. Yang, Yi, et al., including **Mishra, Divya**, 2022, *Spectropolarimetry of the Thermonuclear Supernova SN 2021rhu: High Calcium Polarization 79 Days after Peak Luminosity*, The Astrophysical Journal, Volume 939, Issue 1
3. Palamese, A., et al., including **Mishra, Divya**, *DESIRT: DECam Survey of Intermediate Redshift Transients*, in prep.
4. **Mishra, D.**, et al., *A New Era Of Optical Polarimetry: Studying Magnetic Fields In External Galaxy*, in prep.

TELESCOPE PROPOSALS

1. **Very Large Telescope**, European Southern Observatory P109
   Co-I : *Imaging Polarimetry of Thermonuclear Supernovae as a Probe of their Circumstellar Matter*
   FORS2, 11.1 hours
2. **Víctor M. Blanco 4-meter Telescope**, Cerro Tololo Inter-American Observatory 2023A
   Co-I : *DESIRT: DECam Survey for Intermediate-redshift Transients*
   DECam, 12 nights

OBSERVING EXPERIENCE

1. *DECam : Blanco 4-meter Telescope* 2022A, 2022B, 2023A, 2023B
   8 nights
2. *ETSI : McDonald Observatory*, 2022A
   7 nights

TALKS & PRESENTATIONS

- Optical Polarization in Nearby Galaxies Astrosymposium : Texas A&M University, 2023
- Stargazing to Progress: Unveiling the Societal Impact of Astronomy Astronomy on Tap, 2024

WORKSHOPS

- iid2022: Statistical Methods for Event Data University of Alabama, Nov. 15-18, 2022
- LSSTC Data Science Fellowship Program Texas A&M University, Feb. 27-Mar 3, 2023
- ZTF Summer School 2023 University of Minnesota, July. 24-28, 2023

AWARDS & HONORS

- Dr. Chia Lai Wang Memorial Scholarship Summer 2023

TEACHING EXPERIENCE

- Teaching Assistant - ASTR 101: Basic Astronomy — Fall 2022, Spring 2023, Spring 2024
- Teaching Assistant - ASTR 103: Intro To Stars & Exoplanets — Fall 2022
- Teaching Assistant - ASTR 104: Intro To Galaxies & Cosmology — Spring 2023, Spring 2024
- Teaching Assistant - ASTR 314: Survey Of Astronomy — Fall 2022, Spring 2023, Fall 2023
- Teaching Assistant - ASTR 401: Stars & Extrasolar Planets — Fall 2022

OUTREACH & MENTORING

- Organized Solar Eclipse Observing Event at Texas A&M University — October, 2023
- Graduate Student Mentor for Mentoring and Advising Graduates in an Inclusive Community (MAGIC) — 2023 - present
- Organized Solar Observing Event at Texas A&M Physics and Engineering Festival — April, 2023

EXTRACURRICULAR ACTIVITIES

- Treasurer, Graduate Student Assembly, Dept. of Physics & Astronomy, Texas A&M University — 2022 - Present
- Officer, The Society for the Under-represented in Physics & Astronomy, Dept. of Physics & Astronomy, Texas A&M University — 2022 - Present
- Member of Women in Science and Engineering (WISE) Texas A&M University — 2024 - present
- Vice President, Robotics Club, Madan Mohan Malaviya University of Technology — 2020-2021
- Designing Lead, Robotics Club, Madan Mohan Malaviya University of Technology — 2019-2020
- Member of National Service Scheme Madan Mohan Malaviya University of Technology — 2017 - 2021
- Member of Robin Hood Army Madan Mohan Malaviya University of Technology — 2018-2020
- Member of University Basketball Team Madan Mohan Malaviya University of Technology — 2018-2019
- Member of University Badminton Team Madan Mohan Malaviya University of Technology — 2019-2020