

SIDDHANT MANNA

PhD Scholar | IIT Hyderabad, India.

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EDUCATION

Ph.D. in Astrophysics , Indian Institute of Technology (IIT) Hyderabad , GPA: 9.69/10.00	2027 (expected)
Principal Investigator: Prof. Shantanu Desai.	
Committee: Shantanu Desai (Chair), Narendra Sahu, Kirit Makwana.	
M.Sc. in Applied Physics , NIT Silchar , GPA: 9.83/10.00	May, 2021
B.Sc. in Physics & Astronomy , University of Lucknow, GPA: 7.40/10.00	June, 2019

RESEARCH EXPERIENCE

Senior Research Fellow	July, 2024 - present
Shantanu Desai (SD) Group , Astrophysics & Cosmology, IIT Hyderabad	Hyderabad, India
<ul style="list-style-type: none"> • Search for High-Energy gamma ray emission from Abell 3667 using DAMPE data. • Stacking of clusters to search for gamma-ray emission (ongoing). 	
Junior Research Fellow	July, 2022 - July 2024
SD Group , Astrophysics & Cosmology, IIT Hyderabad	
<ul style="list-style-type: none"> • Search for High Energy gamma-ray emission from galaxy clusters in MeV-GeV ranges using Fermi and Comptel data. • Indirect search for dark matter using gamma rays. • Search for MeV gamma-ray emission from TeV bright red dwarfs. • Consistency check of ΛCDM: test for the redshift dependence of σ_8 using $f\sigma_8$ measurements. 	

PEER-REVIEWED PUBLICATIONS

1. **S.Manna & S.Desai, Search for GeV Gamma-Ray Emission from SPT-SZ selected Galaxy Clusters with 15 years of Fermi-LAT data**, Journal of Cosmology and Astroparticle Physics, vol. 2024, no. 1, IOP, 2024. [\[arXiv\]](#) [\[JCAP\]](#)
2. **S.Manna & S.Desai, A pilot search for MeV gamma-ray emission from five galaxy clusters using archival COMPTTEL data**, Journal of Cosmology and Astroparticle Physics, vol. 2024, no. 5, IOP, 2024. [\[arXiv\]](#) [\[JCAP\]](#). Data available at [\[Github\]](#)
3. **S.Manna & S.Desai, Search for Dark Matter Annihilation to gamma-rays from the SPT-SZ selected Galaxy Clusters**, Journal of Cosmology and Astroparticle Physics, vol. 2024, no. 10, IOP, 2024. [\[arXiv\]](#) [\[JCAP\]](#).
4. **S.Manna & S.Desai, Search for GeV gamma-ray emission from SPT-CL J2012-5649 with six years of DAMPE data**, Journal of High Energy Astrophysics, vol. 44, pages 210-213, Elsevier, 2024. [\[arXiv\]](#) [\[JHEAP\]](#).
5. **N.Shrivastava, S.Manna & S.Desai, Search for MeV Gamma-ray emission from TeV bright red dwarfs with COMPTTEL**, Journal of Cosmology and Astroparticle Physics, vol. 2024, no. 9, IOP, 2024. [\[arXiv\]](#) [\[JCAP\]](#)
6. **S.Manna & S.Desai, A test for the redshift dependence of σ_8 using $f\sigma_8$ measurements**, Eur. Phys. J. C 84, 661 (2024). [\[arXiv\]](#) [\[EPJC\]](#)

PEER-REVIEWED CONFERENCE PRESENTATIONS

1. **S.Manna & S.Desai**, November 2024. **International Symposium on Space-Science, Astrophysics and Cosmology (ISSAC 2024)**, St. Stephen's College, New Delhi, India.
2. **S.Manna & S.Desai**, October 2024. **17th International Conference on Interconnections between Particle Physics and Cosmology (PPC 2024)**, IIT Hyderabad, Hyderabad, India.

3. **S.Manna & S.Desai**, August 2024. **32nd International Astronomical Union (IAU) General Assembly (GA) 2024**, Cape Town, South Africa. [Poster]
4. **S.Manna & S.Desai**, June 2024. **The Summer School on Cosmology, Abdus Salam International Centre for Theoretical Physics**, Trieste, Italy. [Talk]
5. **S.Manna & S.Desai**, Feb 2024. **Young Astronomers' Meet (YAM), CHRIST (Deemed to be University)**, Bangalore, India.
6. **S.Manna & S.Desai**, Feb 2024. **42nd meeting of the Astronomical Society of India (ASI) hosted jointly by IISc, ISRO & JNP**, Bangalore, India. [Poster]

WORKSHOPS & SCHOOLS

1. **S.Manna**, June 2023. Virtually Attended the **Michigan Cosmology Summer School** conducted by University of Michigan, US.
2. **S.Manna**, May 2023. Attended the school on **Largest Cosmological Surveys and Big Data Science** at ICTS, Bangalore, India. PI: Dr. Héctor Gil-Marín.
3. **S.Manna**, July 2021. Virtually Attended the **International Summer School on the ISM of Galaxies, from the Epoch of Reionization to the Milky Way** conducted by CNRS, Paris, France.

HONORS AND FELLOWSHIPS

2024	Senior Research Fellowship , IIT	Hyderabad, India
2024	Honourable Mention for Best Poster at Research Scholars Day , IIT	Hyderabad, India
2022	Junior Research Fellowship , IIT	Hyderabad, India
2022	Qualified Graduate Aptitude Test in Engineering (GATE) for PhD Admission , All India Rank 404	
2019	Received Institute Silver Medal for highest GPA in MSc Physics , NIT	Silchar, India
2019	Qualified IIT Joint Admission Test for Masters	

TEACHING EXPERIENCE

IIT Hyderabad		
Teaching Assistant		July, 2024 - Dec, 2024
•	<i>Preparatory course on Physics</i>	
Teaching Assistant		Jan, 2024 - May, 2024
•	<i>Graded assignments for course on Data Science Analysis</i> , 150 students	
Teaching Assistant		July, 2023 - Dec, 2023
•	<i>PH-5600 Quantum Mechanics for Engineers</i>	
Teaching Assistant		Jan, 2023 - May, 2023
•	<i>B.tech Physics Lab</i>	

SKILLS

Programming Languages Python, Java, C++
Tools \LaTeX , AstroML, SAOImage DS9, HEASoft, CLUMPY, TOPCAT
Statistical analysis R, MATLAB