

Prajwel Payyappilly Joseph

📍 Bangalore, India 📩 prajwel.pj@gmail.com 🌐 prajwel.github.io 🏢 0000-0003-1409-1903 💬 prajwel

Summary

I am a Project Scientist at the AstroSat UltraViolet Imaging Telescope (UVIT) Payload Operations Centre at the Indian Institute of Astrophysics, Bangalore with extensive experience in payload operations and data pipeline development. My research focuses on ultraviolet and multi-wavelength studies of nearby galaxies, AGN feedback, star formation, and time-domain astronomy in the ultraviolet. I actively develop and maintain open-source software for UV astronomy.

Education

PhD	CHRIST (Deemed to be University) , Physics	Bangalore, India
	<ul style="list-style-type: none"> Thesis (PhD): Study of the effect of AGN activity on star formation in nearby galaxies using UVIT Supervisors: Dr. Blessen Mathew, Prof. P. Sreekumar 	Dec 2017 – Mar 2025
MSc	CHRIST (Deemed to be University) , Physics	Bangalore, India
		June 2013 – Mar 2015
BSc	Christ College, Irinjalakuda , Physics	Thrissur, India
		June 2010 – May 2013

Experience

Indian Institute of Astrophysics , Project Scientist-I (UVIT Payload Operations Centre)	Bangalore, India
<ul style="list-style-type: none"> Lead contributor to UVIT Level2 pipeline (v7) and mission data products Responsible for UVIT Payload Operations Centre data processing and validation Support UVIT observations, calibration activities, and official mission data releases 	July 2022 – present 3 years 7 months
Indian Institute of Astrophysics , Research Trainee (UVIT Payload Operations Centre)	Bangalore, India
	Aug 2016 – May 2022 5 years 10 months
Bishop Cotton Women's Christian College , Guest lecturer	Bangalore, India
	June 2015 – Mar 2016 10 months

Peer reviewed publications

Detection of time delay between UV and X-ray variability in Mrk 1044 using AstroSat observations	Jan 2026
M. Reshma, C. S. Stalin, Amit Kumar Mandal, Abhijit Kayal, S. B. Gudennavar, Prajwel Joseph 10.1016/j.jheap.2026.100552 (Journal of High Energy Astrophysics)	
Nine years of UVIT: assessing sensitivity variation	Dec 2025
Akanksha Dagore, Prajwel Joseph , S. N. Tandon, Annapurni Subramaniam, S. K. Ghosh, C. S. Stalin 10.48550/arXiv.2512.24475 (Accepted, The Astronomical Journal)	
Redshift ~2.7 is not special: Comment on the Kolmogorov analysis of JWST deep survey galaxies	Sept 2025
Prajwel Joseph 10.1051/0004-6361/202555988 (Astronomy and Astrophysics)	

Euclid: Early Release Observations of ram-pressure stripping in the Perseus cluster: Detection of parsec-scale star formation within the low surface brightness stripped tails of UGC 2665 and MCG +07-07-070	Sept 2025
K. George, A. Boselli, J. C. Cuillandre, M. Kümmel, A. Lancon, C. Bellhouse, T. Saifollahi, M. Mondelin, M. Bolzonella, Prajwel Joseph , ...	
10.1051/0004-6361/202554836 (Astronomy and Astrophysics)	
UVIT data release version 7: Regenerated high-level UVIT data products	July 2025
Prajwel Joseph , S. N. Tandon, S. K. Ghosh, C. S. Stalin	
10.1007/s12036-025-10069-5 (Journal of Astrophysics and Astronomy)	
Ultraviolet Flux and Spectral Variability Study of Blazars Observed with UVIT/AstroSat	Nov 2024
M. Reshma, Aditi Agarwal, C. S. Stalin, Prajwel Joseph , Akanksha Dagore, Amit Kumar Mandal, Ashish Devaraj, S. B. Gudennavar	
10.3847/1538-4357/ad702e (The Astrophysical Journal)	
UVIT view of NGC 5291: Ongoing star formation in tidal dwarf galaxies at 0.35 kpc resolution	June 2023
R. Rakhi, Geethika Santhosh, Prajwel Joseph , Koshy George, Smitha Subramanian, Indulekha Kavila, J. Postma, Pierre-Alain Duc, ...	
10.1093/mnras/stad970 (Monthly Notices of the Royal Astronomical Society)	
UVIT Observations of the Small Magellanic Cloud: Point-source Catalog	Apr 2023
A. Devaraj, Prajwel Joseph , C. S. Stalin, S. N. Tandon, S. K. Ghosh	
10.3847/1538-4357/acba9c (The Astrophysical Journal)	
An automated pipeline for Ultra-Violet Imaging Telescope	Dec 2022
S. K. Ghosh, S. N. Tandon, S. K. Singh, D. S. Shelat, P. Tahlani, A. K. Singh, T. P. Srinivasan, Prajwel Joseph , A. Devaraj, Koshy George, R. Mohan, J. Postma, C. S. Stalin	
10.1007/s12036-022-09842-7 (Journal of Astrophysics and Astronomy)	
Active galactic nucleus feedback in NGC 3982	Nov 2022
Prajwel Joseph , Koshy George, K. T. Paul	
10.1051/0004-6361/202243923 (Astronomy and Astrophysics)	
UVIT view of Centaurus A: a detailed study on positive AGN feedback	Oct 2022
Prajwel Joseph , P. Sreekumar, C. S. Stalin, K. T. Paul, Chayan Mondal, Koshy George, Blesson Mathew	
10.1093/mnras/stac2388 (Monthly Notices of the Royal Astronomical Society)	
The Astropy Project: Sustaining and Growing a Community-oriented Open-source Project and the Latest Major Release (v5.0) of the Core Package	Aug 2022
Astropy Collaboration, ..., Prajwel Joseph , ...	
10.3847/1538-4357/ac7c74 (The Astrophysical Journal)	
In-orbit performance of UVIT over the past 5 years	Oct 2021
S. K. Ghosh, Prajwel Joseph , A. Kumar, J. Postma, C. S. Stalin, Annapurni Subramaniam, S. N. Tandon	
10.1007/s12036-020-09685-0 (Journal of Astrophysics and Astronomy)	
Curvit: An open-source Python package to generate light curves from UVIT data	Oct 2021
Prajwel Joseph , C. S. Stalin, S. N. Tandon, S. K. Ghosh	
10.1007/s12036-020-09680-5 (Journal of Astrophysics and Astronomy)	

Performance of the UVIT Level2 pipeline S. K. Ghosh, S. N. Tandon, Prajwel Joseph , A. Devaraj, D. S. Shelat, C. S. Stalin 10.1007/s12036-020-09686-z (Journal of Astrophysics and Astronomy)	Oct 2021
More insights into bar quenching. Multi-wavelength analysis of four barred galaxies Koshy George, Prajwel Joseph , Chayan Mondal, Smitha Subramanian, Annapurni Subramanian, K. T. Paul 10.1051/0004-6361/202038810 (Astronomy and Astrophysics)	Dec 2020
Additional Calibration of the Ultraviolet Imaging Telescope on Board AstroSat S. N. Tandon, J. Postma, Prajwel Joseph , A. Devaraj, Annapurni Subramanian, I. V. Barve, Koshy George, S. K. Ghosh, ... 10.3847/1538-3881/ab72a3 (The Astronomical Journal)	Apr 2020
Insights on bar quenching from a multiwavelength analysis: The case of Messier 95 Koshy George, Prajwel Joseph , Chayan Mondal, Smitha Subramanian, Annapurni Subramanian, K. T. Paul 10.1051/0004-6361/201834500 (Astronomy and Astrophysics)	Jan 2019
Long-term ultraviolet variability of Seyfert galaxies N. Sukanya, C. S. Stalin, Prajwel Joseph , S. Rakshit, D. Praveen, R. Damle 10.1007/s12036-018-9556-z (Journal of Astrophysics and Astronomy)	Dec 2018
Dissecting star formation in the Atoms-for-Peace galaxy. UVIT observations of the post-merger galaxy NGC 7252 Koshy George, Prajwel Joseph , Patrick Côté, S. K. Ghosh, J. B. Hutchings, R. Mohan, J. Postma, K. Sankarasubramanian, ... 10.1051/0004-6361/201832705 (Astronomy and Astrophysics)	June 2018
UVIT observations of the star-forming ring in NGC 7252: Evidence of possible AGN feedback suppressing central star formation Koshy George, Prajwel Joseph , Chayan Mondal, Ashish Devaraj, Annapurni Subramanian, C. S. Stalin, Patrick Côté, S. K. Ghosh, ... 10.1051/0004-6361/201833232 (Astronomy and Astrophysics)	May 2018
In-orbit Calibrations of the Ultraviolet Imaging Telescope S. N. Tandon, Annapurni Subramanian, V. Girish, J. Postma, K. Sankarasubramanian, S. Sriram, C. S. Stalin, Chayan Mondal, S. Sahu, Prajwel Joseph 10.3847/1538-3881/aa8451 (The Astronomical Journal)	Sept 2017
Search for Low-mass Objects in the Globular Cluster M4. I. Detection of Variable Stars M. Safonova, D. Mkrtchian, P. Hasan, F. Sutaria, N. Brosch, E. Gorbikov, Prajwel Joseph 10.3847/0004-6256/151/2/27 (The Astronomical Journal)	Feb 2016

Open source projects

UVIT Level2 pipeline

Used to generate high-level (Level2) UVIT data products; adopted for official UVIT data release version 7 and archived at ISRO Science Data Archive.

Curvit

Curvit is a Python package to generate light curves from UVIT data.

Aafitran

Aafitran is a Python package that builds upon the capabilities of the Astroalign package's find_transform function. It incorporates several modifications to improve its functionality and performance.

CanUVIT

To check whether a field can be safely observed with UVIT.