Vivek Kumar **Jha**

Junior Research Fellow (JRF)

About me

Born: 03 March 1995
Place: Darbhanga, Bihar
Gender: Male
Nationality: Indian

Current address

Aryabhatta Research Institute of observational sciencES (ARIES).
Department of Astronomy,
Manora Peak,
Nainital,Uttarakhand,
India, 263002.

Research Interests

- Active galactic nuclei
- Quasar accretion disks
- Reverberation Mapping
- Supermassive Black Holes
- Computational astrophysics

Programming Skills

Fluent in Python language.
Usage of Git version control
Data reduction: astropy packages including ccdproc,photutils etc.
OS: Linux (preferred)

Other Interests

Classical music, Offbeat travel, Trekking, Reading, Amateur astronomy, Scientific outreach, Writing

Languages

English • Hindi • Maithili

Contact

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Education

Present — **Deen Dayal Upadhyaya Gorakhpur University**
Gorakhpur, Uttar Pradesh · India
Pursuing Ph.D in astrophysics. Thesis title: *Investigating the Nature and Structure of the Broad Line Region in Active Galactic Nuclei.* Supervised by: Dr. Hum Chand and co-supervised by Prof. Shantanu Rastogi.

2017 — **Banaras Hindu University**
Varanasi, Uttar Pradesh · India
Master of Science (M Sc.) in Physics with specialization in Space physics.

2014 — **University of Delhi**
New Delhi · India
Bachelor of Science (B Sc.) with Honors in Physics.

Research Experience

Present — **Aryabhatta Research Institute of observational sciencES (ARIES)**
Nainital, Uttarakhand · India
Research fellow, pursuing research at this institute leading to the Ph.D degree at DDU Gorakhpur.

2017 — **Indian Institute of Astrophysics**
Kodaikanal, Tamil Nadu · India
6 month internship project as part of Visiting Student Research program (VSRP). Project titled- *Estimation of Solar magnetic fields using Spectropolarimetric data obtained from Kodaikanal Tunnel telescope.* Supervised by: Dr. K Nagaraju

2016 — **Banaras Hindu University**
Varanasi, Uttar Pradesh · India
Dissertation titled- *Study of properties of CsI as a photo cathode for UV astronomy purposes.* as part of M Sc. Physics degree. Supervised by: Prof. B.K. Singh

Awards/Fellowships

2018 Junior Research Fellowship (JRF) from Department of Science and Technology (DST) Government of India for 3 years.
2017 Qualified Graduate Aptitude in Engineering (GATE): Physics.
2017 Qualified Joint Entrance Screening Test (JEST): Physics.
2016 ISRO Space Science Promotion Scheme (SSPS) Fellowship for 1 year.

Competitive Telescope time awards:

1. 3.6m Devasthal Optical Telescope (DOT). In search of luminous Quasars at the cosmic dawn, cycle: 2020-C2 (Oct-2020:Jan-2021), as PI.
2. Thai Robotic Telescope (TRT). Photometric reverberation mapping of the accretion disk in AGN, cycles: 8A (Oct-Dec:2020), 7D (Jul-Sep:2020) and 7C (Apr-Jun:2020) as PI.
3. 1.3m Devasthal Fast Optical telescope (DFOT). Photometric Reverberation Mapping of central region of AGN using H-beta emission line, cycles: 2019 (A), 2019 (B) and 2020 (A), as PI
4. 1.04m Sampoornanand telescope (ST). Multi-wavelength photometric observations of a few Low Red-Shift Broad Line Seyfert 1 Galaxies, cycles: 2018 (B), 2019 (A) and 2020 (A), as PI
5. VLT-ESO. Dissecting baryon cycle in overdense environments, cycle: P106 as Co-I. PI: Ravi Joshi

Conferences/meetings/workshops

1. Presented a **poster** titled: *Devasthal Optical Telescope-AGN Reverberation Monitoring(DOT-ARM): Project strategy and initial results* at the international conference titled "Mapping Central Regions of Active Galactic Nuclei" held in in Guilin, Guanxi Province; China (19-24 September, 2019). [link]
2. Attended I-TMT (India- TMT) Science and Instruments Workshop held in ARIES, Nainital, India (17 - 19 October, 2019). [link]
3. Attended one day Indo Thai Workshop held in ARIES, Nainital, India (02 March 2020). [link]
4. Attended international ILMT workshop held online by ARIES, Nainital, India (29 June - 01 July, 2020). [link]
5. Presented a **talk** titled: *A comparative study of Narrow and Broad line Seyfert galaxies using SDSS* at an international symposium titled "Astronomical Surveys and Big Data 2 (ASBD-2)" held online by the Byurakan Astrophysical Observatory (BAO), Armenia (14-18 September, 2020) [link]
6. Attended the Virtual Annual Meeting of the German Astronomical Society 2020, held online between September 21-25, 2020. [link]
7. Attended workshop titled: *Less travelled path of dark matter: Axions and primordial black holes* , held online by ICTS-TIFR between November 9-13, 2020. [link]

Journal Publications

1. Nabeel Jammal, R. Rai, Triloki, **V. Jha** , B.K. Singh: The impact of humidity and film thickness on photoemission, optical and morphological properties of CsI thin film photocathodes. Thin Solid Films 02/2019; 674.,[DOI:10.1016/j.tsf.2019.01.027]

Conference Proceedings

1. **V Jha** , Nabeel Jammal, Tiloki, B K Singh: Optical properties of "as-deposited" CsI photocathode in the VUV-UV spectral range. Proceedings of the DAE Symp. on Nucl. Phys. 62 (2017); 07/201

Mentoring/Teaching Experience

2019 Mentored a group of 7 students selected from various universities during ARIES Training School on Observational Astronomy (ATSOA) in March 2019.

References

1. **Dr. Hum Chand**, Professor of Physics, CUHP, Dharamshala. Email: hum (at) aries.res.in
2. **Dr. Abhay Kumar Singh**, Professor of Physics, BHU, Varanasi. Email: singhak (at) bhu.ac.in
3. **Dr. Shantanu Rastogi**, Professor of Physics, DDU, Gorakhpur. Email: shantanur (at) hotmail.com