Personal Information :

Name : Raj Prince Email : raj@cft.edu.pl, rajprince59.bhu@gmail.com | Phone : (+91) 9918012747, (+48 579229639) Address : Center for Theoretical Physics, Polish Academy of Sciences, Al. Lotnikow 32/46, 02-668 Warsaw, Poland

Nationality : Indian | DoB : December 1993

Educational Background :

- Currently a Post doc. at Center for Theoretical Physics, Warsaw, Poland (March 2020-Present)
- Completed PhD in Astronomy & Astrophysics from Raman Research Institute, Bangalore, India (2014 2020).
- Completed MSc (Physics Space Physics) from Banaras Hindu University, Varanasi, from July 2012 -• July 2014.
- BSc Physics (Hons) from Banaras Hindu University, Varanasi, from July 2009 July 2012.

International Collaboration :

Polish-LSST Consortium (2020 - present)

Research Interests :

- AGN and Quasars as a cosmological tool
- **AGN Reverberation Mapping**
- Multiwavelength theoretical modeling of Blazar
- Multiwavelength variability and correlation studies in Blazar
- Studing long term behaviour of Blazar

Awards and fellowships :

- DST Travel Grant, awarded by SERB, DST, awarded to attend the 8th International Fermi Symposium in • Baltimore, USA (Oct 2018).
- Cleared CSIR-JRF & NET (National entrance exam for PhD in India). This also makes me eligible for lecturership in India.
- ISRO-SSPS Fellowship, awarded by ISRO in master to persue master specialization in Space Physics

Telescope Skills:

Data Analysis Fermi-LAT, Swift -XRT/UVOT, AstroSat, HCT (Optical telescope Hanley), XMM-Newton, and NuSTAR

Software experience and language:

Linux, Heasoft, Xspec, IRAF, and Python

Observing Time Awarded:

AstroSat:

50 ks of time awarded by ASTROSAT (Target of Opportunity) (2018): Multi-wavelength study of FSRQ +38.41 in its current flaring state. PI: Raj Prince

- **30 ks of time awarded by ASTROSAT (Target of Opportunity) (2018):** Multi-wavelength Observations of TeV blazar 1ES 1218+304 in its current flaring state. PI : **Raj Prince**, Co-PIs : Pratik Majumdar, Nayantara Gupta
- **60 ks of time awarded by ASTROSAT (2018):** Brightest Fermi blazar through Astrosat eye. PI : **Raj Prince**, Co-PIs : Amit Shukla, Nayantara Gupta
- **30 ks of time awarded by Astrosat (ToO; 2019):** Multi-wavelength study of a blazar OQ 334 (B2 1420+32) using Atsrosat. PI : Rukaiya Khatoon, Co-PIs: **Raj Prince**, Rupjyoti Gogoi
- **30 ks of time awarded by Astrosat (ToO; 2019):** Multi-wavelength study of a blazar S5 1044+71 using ASTROSAT. PI : Rukaiya Khatoon, Co-PIs: **Raj Prince**, Rupjyoti Gogoi
- **30 ks of time awarded by Astrosat (ToO; 2019):** Multi-wavelength study of a blazar SBS 1150+497 using ASTROSAT PI : Rukaiya Khatoon, Co-PIs: **Raj Prince**, et al.
- **60 ks of time awarded by Astrosat (ToO; 2020):** Multi-wavelength study of the blazar OJ 287 in outburst state PIs: Aditi Agarwal, Co-PIs: **Raj Prince,** Pratik Majumdar, Nayantara Gupta
- **30 ks of time awarded by AstroSat (ToO; 2021):** Multi-wavelength observations of Blazar BL Lacertae in its high optical state PI : **Raj Prince,** Co-PIs: Rukaiya Khatoon, Pratik Majumdar
- **30 ks of time awarded by AstroSat (ToO; 2021):** Astrosat follow-up of MAGIC detection of VHE gamma-ray from blazar BL Lacertae PI : **Raj Prince,** Co-PIs: Rukaiya Khatoon, Pratik Majumdar

Swift-XRT/UVOT:

- 2.5 ks ToO observation of blazar OQ 334 by Swift-XRT/UVOT on 13 Dec 2019 PI : Raj Prince
- 2 ks ToO observation of blazar OQ 334 by Swift-XRT/UVOT on 11 Jan 2020 PI : Raj Prince
- 10 ks ToO observation of blazar TXS 1700+685 by Swift-XRT/UVOT between 18 May 2021 to 07 June 2021 PI: Raj Prince

XMM-Newton:

- 20 ks of time awarded by international X-ray instrument, XMM-Newton (ToO; 2021), to observe the flaring blazar Ton 599 PI: Raj Prince
- 20 ks of time awarded by international X-ray instrument, XMM-Newton (ToO; 2021), to observe the neutrino candidate blazar 4FGL J0304.5-0054 PI: Raj Prince

NuSTAR:

• 25 ks of time awarded by international X-ray instrument, NuSTAR (ToO; 2021), to observe the flaring blazar BL Lacertae PI: Raj Prince

- The Astrophysical Journal (ApJ)
- Publications of the Astronomical Society of Japan (PASJ)
- Astrophysics and Space Science (ASTR)

Conferences:

<u>Talks</u>

- 40th Polish Astronomical Society Meeting: 13 -17 September 2021, Szczecin, Poland
 "Viewing angle observations and redshift evolution in quasar based cosmology"
- MARLAM 2018 Meeting at University of Maryland, Baltimore county : "Fermi-LAT observations of the brightesst gamma-ray flare ever detected from CTA 102"
- Advanced in Astroparticle Physics and Cosmology (AAPCOS), SINP, Kolkata, 2018 : "Long-term study of the light curve of PKS 1510-089 in GeV energies"
- 7th International Fermi Symposium, Garmisch-Partenkirchen, Germany, 2017 : **"Long-term study of the light curve of PKS 1510-089 in GeV energies"**
- Neighbourhood Astronomy Meeting (NAM), ISRO, Bangalore, India, 2016 : **"How Many galactic jets can explain the Positron excess"**

Posters

- 40th Polish Astronomical Society Meeting: 13 -17 September 2021, Szczecin, Poland
 "Broadband study of BL Lac during flare of 2020: Spectral evolution and the emergence of HBL component"
- 8th International Fermi Symposium, Baltimore, Maryland, 2018 : "Fermi-LAT observations of the brightesst gamma-ray flare ever detected from CTA 102"
- Astronomical Society of India (ASI), Osmania University, Hydarabad, 2018 : **"Fermi-LAT observations of the brightesst gamma-ray flare ever detected from CTA 102"**
- Astronomical Society of Insia (ASI), BITs, Jaipur, 2017 : "Long-term study of the light curve of PKS 1510-089 in GeV energies"

Schools/Workshops/Meetings attended:

- High Energy Astrophysics in Southern Africa (HEASA) 13-17 September 2021, Virtual (attended)
- Black hole accretion disc winds conference 6-9 September 2021, Virtual (attended)
- Visit to Goddard Space Flight Centre, Greenbelt, MD, 2018 and deliver a talk.
- Visit to Pennsylvania State University, 2018 and deliver a talk.
- Neighborhood Astronomy meeting (NAM), Bangalore, 2014, 2015, 2016, and 2018
- Astrosat data analysis workshop, IUCAA, Pune, India, 2017
- Visit to Nicolaus Copernicus Astronomical center of the Polish Academy of sciences, Poland , 2017 and deliver a talk.
- Astronomical Society of India (ASI), Kashmir University, 2016
- COSPAR Building Workshop in Mohali, India, 2019

List of Referees:

Dr. Nayantara Gupta Raman Research Institute Bangalore, India <u>nayan@rri.res.in</u> Dr. Pratik Majumdar Saha Institute of Nuclear Physics Kolkata, India <u>majumdar.mpratik@gmail.com</u> Dr. C. S. Stalin Indian Institute of Astrophysics Bangalore, India <u>stalin@iiap.res.in</u>

Prof. Bozena Czerny Center for Theoretical Phsics (PAS) Warsaw, Poland <u>bcz@cft.edu.pl</u>