

Dr. Sabyasachi Pal

✉ sabya.pal@gmail.com

☎ +91 9836417804

🏠 Kalitala, Kayal Para, Garia Station Road
Near P. K. Ghosh Memorial School
India, 700084

Date of birth: 28/04/1975

ORCID: 0000-0003-2325-8509



Employment History

- 2018 – present
 - Associate Professor and Head of the Department, Department of Pure and Applied Sciences, **Midnapore City College**
 - Honorary Scientist, **Indian Centre for Space Physics**
- 2024 – present
 - Associate of **Inter-University Centre for Astronomy and Astrophysics (IUCAA)**, India
- 2012 – 2017
 - Project Scientist and Head of the Department (of Department of Radio Astronomy) in **Indian Centre for Space Physics**. The project ended in 31st March 2017.
 - Member of Academic Council of the Center for **Indian Centre for Space Physics** from 2012 to 2017.
- 2009 – 2012
 - Research Associate in **International Centre for Radio Astronomical Research (ICRAR), University of Western Australia (UWA)**. ICRAR is mainly responsible to build and maintain the prestigious international astronomical project Square Kilometer Array (SKA) in Western Australia.
- 2005 – 2009
 - Post-doctoral Fellow at the **National Centre for Radio Astrophysics (NCRA)**, which is a centre of the **Tata Institute of Fundamental Research (TIFR)**. NCRA has built and operates the Giant Metrewave Radio Telescope (GMRT) and the Ooty Radio Telescope (ORT).
- 2001 – 2005
 - CSIR NET Fellow.
- 2002 – 2005
 - Editor of the popular Bengali science journal *Mohabiswa o Ami (Universe and Myself)* from 2002 to 2005.

Education

- 2006
 - **Ph.D. (Physics)**, Jadavpur University
The title of PhD thesis is '**Radio Properties of Galactic Compact Objects**' guided by Prof. Sandip K. Chakrabarti and Prof. Kushalendu Goswami.
- 2001
 - **NET**, Cleared lecturership and research fellowship from DST and CSIR.
- 2000
 - **Master of Science (Physics)**, Specialization-Electronics, communication and microwave, University of Kolkata
- 1998
 - **Bachelor of Science (Physics)**, University of Kolkata
- 1995
 - **Higher Secondary**, West Bengal Council of Higher Secondary Education, Uttarpara Govt. High School
- 1993
 - **Secondary**, West Bengal Board of Secondary Education, Uttarpara Govt. High School

Academic Awards

- **Saraswat Samman (Lifetime achievement award)**, by the Academy of Socio-Cultural and Environmental Normative Development in 2025.
- **Young Scientist Award**, by the International Union of Radio Science (URSI) in 2006.
- **Young Astronomer award**, by the Astronomical Society of India for publishing the best paper in the Bulletin of the Astronomical Society of India in 2005-2006.
- **Best poster award**, in National Conference on Radio Science in India (INCURSI-2003), New Delhi.
- **Best poster award**, in the Astronomical Society of India Meeting, 2007.
- **Bandana Chatterjee Memorial Prize**, for securing the highest marks in B. Sc Physics (Hons.) in the college and a scholarship of Rs. 1000 for the same.

Member of the Academic Societies

- Life member of the Astronomical Society of India.
- Life member of the Indian Centre for Space Physics.

Member of Prominent Collaboration

- Member of **SKAO Extragalactic Continuum** Science Working Group (SWG) and **SKAO Our Galaxy** Science Working Group.
- Member of **SKA-India Continuum Science, Neutron Stars** and **Radio Transients** science working group (SWG).
- Member of **International Astronomical Union (IAU) Pro-Am Group**

Extra Curricular Activities

- **Rashtrapati award (President of India Award)** for roving in the year 1996.
- **Upastrapati award (Vice-President of India Award)** for roving for the year 1996-1997.
- **Upastrapati award (Vice-President of India Award)** for roving for the year 1997-1998.
- **Rajya Puruskar (State Award)** for scouting in the year 1992.

My Areas of Research Interest

- **Search for complex bio-molecules from star formation regions and different solar system objects** (collaborator: Arijit Manna, Serena Viti)
- **A search of rare types of irregular radio galaxies and study of their nature** (Collaborators: Martin J. Hardcastle, Netai Bhukta, Shobha Kumari, Souvik Manik etc.)
- **Study of micro-quasars and other compact objects in our galaxy** (Collaborators: Anne Lohfink, Manoj Mandal, Jaiverdhan Chauhan, Sergei Trushkhin, Sandip K. Chakrabarti etc.)
- **Search for transient radio sources in different galactic and extra-galactic fields** (Collaborators: Scott D.; Roy, Subhashis; Lazio, T. Joseph W.; Ray, Paul S.; Kassim, Namir E.)

Teaching Activity

- Dusmanta Patra, who did his PhD under me, received his PhD degree in 2023 from the University of Calcutta.
- Netai Bhukta, who did his PhD under me (co-guided by Dr. Sushanta K. Mondal), received his PhD degree in 2025 from Sidhu Kanho Birsu University.
- Manoj Mandal and Arijit Manna, who did their PhD under me, submitted their final thesis in 2025 from Vidyasagar University.
- Presently, I am guiding five research scholars for their Ph.D. degrees. Shobha Kumari is nearing completion of her PhD work and is expected to submit her thesis by 2025. Debaraty Bhandari, Sunirmal Rana, Shekhar Sinha, Sudarshan Mondal and Souvik Manik have started working with me relatively recently.
- Since 2018, I am offering different courses for postgraduate students at Midnapore City College, which is affiliated with Vidyasagar University. I introduced the 'Astronomy and Astrophysics' special paper for the postgraduate students of the University. Following are my teaching activities for different semesters at the postgraduate level.
 - a) In the first semester, I used to teach 'Electrodynamics'.
 - b) In the second semester, I used to teach 'Semiconductor Physics'.
 - c) In the third semester, I used to teach 'Nuclear Physics' and 'Astronomy and Astrophysics Special Paper'.
 - d) In the fourth semester, I used to teach 'Semiconductor Devices' and 'Astronomy and Astrophysics' special paper.
- From 2018, I am also offering different courses for undergraduate students at Midnapore City College, which is affiliated with Vidyasagar University. I used to teach 'Numerical Methods and Python', 'Mathematical Methods' and 'Astronomy and Astrophysics (Discipline Specific Electives)'.
- Between 2009 and 2012, I guided many students in **University of Western Australia** for various short-time and long-time projects.
- I guided Monique Hollick for the 2009-10 summer project 'Searching for New Transient Radio Sources' in the University of Western Australia.
- I have guided Aritra Basu for the long-term project 'Finding the mass distribution of dark matter through gravitational lenses' in NCRA-TIFR.

Teaching Activity (continued)

- I have guided Mayukh Pahari for a long-term MSc. project 'Accretion phenomenon near the pseudo-Kerr black hole' in NCRA-TIFR.
- I have also guided Jayanta Dutta for a short-term project 'Making fast and effective algorithms to search gravitational lenses from large databases like 2MASS, SDSS, etc' in NCRA-TIFR.
- I have guided Avdhoot Datar for the MSc. project 'Search for radio counterpart of high mass X-ray binaries' in NCRA-TIFR.
- In the **Radio Astronomy School 2008 (NCRA-TIFR)**, I taught GMRT data analysis methods using AIPS software.
- I have guided six students for three different projects for **Radio Astronomy School (RAS 2008)** and **Visiting Student Research Programme (VSRP 2008)**, in NCRA-TIFR. The names of the projects and the students who take part in that is as follows:
 - a) Title: Study of radio properties of a few selected black hole systems
Students: Sushanta K Mondal (RAS) and Rohit Chhiber (VSRP)
 - b) Title: Modelling of mass distribution of galaxies and clusters of galaxies using gravitational lensing properties
Students: Tapomoy Guha Sarkar (RAS), Sagar Madgi (VSRP)
 - c) Title: Jet emission mechanism in a few giant radio galaxies
Students: Tanyamay Paranjpe (RAS), Jayanth Chennamangalam (RAS)
- I guided six students for three different projects for **Radio Astronomy School (RAS 2007)** in NCRA-TIFR and **Visiting Student Research Programme (VSRP 2007)**. The name of the projects and the students who take part in that is as follows:
 - a) Title: Search of transient radio sources in the Galactic centre region
Students: M.C. Ramadevi (RAS), Manabendra Lahkar (RAS), Chandrayee Maitra (VSRP)
 - b) Title: VLBI observation of galactic black hole SS 433
Students: Jitty James (VSRP)
 - c) Title: Multi-wavelength radio observation of high mass black hole Cyg X-3, at the time of flare
Students: Veeresh Singh (RAS), Rupak Roy (RAS), Amrita Purkayastha (VSRP)
- **VSRP Programme 2006 in NCRA-TIFR:** I was the supervisor of a VSRP student, Aritra Basu, from Pune University. The title of the project was 'Mass modelling of Gravitational lenses'. In this project, we make diagnostics to make a mass (including dark mass) model of a gravitational lens system.

Administrative Activity

- Presently acting as the head of the Department of Pure and Applied Sciences at Midnapore City College.
- Presently acting as the joint convenor of the research cell at Midnapore City College.
- Head Examiner of Vidyasagar University for UG 1st to 6th Semester Examination (CBCS) – 2022.
- Previously (2018–2022) acted as the academic in charge at Midnapore City College.
- Acted as the head of the Department of Radio Astronomy at the Indian Centre for Space Physics (2012–2017).
- Acted as a member of the Academic Council of the Center for Indian Centre for Space Physics from 2012 to 2017.

Publications

Refereed Publications

- 1 Manna, A., & **Pal, S.** (2026). First detection of ethylene oxide and acetaldehyde in hot core G358.93–0.03 MM1: Tracing prebiotic oxygen chemistry. *New Astronomy* (IF: 2.096), 122, 102465.
[doi:10.1016/j.newast.2025.102465](https://doi.org/10.1016/j.newast.2025.102465)
- 2 Kumari, S., **Pal, S.**, & Manik, S. (2025). Circular Mystery: Exploring Diffuse Emission Surrounding a Radio Galaxy with uGMRT and VLA Multi-wavelength Observations. *The Astrophysical Journal* (IF: 5.4), 987, 10. [doi:10.3847/1538-4357/add69d](https://doi.org/10.3847/1538-4357/add69d)
- 3 Mandal, M., **Pal, S.**, Lohfink, A., Jaisawal, G. K., Naik, S., & Chauhan, J. (2025). Probing thermonuclear bursts and X-ray reflection features in Aql X-1 during 2024 outburst. *Journal of High Energy Astrophysics* (IF: 10.5), 47, 100387. [doi:10.1016/j.jheap.2025.100387](https://doi.org/10.1016/j.jheap.2025.100387)
- 4 Manik, S., Bhukta, N., **Pal, S.**, & Mondal, S. K. (2025). Unveiling new giant radio quasars from the TGSS sky and their large-scale environment. *The Astrophysical Journal Supplement Series* (IF: 8.5), accepted.
[doi:10.3847/1538-4365/ae0b52](https://doi.org/10.3847/1538-4365/ae0b52)
- 5 Manik, S., Kumari, S., Bhukta, N., **Pal, S.**, & Mondal, S. K. (2025). Hybrid Morphology Radio Sources from the MeerKAT Absorption Line Survey (MALS): Radio, Mid-infrared, and Environmental Characteristics. *The Astrophysical Journal* (IF: 5.4), accepted.
- 6 Barman, K., Das, B., Pal, S., Haldar, P. K., Midya, S. K., **Pal, S.**, & Mondal, S. K. (2024). D-region Ionospheric Disturbances due to the December 2019 Solar Eclipse Observed Using Multi-station VLF Radio Network. *Advances in Space Research* (IF: 2.8), 74(3), 1460–1470.
[doi:10.1016/j.asr.2024.04.049](https://doi.org/10.1016/j.asr.2024.04.049)
- 7 Bhukta, N., Manik, S., **Pal, S.**, & Mondal, S. (2024). Discovery of giant radio sources from TGSS ADR 1: radio, optical, and infrared properties. *The Astrophysical Journal Supplement Series* (IF: 8.5), 273(2), 30.
[doi:10.3847/1538-4365/ad5184](https://doi.org/10.3847/1538-4365/ad5184)
- 8 Kumari, S., & **Pal, S.** (2024a). A Horseshoe-Shaped Ring of Diffuse Emission Detected at 1.4 GHz. *Astronomy & Astrophysics* (IF: 5.8), 683, A175. [doi:10.1051/0004-6361/202347816](https://doi.org/10.1051/0004-6361/202347816)
- 9 Kumari, S., & **Pal, S.** (2024b). Discovery of a circularly symmetric extended diffuse radio emission around an elliptical galaxy with the VLA FIRST survey. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 527(4), 11233–11239. [doi:10.1093/mnras/stad3953](https://doi.org/10.1093/mnras/stad3953)
- 10 Kumari, S., **Pal, S.**, Hardcastle, M., & Horton, M. A. (2024). J0011+3217: A peculiar radio galaxy with one-sided secondary lobe and misaligned giant primary lobes. *Astronomy & Astrophysics* (IF: 5.8), 689, A301. [doi:10.1051/0004-6361/202347367](https://doi.org/10.1051/0004-6361/202347367)
- 11 Mandal, M., Saha, D., **Pal, S.**, & Manna, A. (2024). Multi-wavelength observation of MAXI J1348–630 during the outburst in 2019. *Astrophysics and Space Science* (IF: 1.5), 369(2), 18.
[doi:10.1007/s10509-024-04280-z](https://doi.org/10.1007/s10509-024-04280-z)
- 12 Manna, A., & **Pal, S.** (2024a). ACA observation and chemical modeling of phosphorus nitride towards hot molecular cores G10.4710.03 and G31.4110.31. *Journal of Astrophysics and Astronomy* (IF: 1.6), 45(3), 60.
[doi:10.1007/s12036-023-09989-x](https://doi.org/10.1007/s12036-023-09989-x)
- 13 Manna, A., & **Pal, S.** (2024b). ALMA detection of hydrogen cyanide (HCN) in the atmosphere of Saturn. *Journal of Astrophysics and Astronomy* (IF: 1.6), 45(31). [doi:10.1007/s12036-024-10024-w](https://doi.org/10.1007/s12036-024-10024-w)
- 14 Manna, A., & **Pal, S.** (2024c). Confirmation of interstellar phosphine towards asymptotic giant branch star IRC+10216. *Journal of Astrophysics and Astronomy* (IF: 1.6), 45(36).
[doi:10.1007/s12036-024-10027-7](https://doi.org/10.1007/s12036-024-10027-7)

- 15 Manna, A., & **Pal, S.** (2024d). Detection and chemical modelling of complex prebiotic molecule cyanamide in the hot molecular core G31.41+0.31. *ACS Earth and Space Chemistry* (IF: 2.9) (IF: 3.556), 8(4), 665–674. [doi:10.1021/acsearthspacechem.3c00245](https://doi.org/10.1021/acsearthspacechem.3c00245)
- 16 Manna, A., & **Pal, S.** (2024e). Detection and prebiotic chemistry of possible glycine precursor molecule methylenimine towards the hot molecular core G10.47+0.03. *International Journal of Astrobiology* (IF: 1.07), 23, e14. [doi:10.1017/S1473550424000107](https://doi.org/10.1017/S1473550424000107)
- 17 Manna, A., & **Pal, S.** (2024f). Detection of possible glycine precursor molecule methylamine towards the hot molecular core G358.93–0.03 MM1. *New Astronomy* (IF: 2.096), 109, 102199. [doi:10.1016/j.newast.2024.102199](https://doi.org/10.1016/j.newast.2024.102199)
- 18 Manna, A., & **Pal, S.** (2024g). First identification and chemical modelling of new thiol (SH) bearing molecule in the interstellar medium: Dithioformic acid. *ACS Earth and Space Chemistry* (IF: 2.9) (IF: 2.9), 8(12), 2401–2410. [doi:10.1021/acsearthspacechem.4c00142](https://doi.org/10.1021/acsearthspacechem.4c00142)
- 19 Manna, A., & **Pal, S.** (2024h). Observation of complex organic molecules containing peptide-like bonds towards hot core G358.93–0.03 MM1. *Research in Astronomy and Astrophysics* (IF: 2.8), 24(7), 075014. [doi:10.1088/1674-4527/ad539b](https://doi.org/10.1088/1674-4527/ad539b)
- 20 Manna, A., **Pal, S.**, Baug, T., & Mondal, S. (2024). Study of complex nitrogen and oxygen-bearing molecules toward the high-mass protostar IRAS 18089–1732. *Research in Astronomy and Astrophysics* (IF: 2.8), 24(6), 065008. [doi:10.1088/1674-4527/ad3b3c](https://doi.org/10.1088/1674-4527/ad3b3c)
- 21 Manna, A., **Pal, S.**, Sekhar, S., & Mondal, S. K. (2024). ALMA and GMRT Studies of Dust Continuum Emission and Spectral Lines Toward Oort Cloud Comet C/2022 E3 (ZTF). *Research in Astronomy and Astrophysics* (IF: 2.8), 24, 125009. [doi:10.1088/1674-4527/ad8eae](https://doi.org/10.1088/1674-4527/ad8eae)
- 22 Manna, A., **Pal, S.**, & Viti, S. (2024). Detection of antifreeze molecule ethylene glycol in the hot molecular core G358.93–0.03 MM1. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 533(1), 1143–1155. [doi:10.1093/mnras/stae1864](https://doi.org/10.1093/mnras/stae1864)
- 23 **Pal, S.**, & Manna, A. (2024). Detection of continuum emission and atomic hydrogen (HI) from comet C/2020 F3 NEOWISE using GMRT. *Journal of Astrophysics and Astronomy* (IF: 1.6), 45(10). [doi:10.1007/s12036-024-09998-4](https://doi.org/10.1007/s12036-024-09998-4)
- 24 Patra, D., & **Pal, S.** (2024). Multi-frequency study of large size radio galaxies 3C 35 and 3C 284. *Advances in Space Research* (IF: 2.8), 73, 1113–1124. [doi:10.1016/j.asr.2023.07.070](https://doi.org/10.1016/j.asr.2023.07.070)
- 25 Sharma, R., Mandal, M., **Pal, S.**, Biswajit, P., Jaisawal, G. K., & Ratheesh, A. (2024). Probing the energy and luminosity-dependent spectro-timing properties of RX J0440.9+4431 with AstroSat. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 534, 1028–1042. [doi:10.1093/mnras/stae2175](https://doi.org/10.1093/mnras/stae2175)
- 26 White, G. J., Barrufet, L., Serjeant, S., Pearson, C., Sedgwick, C., **Pal, S.**, ... Ishigaki, T. (2024). A GMRT 610 MHz radio survey of the North Ecliptic Pole (NEP, ADF-N) / Euclid Deep Field North. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 535(2), 1406–1425. [doi:10.1093/mnras/stae2058](https://doi.org/10.1093/mnras/stae2058)
- 27 Mandal, M., & **Pal, S.** (2023). Temporal and spectral study of the X-ray pulsar 2S 1553–542 during the 2021 outburst. *Journal of Astrophysics and Astronomy* (IF: 1.6), 44, 60. [doi:10.1007/s12036-023-09956-6](https://doi.org/10.1007/s12036-023-09956-6)
- 28 Mandal, M., **Pal, S.**, Chauhan, J., Lohfink, A., & Bharali, P. (2023). The study of thermonuclear X-ray bursts in accreting millisecond pulsar MAXI J1816–195 with NuSTAR and NICER. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 521(1), 881–892. [doi:10.1093/mnras/stad604](https://doi.org/10.1093/mnras/stad604)
- 29 Mandal, M., Sharma, R., **Pal, S.**, Jaisawal, G. K., Gendreau, K. C., Ng, M., ... Coley, J. B. (2023). Probing spectral and timing properties of the X-ray pulsar RX J0440.9+4431 in the giant outburst of 2022–2023. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 526(1), 771–781. [doi:10.1093/mnras/stad2767](https://doi.org/10.1093/mnras/stad2767)

- 30 Manna, A., & **Pal, S.** (2023a). Detection of complex nitrogen-bearing molecule ethyl cyanide towards the hot molecular core G10.47+0.03. *Astrophysics and Space Science* (IF: 1.5), 368(44).
doi:https://doi.org/10.1007/s10509-023-04202-5
- 31 Manna, A., & **Pal, S.** (2023b). Detection of monothioformic acid towards the solar-type protostar IRAS 16293-2422. *Journal of Astrophysics and Astronomy* (IF: 1.6), 44, 69. doi:10.1007/s12036-023-09961-9
- 32 Manna, A., & **Pal, S.** (2023c). Identification of interstellar cyanamide towards the hot molecular core G358.93-0.03 MM1. *Astrophysics and Space Science* (IF: 1.5), 368, 33. doi:10.1007/s10509-023-04192-4
- 33 Manna, A., **Pal, S.**, Viti, S., & Sinha, S. (2023). Identification of the simplest sugar-like molecule glycolaldehyde towards the hot molecular core G358.93-0.03 MM1. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 525(2), 2229-2240. doi:10.1093/mnras/stad2185
- 34 Nandi, P., Stalin, C. S., Saikia, D. J., Riffel, R. A., Manna, A., **Pal, S.**, ... Sagar, R. (2023). Evidence for low power radio jet-ISM interaction at 10 parsec in the dwarf AGN host NGC 4395. *The Astrophysical Journal* (IF: 5.4), 959(2), 116. doi:10.3847/1538-4357/ad0c57
- 35 **Pal, S.**, & Kumari, S. (2023). A new catalogue of head-tail radio galaxies from LoTSS DR1. *Journal of Astrophysics and Astronomy* (IF: 1.6), 44, 17. doi:10.1007/s12036-022-09892-x
- 36 Saha, D., Mandal, M., & **Pal, S.** (2023). Swift J1728.9-3613 is a black hole X-ray binary: a spectral and timing study using NICER. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 519(1), 519-529. doi:10.1093/mnras/stac3575
- 37 Bhukta, N., Mondal, S. K., & **Pal, S.** (2022). Tailed radio galaxies from the TIFR GMRT sky survey. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 516(1), 372-390. doi:10.1093/mnras/stac2001
- 38 Bhukta, N., **Pal, S.**, & Mondal, S. K. (2022b). Search for X/Z-shaped radio sources from TGSS ADR 1. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 512(3), 4308-4323. doi:10.1093/mnras/stac447
- 39 Hota, A., Dabhade, P., Vaddi, S., Konar, C., **Pal, S.**, Gulati, M., ... Purohit, A. (2022). RAD@home citizen science discovery of an AGN spewing a large unipolar radio bubble onto its merging companion galaxy. *Monthly Notices of the Royal Astronomical Society Letters* (IF: 5.235), 517(1), L86-L91. doi:10.1093/mnrasl/slac116
- 40 Kumari, S., & **Pal, S.** (2022). Search for hybrid morphology radio galaxies from the FIRST survey at 1400 MHz. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 514(3), 4290-4299. doi:10.1093/mnras/stac1215
- 41 Mandal, M., & **Pal, S.** (2022b). Study of timing and spectral properties of the X-ray pulsar 1A 0535+ 262 during the giant outburst in 2020 November-December. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 511(1), 1121-1130. doi:10.1093/mnras/stac111
- 42 Mandal, M., & **Pal, S.** (2022c). Timing and Spectral Studies of the X-ray Pulsar 2S 1417-624 During the Outburst in 2021. *Astrophysics and Space Science* (IF: 1.5), 367, 112. doi:10.1007/s10509-022-04150-6
- 43 Manik, S., Mandal, M., & **Pal, S.** (2022). Impact of air pollutants on COVID-19 transmission: a study over different metropolitan cities in India. *Environment, Development and Sustainability* (IF: 4.2), 1-13. doi:10.1007/s10668-022-02593-z
- 44 Manik, S., Mandal, M., **Pal, S.**, Patra, S., & Acharya, S. (2022). Impact of climate on COVID-19 transmission: A study over Indian states. *Environmental Research* (IF: 7.7), 211, 113110. doi:10.1016/j.envres.2022.113110
- 45 Manik, S., **Pal, S.**, Mandal, M., & Hazra, M. (2022). Effect of 2021 assembly election in India on COVID-19 transmission. *Nonlinear Dynamics* (IF: 6), 107, 1343-1356. doi:10.1007/s11071-021-07041-7

- 46 Manna, A., & **Pal, S.** (2022a). Detection of interstellar cyanamide (NH₂CN) towards the hot molecular core G10.47 + 0.03. *Journal of Astrophysics and Astronomy* (IF: 1.6), 43, 83.
doi:10.1007/s12036-022-09868-x
- 47 Manna, A., & **Pal, S.** (2022b). First detection of methyl formate in the hot molecular core IRAS 18566+0408. *Astrophysics and Space Science* (IF: 1.5), 367(9), 94. doi:10.1007/s10509-022-04132-8
- 48 Manna, A., & **Pal, S.** (2022c). Identification of interstellar amino acetonitrile in the hot molecular core g10. 47+ 0.03: Possible glycine survey candidate for the future. *Life Sciences in Space Research* (IF: 2.8), 34, 9–15. doi:10.1016/j.lssr.2022.04.002
- 49 Sasmal, T. K., Bera, S., **Pal, S.**, & Mondal, S. (2022). A New Catalog of Head–Tail Radio Galaxies from the VLA FIRST Survey. *The Astrophysical Journal Supplement Series* (IF: 8.5), 259(2), 31.
doi:10.3847/1538-4365/ac4473
- 50 Bera, S., **Pal, S.**, Sasmal, T. K., & Mondal, S. (2020). FIRST winged radio galaxies with X and Z symmetry. *The Astrophysical Journal Supplement Series* (IF: 8.5), 251(1), 9.
doi:10.3847/1538-4365/abb367
- 51 **Pal, S.**, Patra, D., Hollick, M., & Chakrabarti, S. K. (2019). Transient nature of radio source NVSS J1957+35. *Advances in Space Research* (IF: 2.8), 64(3), 765–778. doi:10.1016/j.asr.2019.05.014
- 52 Patra, D., **Pal, S.**, Konar, C., & Chakrabarti, S. K. (2019). Multi-frequency properties of an interacting narrow-angle tail radio galaxy J0037+18. *Astrophysics and Space Science* (IF: 1.5), 364(4), 72.
doi:10.1007/s10509-019-3559-3
- 53 White, G. J., Barrufet de Soto, L., Pearson, C., Serjeant, S., Lim, T., Matsuhara, H., ... **Pal, S et al.** (2017). Radio identifications in the NEP Deep Field. *Publications of The Korean Astronomical Society* (IF: 1.545), 32(1), 231–233. doi:10.5303/PKAS.2017.32.1.231
- 54 Roy, S., & **Pal, S.** (2013a). Discovery of the Small-diameter, Young Supernova Remnant G354.4+0.0. *The Astrophysical Journal* (IF: 5.4), 774(2), 150. doi:10.1088/0004-637X/774/2/150
- 55 Michalowski, M., Kamble, A., Hjorth, J., Malesani, D., Reinfrank, R., Bonavera, L., ... Fynbo, J. et al. (2012). The optically unbiased grb host (tough) survey. vi. radio observations at z less than or similar to 1 and consistency with typical star-forming galaxies. *Astrophysical Journal* (IF: 4.8), 755(2).
doi:10.1088/0004-637X/755/2/85
- 56 Pahari, M., & **Pal, S.** (2012). RXTE observation of recent flaring activity from the transient X-ray pulsar 2S 1553–542. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 423(4), 3352–3359.
doi:10.1111/j.1365-2966.2012.21128.x
- 57 Ishwara-Chandra, C., Sirothia, S., Wadadekar, Y., & **Pal, S.** (2011). High-Redshift Radio Galaxies from Deep Fields. *Journal of Astrophysics and Astronomy* (IF: 1.6), 32(4), 609–612.
doi:10.1007/s12036-011-9100-x
- 58 van der Horst, A. J., Kamble, A. P., Paragi, Z., Sage, L. J., **Pal, S.**, Taylor, G. B., ... Ishwara-Chandra, C. et al. (2011). Detailed radio view on two stellar explosions and their host galaxy: XRF 080109/SN 2008D and SN 2007uy in NGC 2770. *The Astrophysical Journal* (IF: 5.4), 726(2), 99.
doi:10.1088/0004-637X/726/2/99
- 59 Ishwara-Chandra, C., Sirothia, S., Wadadekar, Y., **Pal, S.**, & Windhorst, R. (2010b). Deep gmrt 150-mhz observations of the llds-lynx region: Ultrasteepest spectrum radio sources. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 405(1), 436–446. doi:10.1111/j.1365-2966.2010.16452.x
- 60 Nandi, S., Pirya, A., **Pal, S.**, Konar, C., Saikia, D., & Singh, M. (2010). A multifrequency study of the large radio galaxies 3C46 and 3C452. *Monthly Notices of the Royal Astronomical Society* (IF: 4.8), 404(1), 433–441.
doi:10.1111/j.1365-2966.2010.16286.x

- 61 Pahari, M., & **Pal, S.** (2010). Signature of long-term class evolution in grs 1915+ 105 at a high accretion rate. *Monthly Notices of the Royal Astronomical Society (IF: 4.8)*, 409(3), 903–912.
doi:10.1111/j.1365-2966.2010.17378.x
- 62 Roy, S., Hyman, S. D., **Pal, S.**, Lazio, T. J. W., Ray, P. S., & Kassim, N. E. (2010). Circularly Polarized Emission from the Transient Bursting Radio Source GCRT J1745 - 3009. *The Astrophysical Journal Letters (IF: 11.7)*, 712(1), L5–L9. doi:10.1088/2041-8205/712/1/L5
- 63 Hyman, S. D., Wijnands, R., Lazio, T. J. W., **Pal, Sabyasachi**, Starling, R., Kassim, N. E., & Ray, P. S. (2009). GCRT J1742–3001: a new radio transient toward the Galactic center. *The Astrophysical Journal (IF: 5.4)*, 696(1), 280. doi:10.1088/0004-637X/696/1/280
- 64 Perez-Torres, M. A., Zandanel, F., Guerrero, M. A., **Pal, S.**, Profumo, S., Prada, F., & Panessa, F. (2009). The origin of the diffuse non-thermal X-ray and radio emission in the Ophiuchus cluster of galaxies. *Monthly Notices of the Royal Astronomical Society (IF: 4.8)*, 396(4), 2237–2248.
doi:10.1111/j.1365-2966.2009.14883.x
- 65 Yusef-Zadeh, F., Bushouse, H., Wardle, M., Heinke, C., Roberts, D., Dowell, C., ... **Pal, S. et al.** (2009). Simultaneous multi-wavelength observations of Sgr A* during 2007 April 1–11. *The Astrophysical Journal (IF: 5.4)*, 706(1), 348–375. doi:10.1088/0004-637X/706/1/348
- 66 Ryan-Weber, E. V., Begum, A., Oosterloo, T., **Pal, S.**, Irwin, M. J., Belokurov, V., ... Zucker, D. B. (2008). The Local Group dwarf Leo T: H i on the brink of star formation. *Monthly Notices of the Royal Astronomical Society (IF: 4.8)*, 384(2), 535–540. doi:10.1111/j.1365-2966.2007.12734.x
- 67 Hyman, S. D., Roy, S., **Pal, S.**, Lazio, T. J. W., Ray, P. S., Kassim, N. E., & Bhatnagar, S. (2007). A faint, steep-spectrum burst from the radio transient GCRT J1745–3009. *The Astrophysical Journal Letters (IF: 11.7)*, 660(2), L121–L124. doi:10.1086/518245
- 68 **Pal, S.** (2007). Radio properties of Galactic compact objects. *Bulletin of the Astronomical Society of India*, 19–23.
- 69 Paragi, Z., Chakrabarti, S., **Pal, S.**, Borkowski, K., Cassaro, P., Foley, T., ... Lindqvist, M. et al. (2007). Radio and X-Ray Monitoring of SS433. *Revista Mexicana de Astronomia y Astrofisica (IF: 1.7)*, 27, 222–224. doi:2007RMxAC...27...222P
- 70 Chakrabarti, S., **Pal, S.**, & Nandi, A. (2006). Simultaneous VLBI/GMRT/RXTE observation of SS433. *Astronomy & Astrophysics (IF: 5.8)*, 453(3), 965–968. doi:10.1051/0004-6361:20054676
- 71 **Pal, S.**, Chakrabarti, S. K., Kraus, A., & Mandal, S. (2006). Broadband radio spectrum of SS433. *The Bulletin of the Astronomical Society of India*, 34, 1. doi:2006BASI...34...1P
- 72 Chakrabarti, S. K., Anandarao, B., **Pal, S.**, Mondal, S., Nandi, A., Bhattacharyya, A., ... Pati, A. et al. (2005). SS 433: results of a recent multiwavelength campaign. *Monthly Notices of the Royal Astronomical Society (IF: 4.8)*, 362(3), 957–965. doi:10.1111/j.1365-2966.2005.09368.x
- 73 **Pal, S.**, & Chakrabarti, S. K. (2005). A GHz flare in a quiescent black hole and a determination of the mass accretion rate. *Chinese Journal of Astronomy and Astrophysics (now Research in Astronomy and Astrophysics (IF: 2.8))*, 5(S1), 331. doi:2005ChJAS...5...331P
- 74 **Pal, S.**, Chakrabarti, S. K., Goswami, K., Nandi, A., Rao, B. A., & Mondal, S. (2005). Results of recent multi-wavelength campaign of SS433. *Chinese Journal of Astronomy and Astrophysics (now Research in Astronomy and Astrophysics (IF: 2.8))*, 5(S1), 69. doi:2005ChJAS...5...69P
- 75 **Pal, S.**, & Chakrabarti, S. K. (2004). Mass accretion rate of the galactic black hole A0620-00 in its quiescent state. *Astronomy & Astrophysics (IF: 5.8)*, 421(1), 13–15. doi:10.1051/0004-6361:20034569
- 76 Chakrabarti, S., Acharyya, K., Bose, B., Mandal, S., Chatterjee, A., Nandi, N., **Pal, S. et al.** (2003). Monitoring of Sudden Ionospheric Disturbances (SID) from Kolkata (INDIA). *Indian Journal of Physics (IF: 1.7)*, 77, 173.

- 77 Chakrabarti, S. K., **Pal, S.**, Nandi, A., Anandaram, B., & Mondal, S. (2003). Possible photometric evidence of ejection of bullet-like features in the relativistic jet source SS 433. *The Astrophysical Journal Letters* (IF: 11.7), 595(1), L45–L48.  doi:10.1086/379003
- 78 Chakrabarti, S. K., **Pal, S.**, Acharya, K. et al. (2002). VLF observation during Leonid meteor shower-2002 from Kolkata, India. *Indian Journal of Physics* (IF: 1.7), 76(6), 693–697.

Books and Chapters

- 1 Hota, A., Dabhade, P., Machado, P., Kumar, A., Avinash, C., Manaswini, N., ... Purohit, A. (2025). Ten Years of Searching for Relics of AGN Jet Feedback Through RAD@home Citizen Science. In *The Relativistic Universe: From Classical to Quantum*, ISBN: 978-3-031-90185-0 (Vol. 61, pp. 293–306).  doi:10.1007/978-3-031-90186-7_9
- 2 Konar, C., Kumari, S., **Pal, S.**, & Hota, A. (2025). Mode of Accretion and Jet Power in Episodic AGN Jets. In *The Relativistic Universe: From Classical to Quantum*, ISBN: 978-3-031-90185-0 (Vol. 61, pp. 103–114).  doi:10.1007/978-3-031-90186-7_9
- 3 Konar, C., Kumari, S., **Pal, S.**, & Hota, A. (2023b). Mode of Accretion and Jet Power in Episodic AGN Jets. In S. Ghosh & A. R. Rao (Eds.), *The Relativistic Universe: From Classical to Quantum*, ISBN: 978-3-031-90185-0. Oxford: Springer.
- 4 Bhukta, N., **Pal, S.**, & Mondal, S. K. (2022c). Properties of Giant Radio Galaxies. In *Advances in Modern and Applied Sciences (Volume 1)*, ISBN: 978-1-64997-437-2 (pp. 38–48). Scientific Research Publishing Inc (SCIRP).
- 5 Kumari, S., **Pal, S.**, Bhukta, N., & Mondal, S. K. (2022). Winged radio galaxies: An overview. In *Advances in Modern and Applied Sciences (Volume 1)*, ISBN: 978-1-64997-437-2 (pp. 59–75). Scientific Research Publishing Inc (SCIRP).
- 6 Mandal, M., & **Pal, S.** (2022a). Cyclotron Resonant Scattering Features in Highly Magnetized Neutron Stars. In *Advances in Modern and Applied Sciences (Volume 1)*, ISBN: 978-1-64997-437-2 (pp. 76–89). Scientific Research Publishing Inc (SCIRP).
- 7 Manik, S., **Pal, S.**, & Mandal, M. (2022). Impact of Environmental Factors on COVID-19 Transmission: an Overview. In *Advances in Modern and Applied Sciences (Volume 1)*, ISBN: 978-1-64997-437-2 (Chap. 2, pp. 116–128). Scientific Research Publishing Inc (SCIRP).
- 8 Manna, A., & **Pal, S.** (2022d). Millimeter Wavelength Studies of Complex Nitrile Species in the Atmosphere of Saturn Moon Titan. In *Advances in Modern and Applied Sciences (Volume 1)*, ISBN: 978-1-64997-437-2 (pp. 90–101). Scientific Research Publishing Inc (SCIRP).
- 9 **Pal, S.** (2018b). Radio Observations of Galactic Compact Objects. In *Exploring the Universe: From Near Space to Extra-Galactic*, ISBN: 978-3-319-94607-8 (pp. 347–356). Springer.

Publication in Telegrams/Circulars

- 1 Kumari, S., **Pal, S.**, & Mandal, M. (2024). Radio observation of the X-ray pulsar XTE J1946+274 with VLA, *The Astronomer's Telegram*, 16766, 1.
- 2 Mandal, M., Jaisawal, G. K., **Pal, S.**, Gendreau, K., Guillot, S., Sanna, A., ... Pottschmidt, K. (2024). NICER observation of Be/X-ray binary pulsar XTE J1946+274 during its 2024 outburst, *The Astronomer's Telegram*, 16744, 1.
- 3 Mandal, M., & **Pal, S.** (2024a). Detection of thermonuclear bursts and X-ray reflection in Aql X-1 with the NuSTAR, *The Astronomer's Telegram*, 16829, 1.
- 4 Mandal, M., & **Pal, S.** (2024b). X-ray observation of Aql X-1 with the Neil Gehrels Swift Observatory, *The Astronomer's Telegram*, 16826, 1.

- 5 Coley, J. B., Gendreau, K., Pottschmidt, K., **Pal, S.**, Salganik, A., Mandal, M., ... Malacaria, C. (2023). *Continued X-ray Monitoring of LS V +44 17 with NICER, Swift/BAT, and MAXI*, *The Astronomer's Telegram*, 15907, 1.
- 6 Kumari, S., **Pal, S.**, Mandal, M., & Manna, A. (2023). *VLA observation of LS V+44 17 during the giant outburst of 2022-2023*, *The Astronomer's Telegram*, 15913, 1.
- 7 Mandal, M., **Pal, S.**, Gendreau, K., Malacaria, C., Iwakiri, W. B., Chakrabarty, D., ... Ferrara, E. C. (2023). *NICER observation of LS V+44 17 during the record high outburst of 2022-2023*, *The Astronomer's Telegram*, 15848, 1.
- 8 **Pal, S.**, Mandal, M., Gendreau, K., Malacaria, C., Iwakiri, W. B., Arzoumanian, Z., ... Ray, P. S. (2023). *Rebrightening of 1 Crab from LS V+44 17 observed by Swift/BAT and NICER*, *The Astronomer's Telegram*, 15868, 1.
- 9 Chauhan, J., Lohfink, A., Bharali, P., Mandal, M., Draghis, P., **Pal, S.**, & Sanna, A. (2022). *Detection of X-ray reflection in MAXI J1816-195 with the NuSTAR*, *The Astronomer's Telegram*, 15470, 1.
- 10 Hazra, M., & **Pal, S.** (2021). *Enhanced activity from Centaurus X-3 as detected by Fermi/GBM*, *The Astronomer's Telegram*, 14481, 1.
- 11 Hazra, M., **Pal, S.**, Bhunia, B., & Saha, D. (2021). *Swift/BAT detection of increasing activity from SS Cygni*, *The Astronomer's Telegram*, 14344, 1.
- 12 Hazra, M., **Pal, S.**, Mandal, M., & Bhunia, B. (2021). *Swift/MAXI/Fermi detection of strong X-ray activity from 2S 1417-624*, *The Astronomer's Telegram*, 14349, 1.
- 13 Hazra, M., **Pal, S.**, & Saha, D. (2021a). *Detection of flaring activity from Cygnus X-3 in soft X-ray bands by MAXI/GSC*, *The Astronomer's Telegram*, 14397, 1.
- 14 Hazra, M., **Pal, S.**, & Saha, D. (2021b). *Fermi/LAT detection of enhanced gamma-ray activity from the blazars OP 313 and 4C+ 01.02*, *The Astronomer's Telegram*, 14404, 1.
- 15 Hazra, M., **Pal, S.**, Saha, D., & Mandal, M. (2021). *Detection of enhanced X-ray flaring activity from Centaurus X-3 by Swift/BAT, MAXI/GSC and Fermi/GBM*, *The Astronomer's Telegram*, 14417, 1.
- 16 Mandal, M., **Pal, S.**, & Hazra, M. (2021). *Swift/MAXI follow-up of recent outburst from X-ray pulsar 2S 1553-542*, *The Astronomer's Telegram*, 14308, 1.
- 17 Mandal, M., **Pal, S.**, Hazra, M., & Bhunia, B. (2021). *Renewed activity of X-ray binary pulsar A 0535+ 262 detected by Swift/BAT, MAXI/GSC, and Fermi/GBM*, *The Astronomer's Telegram*, 14392, 1.
- 18 Mandal, M., **Pal, S.**, Saha, D., & Hazra, M. (2021). *Detection of softening of X-ray flare from GX 339-4 using MAXI/GSC*, *The Astronomer's Telegram*, 14367, 1.
- 19 **Pal, S.**, Bhunia, B., Mandal, M., Saha, D., & Hazra, M. (2021). *The Neil Gehrels Swift Observatory detection of hard X-ray outburst from Cygnus X-3*, *The Astronomer's Telegram*, 14298, 1.
- 20 **Pal, S.**, Chenevez, J., Saha, D., & Mandal, M. (2021a). *Erratum to ATel# 14430*, *The Astronomer's Telegram*, 14431, 1.
- 21 **Pal, S.**, Chenevez, J., Saha, D., & Mandal, M. (2021b). *Swift/XRT localization of the newly discovered transient IGR J17533-2928*, *The Astronomer's Telegram*, 14430, 1.
- 22 **Pal, S.**, Mandal, M., Hazra, M., Saha, D., & Ghanta, A. (2021). *Detection of X-ray flaring activity from GX 339-4 using Swift*, *The Astronomer's Telegram*, 14351, 1.
- 23 Mandal, M., **Pal, S.**, Hazra, M., Jana, A., Bhunia, B., & Ghanta, A. (2020). *Swift/BAT detection of flaring activity from X-ray binary pulsar A 0535+ 262*, *The Astronomer's Telegram*, 14157, 1.
- 24 **Pal, S.**, & Mandal, M. (2020). *X-ray pulsar A 0535+ 262 reached 3 Crab: update with Neil Gehrels Swift Observatory*, *The Astronomer's Telegram*, 14170, 1.

- 25 Pahari, M., **Pal, S.**, & Mukherjee, A. (2010). *RXTE/PCA detection of QPO near 0.22 Hz in Aql X-1 during ongoing outburst*, *The Astronomer's Telegram*, 2902, 1.
- 26 **Pal, S.** (2010b). *Outburst of Aql X-1 as observed by RXTE and Swift*, *The Astronomer's Telegram*, 2850, 1.
- 27 Kamble, A., **Pal, S.**, van der Horst, A., Bhattacharya, D., Wijers, R., Ishwara Chandra, C., Rol, E. et al. (2009). *GMRT observation of GRB 090424 afterglow*, *GRB Coordinates Network*, 9484, 1.
- 28 Kamble, A., **Pal, S.**, Bhattacharya, D., Wijers, R., & Chandra, I. (2009). *SN2007bg: GMRT radio observations*, *The Astronomer's Telegram*, 2133, 1.
- 29 Pahari, M., & **Pal, S.** (2009a). *Detection of 27 Hz QPO and type-I X-ray burst during state transition from recent RXTE-PCA observation of 4U 1820-303*, *The Astronomer's Telegram*, 2167, 1.
- 30 Pahari, M., & **Pal, S.** (2009c). *Softening of state during recent X-ray outburst of LMC X-3 as detected by RXTE*, *The Astronomer's Telegram*, 2230, 1.
- 31 Kamble, A., **Pal, S.**, Bhattacharya, D., & Chandra, I. (2008). *XRF 080109/SN2008D: GMRT upper limit at 1.28 GHz*, *GRB Coordinates Network*, 7330, 1.
- 32 **Pal, S.**, & Pahari, M. (2008). *RXTE observation of 2S 1553-542 at the time of recent flare*, *The Astronomer's Telegram*, 1373, 1.
- 33 **Pal, S.**, Trushkin, S., & Chandra, I. (2008). *GMRT low frequency radio observation of the giant flare from Cygnus X-3*, *The Astronomer's Telegram*, 1486, 1.
- 34 **Pal, S.**, Kamble, A., & Bhattacharya, D. (2008). *XRF 080109/SN 2008D: GMRT radio observation at 1280 MHz*, *GRB Coordinates Network*, 7201, 1.
- 35 Trushkin, S., **Pal, S.**, Mondal, S., Bursov, N., & Ishwara-Chandra, C. (2008). *Cygnus X-3 is in flare: observation by RATAN and GMRT*, *The Astronomer's Telegram*, 1881, 1.
- 36 **Pal, S.**, & Rao, A. P. (2007). *GMRT Low frequency radio observation of Cyg X-3 at the time of flare*, *The Astronomer's Telegram*, 2902, 1.
- 37 **Pal, S.**, & Basu, A. (2007). *GRB GRB 070610: GMRT upper limit of GRB 070610/SWIFT J195509.6+ 261406 in 610 MHz*, *GRB Coordinates Network*, 6559, 1.
- 38 **Pal, S.**, Ishwara-Chandra, C., Bhattacharya, D., & Kamble, A. (2007). *GRB070612A: radio upper limit from GMRT*, *GRB Coordinates Network*, 6714,1.
- 39 **Pal, S.**, Ishwara-Chandra, C., & Rao, A. P. (2006). *GMRT observation of radio flare in Cygnus X-3 at 614 MHz*, *The Astronomer's Telegram*, 809, 1.

Publication in Conference Proceedings

- 1 Konar, C., Kumari, S., **Pal, S.**, & Hota, A. (2023a). *Mode of Accretion and Jet Power in Episodic AGN Jets*. In *International Symposium on Recent Developments in Relativistic Astrophysics (ISRA 2023)*, SRM University Sikkim, Gangtok, Sikkim.
- 2 Bera, S., **Pal, S.**, Sasmal, T. K., Mondal, S., & Patra, D. (2020). *Mrg: The miscellaneous radio galaxies from the first survey*. In *Journal of physics: Conference series* (Vol. 1579, p. 012023). IOP Publishing.
- 3 Sasmal, T. K., Bera, S., **Pal, S.**, & Mondal, S. (2020). *Discovery of four miscellaneous radio galaxies from lotss dr1*. In *Journal of physics: Conference series* (Vol. 1579, p. 012021). IOP Publishing.
- 4 **Pal, S.** (2018a). *Radio observations of galactic compact objects*. (pp. 347-356). Springer, Cham.
- 5 **Pal, S.**, & Patra, D. (2018). *Broadband radio properties of galactic micro-quasars during hard and soft states*. (Vol. 42, E1-6).
- 6 Patra, D., & **Pal, S.** (2018). *Long term x-ray/radio monitoring of galactic micro-quasar cygnus x-1*. (Vol. 42, E1-6).

- 7 **Pal, S.**, Chakrabarti, S. K., & Patra, D. (2016). Multi-frequency study of jet in HH 80-81. (Vol. 41, E2-1).
- 8 **Pal, S.**, Chakrabarti, S. K., Patra, D., & Konar, C. (2016). Multiwavelength observations of giant radio galaxy 3C 35 and 3C 284. (Vol. 41, E1-7).
- 9 **Pal, S.**, Patra, D., Ishwara-Chandra, C., & Rao, A. (2016). Multi-frequency observation of high mass X-ray binary Cygnus X-3 during flares. (Vol. 41, E1-1).
- 10 Patra, D., Chakrabarti, S. K., **Pal, S.**, & Konar, C. (2016a). Multi-frequency properties of a narrow angle tail radio galaxy J 0037+18. (Vol. 41, E1-7).
- 11 Patra, D., Chakrabarti, S. K., **Pal, S.**, & Konar, C. (2016b). Spectral ageing properties of giant radio galaxy Pictor A. (Vol. 41, E1-7).
- 12 **Pal, S.**, Hyman, S., Roy, S., Lazio, T., Ray, P., & Kassim, N. (2015). Search for transient radio sources near Galactic center region. In *Astronomical society of india conference series* (Vol. 12, pp. 85-86).
- 13 Patra, D., **Pal, S.**, Ishwara-Chandra, C., & Rao, A. (2015). Multi-frequency observation of Galactic micro-quasar Cygnus X-3 during flare. In *Astronomical Society of India Conference Series* (Vol. 12, pp. 125-126).
- 14 **Pal, S.**, & Roy, S. (2014). Discovery of one of the youngest supernova remnant g354. 4+ 0.0. (Vol. 40, E1-16).
- 15 **Pal, S.**, Sahu, D., & Patra, D. (2014). Discovery of a transient source close to a micro-quasar. (Vol. 40, E1-5).
- 16 Roy, S., & **Pal, S.** (2014). Discovery of a young supernova remnant G354.4+0.0. In *Astronomical Society of India Conference Series* (Vol. 13, pp. 263-266).
- 17 Roy, S., & **Pal, S.** (2014). Observations and discoveries of supernova remnants with GMRT. (Vol. 9, pp. 197-201). [doi:10.1017/S1743921313009460](https://doi.org/10.1017/S1743921313009460)
- 18 Roy, S., & **Pal, S.** (2013b). Observations and discoveries of supernova remnants with GMRT. (Vol. 9, pp. 197-201). Cambridge University Press.
- 19 Dodson, R., Harris, C., **Pal, S.**, & Wayth, R. (2010). A gpu based transient dedisersion search engine for craft. In *Proceedings of the iskaf2010 science meeting*. Proceedings of Science.
- 20 Ishwara-Chandra, C., Sirothia, S., Wadadekar, Y., Pal, S., & Windhorst, R. (2010a). Deep gmrt 150 mhz observations of llds. In *Iskaf2010 science meeting* (p. 69).
- 21 **Pal, S.** (2010a). Deep GMRT 150 MHz observations of LBDS. In *Deep gmrt 150 mhz observations of llds* (p. 69). Proceedings of Science.
- 22 Pirya, A., Singh, M., Konar, C., Saikia, D., Nandi, S., & **Pal, S.** (2010). A multifrequency study of the large radio galaxies 3C46 and 3C452.
- 23 Ishwara-Chandra, C., Sirothia, S., **Pal, S.**, & Wadadekar, Y. (2009). A program to search for ultra-steep spectrum radio sources with gmrt. In *The low-frequency radio universe* (Vol. 407, p. 43).
- 24 **Pal, S.**, Ishwara-Chandra, C. H., & Rao, A. P. (2009). Multifrequency Observation of Cygnus X-3 at the Time of Giant Flare in 2006 May June. (Vol. 407, pp. 277-281).
- 25 **Pal, S.**, Ishwara-Chandra, C., & Rao, A. (2009). Multifrequency observation of cygnus x-3 at the time of giant flare in 2006 may-june. In *The low-frequency radio universe* (Vol. 407, p. 277).
- 26 Sedgwick, C., Serjeant, S., Sirothia, S., **Pal, S.**, Pearson, C., White, G. J., ... Khan, S. (2009). The AKARI Deep Fields: Early Results from Multi-Wavelength Follow-up Campaigns. (Vol. 418, p. 519).

- 27 **Pal, S.**, Ishwara-Chandra, C., & Rao, A. P. (2008). Multi wavelenght radio observations of Cygnus X-3 during the giant flare of May-June 2006. In *Aip conference proceedings* (Vol. 1053, pp. 193–199). American Institute of Physics.
- 28 **Pal, S.**, Ishwara-Chandra, C., & Rao, A. (2008). Multi frequency radio observations of Cygnus X-3 during the giant flare of May-June 2006. In *Multi frequency radio observations of Cygnus X-3 during the giant flare of May-June 2006* (unknown). Proceedings of Science.
- 29 Roy, S., Hyman, S., **Pal, S.**, Lazio, T. J. W., Ray, P. S., Kassim, N. E., & Bhatnagar, S. (2008). New results on radio emission from the transient bursting source GCRTJ 1745–3009. (Vol. 25, p. 25).
- 30 Paragi, Z., Chakrabarti, S., **Pal, S.**, Borkowski, K., Cassaro, P., Foley, T., ... Kraus, A. (2007). Infrared and optical polarisation of microquasars. (Vol. 27, p. 169). Instituto de Astronomía, Universidad Nacional Autónoma de México.
- 31 Roy, S., Hyman, S., **Pal, S.**, Lazio, J., Ray, P., Kassim, N., & Bhatnagar, S. (2007). New Results on Emission from the GCRT. (p. 9).
- 32 Hyman, S. D., **Pal, S.**, Ray, P., Lazio, T., Kassim, N., & Roy, S. (2006). A Search for GCRT J1745-3009 and Other Galactic Center Radio Transients. In *American astronomical society meeting abstracts# 208* (Vol. 208, pp. 48–05).