

BIO-DATA of Dr. Nirupam Roy

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3. Institution: Indian Institute of Science (IISc)
4. Date of Birth: June 20, 1982
5. Gender(M/F/T): M
6. Category Gen/SC/ST/OBC: Gen
7. Whether differently abled (Yes/No): No

8. Academic Qualification (Undergraduate Onwards):

S.No.	Degree	Year	Subject	University/Institution	% of marks
1.	B.E.	2003	Mechanical Engineering	Bengal Engineering College (D.U.)	80.96
2.	M.Sc.	2005	Physics	Tata Institute of Fundamental Research (D.U.)	67.25
3.	Ph.D.	2009	Physics	Tata Institute of Fundamental Research (D.U.)	NA

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award:

Thesis Title: Between the Stars: The multiphase turbulent ISM

Thesis Adviser: Prof. Jayaram N. Chengalur

Year of Award: 2009

Institute: National Centre for Radio Astrophysics (NCRA-TIFR), Pune

University: Tata Institute of Fundamental Research (Deemed University)

10. Work experience (in chronological order):

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1	Postdoctoral Fellow	National Radio Astronomy Observatory, USA	28-10-2009	09-11-2012	Fellowship
2	Postdoctoral Fellow	Max-Planck-Institut für Radioastronomie, Germany	07-01-2013	31-03-2015	Fellowship
3	Assistant Professor	Indian Institute of Technology, Kharagpur	13-04-2015	03-05-2016	PB-3
4	Assistant Professor	Indian Institute of Science, Bangalore	06-05-2016	05-05-2022	PB-3
5	Associate Professor	Indian Institute of Science, Bangalore	06-05-2022	till date	13A2

11. Professional Recognition/Award/Prize/Certificate, Fellowship received by the applicant:

S.No	Name of Award	Awarding Agency	Year
1	Laxminarayana & Nagalaxmi Modali Award	Astronomical Society of India (ASI)	2024
2	Infosys Young Investigator Award	Infosys and IISc	2017
3	INSA Medal for Young Scientist	Indian National Science Academy	2013
4	Humboldt Fellowship	Alexander von Humboldt Foundation	2013
5	Jansky Fellowship	National Radio Astronomy Observatory	2009

12. Publications (*List of papers published in SCI Journals, in year wise descending order*):

Complete list of publication in specified format enclosed at the end.

13. Detail of patents.: None

14. Books/Reports/Chapters/General articles etc.: None

15. Any other Information (maximum 500 words):

Convener, Joint Astronomy Programme (IISc), 2019 – till date

Member of the EC, SKA India Consortium as Institute Representative, 2017 – till date

Recipient of the CEFIPRA collaborative research grant (IFCPAR/CEFIPRA), 2022 – 2025

Elected member, Executive Council of the Astronomical Society of India (ASI), 2022 – till date

Member, Working Group for Gender Equity of the ASI, 2022 – till date

Recipient of the ISRO – IISc Space Technology Cell grant (STC), 2021 – 2023

Ambassador Scientist of the Alexander von Humboldt Foundation, 2019 – 2025

Recipient of the Max Planck India Partner Group grant (MPS), 2019 – 2022

Member of the GMRT Time Allocation Committee, 2018 – 2024

Member of the International Astronomical Union (IAU), 2018 – till date

Member of the International Union of Radio Sciences (URSI), 2018 – till date

Life Member, the Astronomical Society of India (ASI) 2012 – till date

Mentored/mentoring 7 PhD students, 3 Postdoctoral Fellows, 14 BS/MS students

Complete List of Publication of Nirupam Roy
14/07/2025

I. Publications in peer-reviewed journals:

1. A. G. Cheriyan, S. Vig, N. Roy, S. Mandal, C. Carrasco-González, A. Rodríguez-Kamenetzky, & A. Pasetto, First detection of Circular Polarization in radio continuum towards a Massive Protostar, *The Astrophysical Journal Letters*, accepted for publication, 2025
2. H. Raut, N. Nath Patra, P. Biswas, N. Roy, V. Kalinova, S. Dzib, D. Colombo, V. Villanueva, & S. F. Sánchez, The vertical structure of the stellar disk in NGC 551, *Astronomy and Astrophysics*, accepted for publication, 2025
3. B. Jaiswal & N. Roy, Observability of radio reflections from exoplanet ionospheres with next generation radio telescopes, *Icarus*, 441, 116708, 2025
4. S. Gayen, J. Kumar, P. Dutta, K. M. A. Elahi, S. Choudhuri, & N. Roy, Calibration requirements for epoch of reionization 21-cm signal observations. Part IV. Bias and variance with time and frequency correlated residual gains, *Journal of Cosmology and Astroparticle Physics*, 2025, 024, 2025
5. B. Mookerjee, G. Maheswar, K. Acharyya, T. Baug, P. Datta, J. Jose, D. K. Ojha, J. D. Pandian, N. Roy, M. Samal, S. Sharma, A. Soam, S. Vig, A. Das, L. Dewangan, S. Dutta, C. Eswariah, L. Majumdar, K. K. Mallick, S. Mondal, J. P. Ninan, N. Panwar, A. Pathak, S. Rastogi, D. Sahu, A. Tej, & V. S. Veena, Research on the interstellar medium and star formation in the Galaxy: An Indian perspective, *Journal of Astrophysics and Astronomy*, 46, 3, 2025
6. A. M. Jacob, M. Nandakumar, N. Roy, K. M. Menten, D. A. Neufeld, A. Faure, M. Tiwari, T. G. S. Pillai, T. Robshaw, & C. A. Durán, Revisiting rotationally excited CH at radio wavelengths: A case study towards W51, *Astronomy and Astrophysics*, 692, A164, 2024
7. J. Dey, J. D. Pandian, D. V. Lal, M. R. Rugel, A. Brunthaler, K. M. Menten, F. Wyrowski, N. Roy, S. A. Dzib, S.-N. X. Medina, S. Khan, & R. Dokara, A multi-wavelength study of Galactic H II regions with extended emission, *Astronomy and Astrophysics*, 689, A254, 2024
8. S.-N. X. Medina, S. A. Dzib, J. S. Urquhart, A. Y. Yang, A. Brunthaler, K. M. Menten, F. Wyrowski, W. D. Cotton, A. Cheema, R. Dokara, Y. Gong, S. Khan, H. Nguyen, G. N. Ortiz-León, M. R. Rugel, V. S. Veena, H. Beuther, T. Csengeri, J. D. Pandian, & N. Roy, A global view on star formation: The GLOSTAR Galactic plane survey: XI. Radio source catalog IV: $2^\circ < \ell < 28^\circ$, $36^\circ < \ell < 60^\circ$ and $|b| < 1^\circ$, *Astronomy and Astrophysics*, 689, A196, 2024
9. S. Khan, M. R. Rugel, A. Brunthaler, K. M. Menten, F. Wyrowski, J. S. Urquhart, Y. Gong, A. Y. Yang, H. Nguyen, R. Dokara, S. A. Dzib, S.-N. X. Medina, G. N. Ortiz-León, J. D. Pandian, H. Beuther, V. S. Veena, S. Neupane, A. Cheema, W. Reich, & N. Roy, A global view on star formation: The GLOSTAR Galactic plane survey: X. Galactic H II region catalog using radio recombination lines, *Astronomy and Astrophysics*, 689, A81, 2024
10. M. Rashid, N. Roy, J. D. Pandian, P. Dutta, R. Dokara, S. Vig, & K. M. Menten, Reliability of In-band and Broadband Spectral Index Measurement: Systematic Study of the Effect of Signal-to-noise Ratio for uGMRT Data, *The Astrophysical Journal*, 971, 39, 2024
11. S. Gayen, R. Sagar, S. Mangla, P. Dutta, N. Roy, A. Chakraborty, J. Kumar, A. Datta, & S. Choudhuri, Calibration requirement for Epoch of Reionization 21-cm signal observation. Part III. Bias and variance in uGMRT ELAIS-N1 field power spectrum, *Journal of Cosmology and Astroparticle Physics*, 2024, 068, 2024
12. N. N. Patra & N. Roy, The temperature of the neutral interstellar medium in the Galaxy, *Monthly Notices of the Royal Astronomical Society*, 529, 4037, 2024
13. K. M. A. Elahi, S. Bharadwaj, S. Pal, A. Ghosh, S. S. Ali, S. Choudhuri, A. Chakraborty, A. Datta, N. Roy, M. Choudhury, & P. Dutta, Towards 21-cm intensity mapping at $z = 2.28$ with uGMRT using the tapered gridded estimator - IV. Wide-band analysis, *Monthly Notices of the Royal Astronomical Society*, 529, 3372, 2024
14. A. J. Nayana, G. C. Anupama, N. Roy, D. P. K. Banerjee, K. P. Singh, L. S. Sonith, & U. S. Kamath, Shock-driven synchrotron radio emission from the 2021 outburst of RS Ophiuchi, *Monthly Notices of the Royal Astronomical Society*, 528, 5528, 2024
15. M. Nandakumar, N. Roy, C. J. Jog, & K. M. Menten, Observational evidence for local vertical constraining of H I by molecular cloud complexes, *Monthly Notices of the Royal Astronomical Society*, 528, 3992, 2024

16. S. Wagh, M. Pandey-Pommier, N. Roy, M. Rashid, A. Marcowith, C. Muthumariappan, R. Sethuram, S. Roy, & B. Guiderdoni, Exploring Neutral Hydrogen in Radio MOlecular Hydrogen Emission Galaxies (MOHEGs) and Prospects with the SKA, *The Astrophysical Journal*, 963, 101, 2024
17. S. Bhattacharjee, N. Roy, P. Sharma, A. Seta, & C. Federrath, Multiphase neutral interstellar medium: analysing simulation with H I 21cm observational data analysis techniques, *Monthly Notices of the Royal Astronomical Society*, 527, 8475, 2024
18. A. Y. Yang, S. A. Dzib, J. S. Urquhart, A. Brunthaler, S.-N. X. Medina, K. M. Menten, F. Wyrowski, G. N. Ortiz-León, W. D. Cotton, Y. Gong, R. Dokara, M. R. Rugel, H. Beuther, J. D. Pandian, T. Csengeri, V. S. Veena, N. Roy, H. Nguyen, B. Winkel, J. Ott, C. Carrasco-Gonzalez, S. Khan, & A. Cheema, A global view on star formation: The GLOSTAR Galactic plane survey. IX. Radio Source Catalog III: $2^\circ < \ell < 28^\circ$, $36^\circ < \ell < 40^\circ$, $56^\circ < \ell < 60^\circ$ and $|b| < 1^\circ$, VLA B-configuration, *Astronomy and Astrophysics*, 680, A92, 2023
19. K. M. A. Elahi, S. Bharadwaj, S. Pal, A. Ghosh, S. S. Ali, S. Choudhuri, A. Chakraborty, A. Datta, N. Roy, M. Choudhury, & P. Dutta, Towards 21-cm intensity mapping at $z = 2.28$ with uGMRT using the tapered gridded estimator - III. Foreground removal, *Monthly Notices of the Royal Astronomical Society*, 525, 3439, 2023
20. P. Biswas, V. Kalinova, N. Roy, N. N. Patra, & N. Tyulneva, The GMRT archive atomic gas survey - II. Mass modelling and dark matter halo properties across late-type spirals, *Monthly Notices of the Royal Astronomical Society*, 524, 6213, 2023
21. R. Dokara, N. Roy, K. Menten, S. Vig, P. Dutta, H. Beuther, J. D. Pandian, M. Rugel, M. Rashid, & A. Brunthaler, Metrewave Galactic Plane with the uGMRT (MeGaPluG) Survey: Lessons from the pilot study, *Astronomy and Astrophysics*, 678, A72, 2023
22. S. Kumar, A. Soam, & N. Roy, The magnetic fields around the cometary globules L328, L323, and L331, *Monthly Notices of the Royal Astronomical Society*, 524, 1219, 2023
23. A. De Sarkar, A. J. Nayana, N. Roy, S. Razzaque, & G. C. Anupama, Lepto-hadronic Interpretation of 2021 RS Ophiuchi Nova Outburst, *The Astrophysical Journal*, 951, 62, 2023
24. L. Bonne, B.-G. Andersson, R. Minchin, A. Soam, J. Yaldae, K. Kulas, J. Karoly, L. B. G. Knee, S. Kumar, & N. Roy, High-resolution Observations of H I in the IC 63 Reflection Nebula, *The Astronomical Journal*, 165, 243, 2023
25. K. M. A. Elahi, S. Bharadwaj, A. Ghosh, S. Pal, S. S. Ali, S. Choudhuri, A. Chakraborty, A. Datta, N. Roy, M. Choudhury, & P. Dutta, Towards 21-cm intensity mapping at $z = 2.28$ with uGMRT using the tapered gridded estimator - II. Cross-polarization power spectrum, *Monthly Notices of the Royal Astronomical Society*, 520, 2094, 2023
26. A. Chakraborty & N. Roy, Detection of H I 21 cm emission from a strongly lensed galaxy at $z = 1.3$, *Monthly Notices of the Royal Astronomical Society*, 519, 4074, 2023
27. R. Dokara, Y. Gong, W. Reich, M. R. Rugel, A. Brunthaler, K. M. Menten, W. D. Cotton, S. A. Dzib, S. Khan, S.-N. X. Medina, H. Nguyen, G. N. Ortiz-León, J. S. Urquhart, F. Wyrowski, A. Y. Yang, L. D. Anderson, H. Beuther, T. Csengeri, P. Müller, J. Ott, J. D. Pandian, & N. Roy, A global view on star formation: The GLOSTAR Galactic plane survey. VII. Supernova remnants in the Galactic longitude range $28^\circ < l < 36^\circ$, *Astronomy and Astrophysics*, 671, A145, 2023
28. S. A. Dzib, A. Y. Yang, J. S. Urquhart, S.-N. X. Medina, A. Brunthaler, K. M. Menten, F. Wyrowski, W. D. Cotton, R. Dokara, G. N. Ortiz-León, M. R. Rugel, H. Nguyen, Y. Gong, A. Chakraborty, H. Beuther, S. J. Billington, C. Carrasco-Gonzalez, T. Csengeri, P. Hofner, J. Ott, J. D. Pandian, N. Roy, & V. Yanza, A global view on star formation: The GLOSTAR Galactic plane survey. VI. Radio Source Catalog II: $28^\circ < \ell < 36^\circ$ and $|b| < 1^\circ$, VLA B-configuration, *Astronomy and Astrophysics*, 670, A9, 2023
29. A. Basu, N. Roy, H. Beuther, J. Syed, J. Ott, J. D. Soler, J. Stil, & M. R. Rugel, Properties of atomic hydrogen gas in the Galactic plane from THOR 21-cm absorption spectra: a comparison with the high latitude gas, *Monthly Notices of the Royal Astronomical Society*, 517, 5063, 2022
30. R. Dutta, S. Kurapati, J. N. H. S. Aditya, O. Bait, M. Das, P. Dutta, K. Indulekha, M. Nandakumar, N. N. Patra, N. Roy, & S. Roychowdhury, Probing galaxy evolution through HI 21-cm emission and absorption: current status and prospects with square kilometre array, *Journal of Astrophysics and Astronomy*, 43, 103, 2022
31. A. Koley, N. Roy, E. Momjian, A. P. Sarma, & A. Datta, Magnetic field measurement in TMC-1C using 22.3 GHz CCS Zeeman splitting, *Monthly Notices of the Royal Astronomical Society*, 516, L48, 2022

32. S. Pal, K. M. A. Elahi, S. Bharadwaj, S. S. Ali, S. Choudhuri, A. Ghosh, A. Chakraborty, A. Datta, N. Roy, M. Choudhury, & P. Dutta, Towards 21-cm intensity mapping at $z = 2.28$ with uGMRT using the tapered gridded estimator I: Foreground avoidance, *Monthly Notices of the Royal Astronomical Society*, 516, 2851, 2022
33. P. Biswas, N. N. Patra, N. Roy, & M. Rashid, The GMRT archive atomic gas survey - I. Survey definition, methodology, and initial results from the pilot sample, *Monthly Notices of the Royal Astronomical Society*, 513, 168, 2022
34. J. Kumar, P. Dutta, S. Choudhuri, & N. Roy, Calibration requirements for Epoch of Reionization 21-cm signal observations - II. Analytical estimation of the bias and variance with time-correlated residual gains, *Monthly Notices of the Royal Astronomical Society*, 512, 186, 2022
35. A. De Sarkar, N. Roy, P. Majumdar, N. Gupta, A. Brunthaler, K. M. Menten, S. A. Dzib, S. N. X. Medina, & F. Wyrowski, Possible TeV Gamma-Ray Binary Origin of HESS J1828-099, *The Astrophysical Journal*, 927, L35, 2022
36. J. Syed, J. D. Soler, H. Beuther, Y. Wang, S. Suri, J. D. Henshaw, M. Riener, S. Bialy, S. Rezaei Kh., J. M. Stil, P. F. Goldsmith, M. R. Rugel, S. C. O. Glover, R. S. Klessen, J. Kerp, J. S. Urquhart, J. Ott, N. Roy, N. Schneider, R. J. Smith, S. N. Longmore, & H. Linz, The "Maggie" filament: Physical properties of a giant atomic cloud, *Astronomy and Astrophysics*, 657, A1, 2022
37. L. Chomiuk, J. D. Linford, E. Aydi, K. W. Bannister, M. I. Krauss, A. J. Mioduszewski, K. Mukai, T. J. Nelson, M. P. Rupen, S. D. Ryder, J. L. Sokoloski, K. V. Sokolovsky, J. Strader, M. D. Filipović, T. Finzell, A. Kawash, E. C. Kool, B. D. Metzger, M. M. Nyamai, V. A. R. M. Ribeiro, N. Roy, R. Urquhart, & J. Weston, Classical Novae at Radio Wavelengths, *The Astrophysical Journal Supplement Series*, 257, 49, 2021
38. H. Nguyen, M. R. Rugel, K. M. Menten, A. Brunthaler, S. A. Dzib, A. Y. Yang, J. Kauffmann, T. G. S. Pillai, G. Nandakumar, M. Schultheis, J. S. Urquhart, R. Dokara, Y. Gong, S.-N. X. Medina, G. N. Ortiz-León, W. Reich, F. Wyrowski, H. Beuther, W. D. Cotton, T. Csengeri, J. D. Pandian, & N. Roy, A global view on star formation: The GLOSTAR Galactic plane survey. IV. Radio continuum detections of young stellar objects in the Galactic Centre region, *Astronomy and Astrophysics*, 651, A88, 2021
39. G. N. Ortiz-León, K. M. Menten, A. Brunthaler, T. Csengeri, J. S. Urquhart, F. Wyrowski, Y. Gong, M. R. Rugel, S. A. Dzib, A. Yang, H. Nguyen, W. D. Cotton, S. N. X. Medina, R. Dokara, C. König, H. Beuther, J. D. Pandian, W. Reich, & N. Roy, A global view on star formation: the GLOSTAR Galactic plane survey. III. 6.7 GHz methanol maser survey in Cygnus X, *Astronomy and Astrophysics*, 651, A87, 2021
40. R. Dokara, A. Brunthaler, K. M. Menten, S. A. Dzib, W. Reich, W. D. Cotton, L. D. Anderson, C.-H. R. Chen, Y. Gong, S.-N. X. Medina, G. N. Ortiz-León, M. Rugel, J. S. Urquhart, F. Wyrowski, A. Y. Yang, H. Beuther, S. J. Billington, T. Csengeri, C. Carrasco-González, & N. Roy, A global view on star formation: The GLOSTAR Galactic plane survey. II. Supernova remnants in the first quadrant of the Milky Way, *Astronomy and Astrophysics*, 651, A86, 2021
41. A. Brunthaler, K. M. Menten, S. A. Dzib, W. D. Cotton, F. Wyrowski, R. Dokara, Y. Gong, S.-N. X. Medina, P. Müller, H. Nguyen, G. N. Ortiz-León, W. Reich, M. R. Rugel, J. S. Urquhart, B. Winkel, A. Y. Yang, H. Beuther, S. Billington, C. Carrasco-Gonzalez, T. Csengeri, C. Murugesan, J. D. Pandian, & N. Roy, A global view on star formation: The GLOSTAR Galactic plane survey. I. Overview and first results for the Galactic longitude range $28^\circ < l < 36^\circ$, *Astronomy and Astrophysics*, 651, A85, 2021
42. P. Saha, S. Bharadwaj, S. Chakraborty, N. Roy, S. Choudhuri, H. M. Günther, & R. K. Smith, The auto- and cross-angular power spectrum of the Cas A supernova remnant in radio and X-ray, *Monthly Notices of the Royal Astronomical Society*, 502, 5313, 2021
43. A. Basu, N. Roy, S. Choudhuri, K. K. Datta, & D. Sarkar, Stringent constraint on the radio signal from dark matter annihilation in dwarf spheroidal galaxies using the TGSS, *Monthly Notices of the Royal Astronomical Society*, 502, 1605, 2021
44. A. Koley, N. Roy, K. M. Menten, A. M. Jacob, T. G. S. Pillai, & M. R. Rugel, The magnetic field in the dense photodissociation region of DR 21, *Monthly Notices of the Royal Astronomical Society*, 501, 4825, 2021
45. S. Choudhuri, P. Saha, N. Roy, S. Bharadwaj, & J. Dey, Angular power spectrum of supernova remnants: effects of structure, geometry, and diffuse foreground, *Monthly Notices of the Royal Astronomical Society*, 501, 3364, 2021

46. A. Chakraborty, A. Datta, N. Roy, S. Bharadwaj, T. R. Choudhury, K. K. Datta, S. Pal, M. Choudhury, S. Choudhuri, P. Dutta, & D. Sarkar, First Multi-redshift Limits on Post-Epoch of Reionization 21 cm Signal from $z = 1.96$ -3.58 Using uGMRT, *The Astrophysical Journal*, 907, L7, 2021
47. H. K. Bhat, S. Chakraborty, D. Sengupta, M. Elvis, S. R. Datta, N. Roy, C. Bertemes, G. Ferland, & S. H. Ezhikode, Hypermassive black holes have faint broad and narrow emission lines, *Monthly Notices of the Royal Astronomical Society*, 497, 2992, 2020
48. S. Das & N. Roy, Milky Way globular cluster dynamics: are they preferentially co-rotating?, *Research in Astronomy and Astrophysics*, 20, 130, 2020
49. A. Mazumder, A. Chakraborty, A. Datta, S. Choudhuri, N. Roy, Y. Wadadekar, & C. H. Ishwara-Chandra, Characterizing EoR foregrounds: a study of the Lockman Hole region at 325 MHz, *Monthly Notices of the Royal Astronomical Society*, 495, 4071, 2020
50. J. Kumar, P. Dutta, & N. Roy, Calibration requirements for epoch of reionization 21-cm signal observations - I. Effect of time-correlated gains, *Monthly Notices of the Royal Astronomical Society*, 495, 3683, 2020
51. A. Chakraborty, P. Dutta, A. Datta, & N. Roy, The study of the angular and spatial distribution of radio-selected AGNs and star-forming galaxies in the ELAIS N1 field, *Monthly Notices of the Royal Astronomical Society*, 494, 3392, 2020
52. S. Choudhuri, A. Ghosh, N. Roy, S. Bharadwaj, H. T. Intema, & S. S. Ali, All-sky angular power spectrum - I. Estimating brightness temperature fluctuations using the 150-MHz TGSS survey, *Monthly Notices of the Royal Astronomical Society*, 494, 1936, 2020
53. A. B. Lucy, J. L. Sokoloski, U. Munari, N. Roy, N. P. M. Kuin, M. P. Rupen, C. Knigge, M. J. Darnley, G. J. M. Luna, P. Somogyi, P. Valisa, A. Milani, U. Sollecchia, & J. H. S. Weston, Regulation of accretion by its outflow in a symbiotic star: the 2016 outflow fast state of MWC 560, *Monthly Notices of the Royal Astronomical Society*, 492, 3107, 2020
54. G. Saikia, N. N. Patra, N. Roy, & C. J. Jog, Gas-dust correlations in nearby galaxies: a case study of NGC 3184 and NGC 7793, *Monthly Notices of the Royal Astronomical Society*, 492, 2517, 2020
55. A. Chakraborty, N. Roy, Y. Wang, A. Datta, H. Beuther, S.-N. X. Medina, K. M. Menten, J. S. Urquhart, A. Brunthaler, & S. A. Dzib, Characterization of unresolved and unclassified sources detected in radio continuum surveys of the Galactic plane, *Monthly Notices of the Royal Astronomical Society*, 492, 2236, 2020
56. Y. Wang, S. Bihr, H. Beuther, M. R. Rugel, J. D. Soler, J. Ott, J. Kainulainen, N. Schneider, R. S. Klessen, S. C. O. Glover, N. M. McClure-Griffiths, P. F. Goldsmith, K. G. Johnston, K. M. Menten, S. Ragan, L. D. Anderson, J. S. Urquhart, H. Linz, N. Roy, R. J. Smith, F. Bigiel, T. Henning, & S. N. Longmore, Cloud formation in the atomic and molecular phase: H I self absorption (HISA) towards a giant molecular filament, *Astronomy and Astrophysics*, 634, A139, 2020
57. Y. Wang, H. Beuther, M. R. Rugel, J. D. Soler, J. M. Stil, J. Ott, S. Bihr, N. M. McClure-Griffiths, L. D. Anderson, R. S. Klessen, P. F. Goldsmith, N. Roy, S. C. O. Glover, J. S. Urquhart, M. Heyer, H. Linz, R. J. Smith, F. Bigiel, J. Dempsey, & T. Henning, The HI/OH/Recombination line survey of the inner Milky Way (THOR): data release 2 and H I overview, *Astronomy and Astrophysics*, 634, A83, 2020
58. A. Chakraborty, N. Roy, A. Datta, S. Choudhuri, K. K. Datta, P. Dutta, S. Bharadwaj, H. Intema, M. Choudhury, S. Pal, & T. R. Choudhury, Detailed study of ELAIS N1 field with the uGMRT - II. Source properties and spectral variation of foreground power spectrum from 300-500 MHz observations, *Monthly Notices of the Royal Astronomical Society*, 490, 243, 2019
59. P. Saha, S. Bharadwaj, N. Roy, S. Choudhuri, & D. Chattopadhyay, A study of Kepler supernova remnant: angular power spectrum estimation from radio frequency data, *Monthly Notices of the Royal Astronomical Society*, 489, 5866, 2019
60. V. S. Veena, S. Vig, N. Roy, & J. Roy, High-velocity H I jet-like feature towards the SNR candidate G351.7-1.2, *Monthly Notices of the Royal Astronomical Society*, 488, L59, 2019
61. A. Chakraborty, A. Datta, S. Choudhuri, N. Roy, H. Intema, M. Choudhury, K. K. Datta, S. Pal, S. Bharadwaj, P. Dutta, & T. R. Choudhury, Detailed study of the ELAIS N1 field with the uGMRT - I. Characterizing the 325 MHz foreground for redshifted 21 cm observations, *Monthly Notices of the Royal Astronomical Society*, 487, 4102, 2019
62. H. Beuther, A. Walsh, Y. Wang, M. Rugel, J. Soler, H. Linz, R. S. Klessen, L. D. Anderson, J. S. Urquhart, S. C. O. Glover, S. J. Billington, J. Kainulainen, K. M. Menten, N. Roy, S. N. Longmore,

- & F. Bigiel, OH maser emission in the THOR survey of the northern Milky Way, *Astronomy and Astrophysics*, 628, A90, 2019
63. S.-N. X. Medina, J. S. Urquhart, S. A. Dzib, A. Brunthaler, B. Cotton, K. M. Menten, F. Wyrowski, H. Beuther, S. J. Billington, C. Carrasco-Gonzalez, T. Csengeri, Y. Gong, P. Hofner, H. Nguyen, G. N. Ortiz-León, J. Ott, J. D. Pandian, N. Roy, E. Sarkar, Y. Wang, & B. Winkel, GLOSTAR: Radio Source Catalog I. $28^\circ < \ell < 36^\circ$ and $|b| < 1^\circ$, *Astronomy and Astrophysics*, 627, A175, 2019
 64. A. Anand, N. Roy, & Gopal-Krishna, Search for H I emission from superdisk candidates associated with radio galaxies, *Research in Astronomy and Astrophysics*, 19, 083, 2019
 65. S. Choudhuri & N. Roy, Turbulent power spectrum in warm and cold neutral medium using the Galactic H I 21 cm emission, *Monthly Notices of the Royal Astronomical Society*, 483, 3437, 2019
 66. A. Koley & N. Roy, Estimating the kinetic temperature from H I 21-cm absorption studies: correction for turbulence broadening, *Monthly Notices of the Royal Astronomical Society*, 483, 593, 2019
 67. J. D. Soler, H. Beuther, M. Rugel, Y. Wang, P. C. Clark, S. C. O. Glover, P. F. Goldsmith, M. Heyer, L. D. Anderson, A. Goodman, T. Henning, J. Kainulainen, R. S. Klessen, S. N. Longmore, N. M. McClure-Griffiths, K. M. Menten, J. C. Mottram, J. Ott, S. E. Ragan, R. J. Smith, J. S. Urquhart, F. Bigiel, P. Hennebelle, N. Roy, & P. Schilke, Histogram of oriented gradients: a technique for the study of molecular cloud formation, *Astronomy and Astrophysics*, 622, A166, 2019
 68. M. R. Rugel, D. Rahner, H. Beuther, E. W. Pellegrini, Y. Wang, J. D. Soler, J. Ott, A. Brunthaler, L. D. Anderson, J. C. Mottram, T. Henning, P. F. Goldsmith, M. Heyer, R. S. Klessen, S. Bihr, K. M. Menten, R. J. Smith, J. S. Urquhart, S. E. Ragan, S. C. O. Glover, N. M. McClure-Griffiths, F. Bigiel, & N. Roy, Feedback in W49A diagnosed with radio recombination lines and models, *Astronomy and Astrophysics*, 622, A48, 2019
 69. P. Saha, N. Roy, & M. Bhattacharya, On estimating the atomic hydrogen column density from the H I 21 cm emission spectra, *Monthly Notices of the Royal Astronomical Society*, 480, L126, 2018
 70. R. Dokara, N. Roy, H. Beuther, L. D. Anderson, M. Rugel, J. Stil, Y. Wang, J. D. Soler, & R. Shanahan, Confirmation Of Two Galactic Supernova Remnant Candidates Discovered by THOR, *The Astrophysical Journal*, 866, 61, 2018
 71. M. R. Rugel, H. Beuther, S. Bihr, Y. Wang, J. Ott, A. Brunthaler, A. Walsh, S. C. O. Glover, P. F. Goldsmith, L. D. Anderson, N. Schneider, K. M. Menten, S. E. Ragan, J. S. Urquhart, R. S. Klessen, J. D. Soler, N. Roy, J. Kainulainen, T. Henning, F. Bigiel, R. J. Smith, F. Wyrowski, & S. N. Longmore, OH absorption in the first quadrant of the Milky Way as seen by THOR, *Astronomy and Astrophysics*, 618, A159, 2018
 72. N. N. Patra, N. Kanekar, J. N. Chengalur, & N. Roy, Detection of the Galactic warm neutral medium in H I 21-cm absorption, *Monthly Notices of the Royal Astronomical Society*, 479, L7, 2018
 73. S. Choudhuri, N. Roy, S. Bharadwaj, S. Saiyad Ali, A. Ghosh, & P. Dutta, Validating a novel angular power spectrum estimator using simulated low frequency radio-interferometric data, *New Astronomy*, 57, 94, 2017
 74. S. Choudhuri, S. Bharadwaj, S. S. Ali, N. Roy, H. T. Intema, & A. Ghosh, The angular power spectrum measurement of the Galactic synchrotron emission in two fields of the TGSS survey, *Monthly Notices of the Royal Astronomical Society*, 470, L11, 2017
 75. L. D. Anderson, Y. Wang, S. Bihr, M. Rugel, H. Beuther, F. Bigiel, E. Churchwell, S. C. O. Glover, A. A. Goodman, T. Henning, M. Heyer, R. S. Klessen, H. Linz, S. N. Longmore, K. M. Menten, J. Ott, N. Roy, J. D. Soler, J. M. Stil, & J. S. Urquhart, Galactic supernova remnant candidates discovered by THOR, *Astronomy and Astrophysics*, 605, A58, 2017
 76. N. Roy, S. Frank, C. L. Carilli, S. Mathur, K. M. Menten, & A. M. Wolfe, C II Radiative Cooling of the Galactic Diffuse Interstellar Medium: Insight into the Star Formation in Damped Ly α Systems, *The Astrophysical Journal*, 834, 171, 2017
 77. S. Choudhuri, S. Bharadwaj, S. Chatterjee, S. S. Ali, N. Roy, & A. Ghosh, The visibility-based tapered gridded estimator (TGE) for the redshifted 21-cm power spectrum, *Monthly Notices of the Royal Astronomical Society*, 463, 4093, 2016
 78. S. S. Ali, S. Bharadwaj, S. Choudhuri, A. Ghosh, & N. Roy, Prospects of Measuring the Angular Power Spectrum of the Diffuse Galactic Synchrotron Emission with SKA1 Low, *Journal of Astrophysics and Astronomy*, 37, 35, 2016
 79. H. Beuther, S. Bihr, M. Rugel, K. Johnston, Y. Wang, F. Walter, A. Brunthaler, A. J. Walsh, J. Ott, J. Stil, T. Henning, T. Schierhuber, J. Kainulainen, M. Heyer, P. F. Goldsmith, L. D. Anderson, S. N. Longmore, R. S. Klessen, S. C. O. Glover, J. S. Urquhart, R. Plume, S. E. Ragan, N. Schneider, N.

- M. McClure-Griffiths, K. M. Menten, R. Smith, N. Roy, R. Shanahan, Q. Nguyen-Luong, & F. Bigiel, The HI/OH/Recombination line survey of the inner Milky Way (THOR). Survey overview and data release 1, *Astronomy and Astrophysics*, 595, A32, 2016
80. S. Choudhuri, S. Bharadwaj, N. Roy, A. Ghosh, & S. S. Ali, Tapering the sky response for angular power spectrum estimation from low-frequency radio-interferometric data, *Monthly Notices of the Royal Astronomical Society*, 459, 151, 2016
 81. N. G. Kantharia, P. Dutta, N. Roy, G. C. Anupama, C. H. Ishwara-Chandra, A. Chitale, T. P. Prabhu, D. P. K. Banerjee, & N. M. Ashok, Insights into the evolution of symbiotic recurrent novae from radio synchrotron emission: V745 Scorpii and RS Ophiuchi, *Monthly Notices of the Royal Astronomical Society*, 456, L49, 2016
 82. S. Bühr, H. Beuther, J. Ott, K. G. Johnston, A. Brunthaler, L. D. Anderson, F. Bigiel, P. Carlhoff, E. Churchwell, S. C. O. Glover, P. F. Goldsmith, F. Heitsch, T. Henning, M. H. Heyer, T. Hill, A. Hughes, R. S. Klessen, H. Linz, S. N. Longmore, N. M. McClure-Griffiths, K. M. Menten, F. Motte, Q. Nguyen-Luong, R. Plume, S. E. Ragan, N. Roy, P. Schilke, N. Schneider, R. J. Smith, J. M. Stil, J. S. Urquhart, A. J. Walsh, & F. Walter, THOR: The H i, OH, Recombination line survey of the Milky Way. The pilot study: H i observations of the giant molecular cloud W43, *Astronomy and Astrophysics*, 580, A112, 2015
 83. N. Roy, Multiphase Turbulent Interstellar Medium: Some Recent Results from Radio Astronomy, *Proceedings of the Indian National Science Academy Part A*, 81, 583, 2015
 84. L. Chomiuk, J. D. Linford, J. Yang, T. J. O'Brien, Z. Paragi, A. J. Mioduszewski, R. J. Beswick, C. C. Cheung, K. Mukai, T. Nelson, V. A. R. M. Ribeiro, M. P. Rupen, J. L. Sokoloski, J. Weston, Y. Zheng, M. F. Bode, S. Eyres, N. Roy, & G. B. Taylor, Binary orbits as the driver of γ -ray emission and mass ejection in classical novae, *Nature*, 514, 339, 2014
 85. P. Dutta, J. N. Chengalur, N. Roy, W. M. Goss, M. Arjunwadkar, A. H. Minter, C. L. Brogan, & T. J. W. Lazio, The structure function of Galactic H I opacity fluctuations on au scales based on MERLIN, VLA and VLBA data, *Monthly Notices of the Royal Astronomical Society*, 442, 647, 2014
 86. L. Chomiuk, T. Nelson, K. Mukai, J. L. Sokoloski, M. P. Rupen, K. L. Page, J. P. Osborne, E. Kuulkers, A. J. Mioduszewski, N. Roy, J. Weston, & M. I. Krauss, The 2011 Outburst of Recurrent Nova T Pyx: X-ray Observations Expose the White Dwarf Mass and Ejection Dynamics, *The Astrophysical Journal*, 788, 130, 2014
 87. T. Nelson, L. Chomiuk, N. Roy, J. L. Sokoloski, K. Mukai, M. I. Krauss, A. J. Mioduszewski, M. P. Rupen, & J. Weston, The 2011 Outburst of Recurrent Nova T Pyx: Radio Observations Reveal the Ejecta Mass and Hint at Complex Mass Loss, *The Astrophysical Journal*, 785, 78, 2014
 88. N. Roy, N. Kanekar, & J. N. Chengalur, The temperature of the diffuse H I in the Milky Way - II. Gaussian decomposition of the H I-21 cm absorption spectra, *Monthly Notices of the Royal Astronomical Society*, 436, 2366, 2013
 89. N. Roy, N. Kanekar, R. Braun, & J. N. Chengalur, The temperature of the diffuse H I in the Milky Way - I. High resolution H I-21 cm absorption studies, *Monthly Notices of the Royal Astronomical Society*, 436, 2352, 2013
 90. N. Roy, S. Mathur, V. Gajjar, & N. N. Patra, Stringent constraints on the H I spin temperature in two $z > 3$ damped Lyman α systems from redshifted 21cm absorption studies., *Monthly Notices of the Royal Astronomical Society*, 436, L94, 2013
 91. J. N. Chengalur, N. Kanekar, & N. Roy, Accurate measurement of the H I column density from H I 21 cm absorption-emission spectroscopy, *Monthly Notices of the Royal Astronomical Society*, 432, 3074, 2013
 92. L. Chomiuk, M. I. Krauss, M. P. Rupen, T. Nelson, N. Roy, J. L. Sokoloski, K. Mukai, U. Munari, A. Mioduszewski, J. Weston, T. J. O'Brien, S. P. S. Eyres, & M. F. Bode, The Radio Light Curve of the Gamma-Ray Nova in V407 CYG: Thermal Emission from the Ionized Symbiotic Envelope, Devoured from within by the Nova Blast, *The Astrophysical Journal*, 761, 173, 2012
 93. N. Roy, N. G. Kantharia, S. P. S. Eyres, G. C. Anupama, M. F. Bode, T. P. Prabhu, & T. J. O'Brien, An H I shell-like structure associated with nova V458 Vulpeculae?, *Monthly Notices of the Royal Astronomical Society*, 427, L55, 2012
 94. N. Roy, L. Chomiuk, J. L. Sokoloski, J. Weston, M. P. Rupen, T. Johnson, M. I. Krauss, T. Nelson, K. Mukai, A. Mioduszewski, M. F. Bode, S. P. S. Eyres, & T. J. O'Brien, Radio studies of novae: a current status report and highlights of new results, *Bulletin of the Astronomical Society of India*, 40, 293, 2012

95. N. Roy, A. H. Minter, W. M. Goss, C. L. Brogan, & T. J. W. Lazio, Tiny Scale Opacity Fluctuations from VLBA, MERLIN, and VLA Observations of H I Absorption toward 3C 138, *The Astrophysical Journal*, 749, 144, 2012
96. M. I. Krauss, L. Chomiuk, M. Rupen, N. Roy, A. J. Mioduszewski, J. L. Sokoloski, T. Nelson, K. Mukai, M. F. Bode, S. P. S. Eyres, & T. J. O'Brien, Expanded Very Large Array Nova Project Observations of the Classical Nova V1723 Aquilae, *The Astrophysical Journal*, 739, L6, 2011
97. N. Roy, A. Datta, E. Momjian, & A. P. Sarma, Imaging of the CCS 22.3 GHz Emission in the Taurus Molecular Cloud Complex, *The Astrophysical Journal*, 739, L4, 2011
98. N. Kanekar, R. Braun, & N. Roy, An H I Column Density Threshold for Cold Gas Formation in the Galaxy, *The Astrophysical Journal*, 737, L33, 2011
99. N. Roy, Constraining the MODified Newtonian Dynamics from spherically symmetrical hydrodynamic accretion, *Monthly Notices of the Royal Astronomical Society*, 413, 2873, 2011
100. N. Roy, Effect of Dark Matter Halo Substructures on Galaxy Rotation Curves, *The Astrophysical Journal*, 723, 781, 2010
101. N. Roy, C. Sengupta, & N. G. Kantharia, The curious case of J113924.74+164144.0: a possible new group of galaxies at $z = 0.069$, *Monthly Notices of the Royal Astronomical Society*, 407, L64, 2010
102. N. Roy, J. N. Chengalur, P. Dutta, & S. Bharadwaj, H I 21 cm opacity fluctuations power spectra towards Cassiopeia A, *Monthly Notices of the Royal Astronomical Society*, 404, L45, 2010
103. N. Roy & A. K. Ray, Fractal features in accretion discs, *Monthly Notices of the Royal Astronomical Society*, 397, 1374, 2009
104. N. Roy, S. Bharadwaj, P. Dutta, & J. N. Chengalur, Magnetohydrodynamic turbulence in supernova remnants, *Monthly Notices of the Royal Astronomical Society*, 393, L26, 2009
105. N. Roy, L. Peedikakkandy, & J. N. Chengalur, Turbulence measurements from HI absorption spectra, *Monthly Notices of the Royal Astronomical Society*, 387, L18, 2008
106. S. Scarano, F. R. H. Madsen, N. Roy, & J. R. D. Lépine, H I aperture synthesis and optical observations of the pair of galaxies NGC 6907 and 6908, *Monthly Notices of the Royal Astronomical Society*, 386, 963, 2008
107. N. Roy, P. K. Manoharan, & P. Chakraborty, Occultation Observation to Probe the Turbulence Scale Size in the Plasma Tail of Comet Schwassmann-Wachmann 3-B, *The Astrophysical Journal*, 668, L67, 2007
108. N. Roy & A. K. Ray, Critical properties of spherically symmetric accretion in a fractal medium, *Monthly Notices of the Royal Astronomical Society*, 380, 733, 2007
109. N. Roy, On spherically symmetrical accretion in fractal media, *Monthly Notices of the Royal Astronomical Society*, 378, L34, 2007
110. N. Roy, J. N. Chengalur, & R. Srianand, A multiwavelength investigation of the temperature of the cold neutral medium, *Monthly Notices of the Royal Astronomical Society*, 365, L1, 2006

II. Publications in conference proceedings:

111. J. Dey, J. D. Pandian, D. Lal, M. Rugel, et al., A Study of Ultracompact H II Regions with Extended Emission: their Importance, Origin, and Evolution, 2024, *Bulletin de la Societe Royale des Sciences de Liege: Proceedings of the "3rd BINA Workshop on the Scientific Potential of the Indo-Belgian Cooperation"* (2023), 93, 572
112. S. Wagh, M. Pandey-Pommier, N. Roy, M. Rashid, et al., Investigating neutral hydrogen content in radio MOHEGs and prospects with the SKA, 2023, SF2A-2023: *Proceedings of the "Annual meeting of the French Society of Astronomy and Astrophysics"*, 71
113. M. Pandey-Pommier, S. Paul, N. Roy, A. Marcowith, & B. Guiderdoni, Unveiling the non-thermal radio emission in Galaxy Clusters and Future Prospects with the SKA, 2023, SF2A-2023: *Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics*, 67
114. J. Kumar, P. Dutta, S. Das, & N. Roy, Instrumental Calibration for Observations of Redshifted 21-cm Signal from Neutral Hydrogen, 2020, *IEEE Xplore: 2020 "URSI Regional Conference on Radio Science"* (URSI-RCRS), 1
115. S. Choudhuri, S. Bharadwaj, S. S. Ali, N. Roy, et al., The angular power spectrum measurement of the Galactic synchrotron emission using the TGSS survey, 2018, *Proceedings of the IAU Symposium: "Peering towards Cosmic Dawn"* (2017), 333, 157

116. N. G. Kantharia, P. Dutta, N. Roy, G. C. Anupama, et al., Modelling the synchrotron light curves in recurrent novae V745 Scorpii and RS Ophiuchi, 2015, Astronomical Society of India Conference Series: Proceedings of “RETCO-II” (2015), 12, 107
117. J. H. S. Weston, J. L. Sokoloski, Y. Zheng, L. Chomiuk, et al., Shocks and Ejecta Mass: Radio Observations of Nova V1723 Aql, 2014, ASP Conference Series: Proceedings of “Stella Novae: Past and Future Decades” (2013), 490, 339
118. N. G. Kantharia, G. C. Anupama, S. P. S. Eyres, N. Roy, et al., Studying galactic novae systems at GMRT frequencies, 2014, Astronomical Society of India Conference Series: Proceedings of “Metrewavelength Sky” (2013), 13, 321
119. N. Roy, J. N. Chengalur, S. Bharadwaj, & P. Dutta, Turbulence in Cold Neutral ISM and in Supernova Remnants, 2009, ASP Conference Series: Proceedings of the “Low Frequency Radio Universe” conf. (2008), 407, 272