

RESHMA ANNA-THOMAS

Department of Physics and Astronomy, West Virginia University, Morgantown, WV, United States of America
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EDUCATION

West Virginia University

August 2019 - Present

PhD in Astrophysics

Supervisor: Dr. Sarah Burke-Spolaor

Committee Members: Dr. Maura McLaughlin, Dr. Duncan Lorimer, Dr. Ryan M. Shannon

Expected Completion: May 2024

Pondicherry University, India

June 2014 - May 2019

Integrated MSc Physics

CGPA:9.44

Thesis: Polarimetry using Carbon Nanotube based radiation detector

Supervisor: Dr. K.V.P Latha

TECHNICAL STRENGTHS

Software	GNU/Linux, Git, L ^A T _E X
Programming	Python, Bash scripting

AWARDS & SCHOLARSHIPS

- **Gold Medal**, Integrated M.Sc, Pondicherry University, 2019
- **Postgraduate Merit Scholarship**, Pondicherry University, 2017 - 2019.
- **Merit Scholarship**, Pondicherry University, 2014 - 2017.

WORKSHOPS & TRAINING

2021 Summer School in Statistics for Astronomers

2020 Arecibo Observatory Observer Training Workshop

2020 Green Bank Observatory Single Dish Observing School

2018 Summer intern at Indian Institute of Astrophysics(IIA), Bangalore, India (June, 2018) with Dr. S.P Rajaguru

Project Title: Spectral line synthesis for 3D Magneto-Hydro Dynamic simulation and effect of magnetic field on line width and asymmetries.

2018 Participant of Indian Institute of Astrophysics(IIA)'s Summer School on Astronomy and Astrophysics at Kodaikanal Solar Observatory (15-30 May, 2018).

2016 Indian Academy of Sciences (IASc) Summer Research Fellow 2016 at Indian Institute of Science, Bangalore with Dr. V. Murugesan

Project Title: Introduction to Numerical Solutions of Partial Differential Equations.

PUBLICATIONS

1. **A Highly Variable Magnetized Environment in a Fast Radio Burst Source.**
Reshma Anna-Thomas, Liam Connor, Sarah Burke-Spolaor, Paz Beniamini, Kshitij Aggarwal, Casey J. Law, Ryan S. Lynch, Di Li, Yi Feng, Stella Koch Ocker, Marilyn Cruces, Shami Chatterjee, Wenfei Yu, Chenhui Niu, Mengyao Xue.
arXiv:2202.11112

2. **Comprehensive analysis of a dense sample of FRB 121102 bursts**
Kshitij Aggarwal, Devansh Agarwal, Evan F. Lewis, **Reshma Anna-Thomas**, Jacob Cardinal Tremblay, Sarah Burke-Spolaor, Maura A. McLaughlin, Duncan R. Lorimer
The Astrophysical Journal, 922:115
3. **Your: Your Unified Reader**
Kshitij Aggarwal, Devansh Agarwal, Joseph W Kania, William Fiore, **Reshma Anna Thomas**, Scott M. Ransom, Paul B. Demorest, Robert S. Wharton, Sarah Burke-Spolaor, Duncan R. Lorimer, Maura A. McLaughlin, Nathaniel Garver-Daniels
The Journal of Open Source Software, 10.21105/joss.02750
4. **A repeating fast radio burst in a dense environment with a compact persistent radio source**
C.-H. Niu, K. Aggarwal, D. Li, X. Zhang, S. Chatterjee, C.-W. Tsai, W. Yu, C. J. Law, S. Burke-Spolaor, J. M. Cordes, Y.-K. Zhang, S. Ocker, J.-M. Yao, P. Wang, Y. Feng, Y. Niino, C. Bochenek, M. Cruces, L. Connor, J.-A. Jiang, S. Dai, R. Luo, G.-D. Li, C.-C. Miao, J.-R. Niu, **R. Anna-Thomas**, J. Sydnor, D. Stern, W.-Y. Wang, M. Yuan, Y.-L. Yue, D.-J. Zhou, Z. Yan, W.-W. Zhu, B. Zhang
Nature 606, 873–877 (2022)
5. **The Large Dispersion and Scattering of FRB 20190520B are Dominated by the Host Galaxy**
S.K. Ocker, J.M. Cordes, S. Chatterjee, C.-H. Niu, D. Li, J.W. McKee, C.J. Law, C.-W. Tsai, **R. Anna-Thomas**, J.-M. Yao, M. Cruces
The Astrophysical Journal, 931 878
6. **Robust Assessment of Clustering Methods for Fast Radio Transient Candidates**
Kshitij Aggarwal, Sarah Burke-Spolaor, Casey J. Law, Geoffrey C. Bower, Bryan J. Butler, Paul B. Demorest, T. Joseph W. Lazio, Justin Linford, Jessica Sydnor, and **Reshma Anna-Thomas**
The Astrophysical Journal, 914:53
7. **A repeating fast radio burst source in a globular cluster**
F. Kirsten, B. Marcote, K. Nimmo, J. W. T. Hessels, M. Bhardwaj, S. P. Tendulkar, A. Keimpema, J. Yang, M. P. Snelders, P. Scholz, A. B. Pearlman, C. J. Law, W. M. Peters, M. Giroletti, Z. Paragi, C. Bassa, D. M. Hewitt, U. Bach, V. Bezrukovs, M. Burgay, S. T. Buttaccio, J. E. Conway, A. Corongiu, R. Feiler, O. Forssén, M. P. Gawroński, R. Karuppusamy, M. A. Kharinov, M. Lindqvist, G. Maccaferri, A. Melnikov, O. S. Ould-Boukattine, A. Possenti, G. Surcis, N. Wang, J. Yuan, K. Aggarwal, **R. Anna-Thomas**, G. C. Bower, R. Blaauw, S. Burke-Spolaor, T. Cassanelli, T. E. Clarke, E. Fonseca, B. M. Gaensler, A. Gopinath, V. M. Kaspi, N. Kassim, T. J. W. Lazio, C. Leung, D. Z. Li, H. H. Lin, K. W. Masui, R. Mckinven, D. Michilli, A. G. Mikhailov, C. Ng, A. Orbidans, U. L. Pen, E. Petroff, M. Rahman, S. M. Ransom, K. Shin, K. M. Smith, I. H. Stairs, W. Vlemmings
Nature 602, 585–589 (2022)

OBSERVING PROPOSALS

1. **GBT/21B-347** Polarimetry of Bursts from A Bright, Repeating FRB. *PI*
2. **GBT/20B-407** Realfast RRAT or MSP? — 4FGL J1818.6-1533. *PI*
3. **VLA/22A-313** Characterizing and Quantifying Persistent Radio Sources Around FRBs. *Co-PI*
4. **GBT/22B-261** High frequency polarimetry of a repeating FRB in a magneto-active environment. *Co-PI*
5. **GBT/21A-417** Polarimetry of Bursts from A Bright, Repeating FRB. *Co-PI*

CONTRIBUTED TALKS

- 2022** A highly variable magnetized environment in an FRB Source; *IAUGA-FRB2022*
- 2022** A highly variable magnetized environment in an FRB Source; *Caltech DSA meeting*
- 2022** A highly variable magnetized environment in an FRB Source; *AAS240*
- 2022** (*Invited*) A highly variable magnetized environment in an FRB Source; *ASIAA weekly meeting, Taiwan*
- 2021** Polarization studies of FRB 190520; *FRB2021 Conference*
- 2020** On the nature of an unidentified Fermi source; *AAS237*
- 2020** On the nature of an unidentified Fermi source; *NanoGrav Fall meeting*

TEACHING

- 2022** *Guest Lecture* ASTRO 700: Radio Astronomy
- 2020** *Teaching Assistant* PHYS 111 lab: General Physics lab
- 2020** *Teaching Assistant* PHYS 101 lab: Introductory Physics lab