

# RESHMA ANNA-THOMAS

Department of Physics and Astronomy, West Virginia University, Morgantown, WV, United States of America  
+1 681-622-1050  $\diamond$  rat0022@mix.wvu.edu

## EDUCATION

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### 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

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|--------------------|---|
| <b>Software</b>    | GNU/Linux, Git, L <sup>A</sup> T <sub>E</sub> X |
| <b>Programming</b> | Python, Bash scripting                          |

## AWARDS & SCHOLARSHIPS

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

## WORKSHOPS & TRAINING

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**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

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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  
*arXiv:2110.07418*
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  
*arXiv:2202.13458*
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

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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*

6. **GBT/20A-420** Realfast RRAT or MSP? — 4FGL J1818.6-1533. *Co-PI*

## CONTRIBUTED TALKS

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**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

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**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