Curriculum Vitae

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Personal Information

Full Name : Arvind Balasubramanian

Date of Birth : 06 August 1995

Nationality : Indian

Address : CM33, Department of Astronomy and Astrophysics, Tata Institute of Fundamental Research, Mumbai

Email : arvind.balasubramanian@tifr.res.in

Personal Website : arvindb95.github.io

Employment

2022 - present : Visiting Fellow, Department of Astronomy and Astrophysics, Tata Institute of Fundamental Research, Mumbai

Education

- **2018 - 2022 :** PhD in Physics at Texas Tech University

  Title : ***Radio exploration of the transient sky: Binary mergers and peculiar core-collapse supernovae***

  Advisor : Dr. Alessandra Corsi

- **2013 - 2018 :** BS-MS Dual Degree in Science at Indian Institute of Science Education and Research, Pune

  Masters thesis : ***Mass Modeling and search for transients with AstroSat CZTI***

  Advisor : Dr. Varun Bhalerao, Indian Institute of Technology, Bombay

  Summary : The project focuses on the search for and study of astrophysical transients with the Cadmium Zinc Telluride Imager (CZTI) onboard the AstroSat. The all-sky sensitivity of CZTI allows us to study various transients like Gamma Ray Bursts (GRB's) and gravitational wave counterparts.

Scholarships/Grants

- **Fall 2021 - Spring 2022 :** Bucy Scholarship in Applied Physics, Dept. of Physics and Astronomy, TTU
- **Fall 2020 - Spring 2021 :** Peter Seibt Memorial Scholarship, Dept. of Physics and Astronomy, TTU
- **2013 - 2018 :** DST Inspire Scholarship, Government of India

Positions Held

- **Fall 2019 - present** : Research Assistant at Texas Tech University
- **Fall 2018 - present** : Tutor at Texas Tech University, Department of Physics and Astronomy
- **Fall 2018 - Spring 2019** : Teaching Assistant at Texas Tech University
- **2014 - 2016** : Student Coordinator of the Astronomy Club, Aakashganga , Indian Institute of Science Education and Research, Pune. (Website)

Publications and Contributions

Refereed Articles

- ***GW170817 4.5 years after merger: Dynamical ejecta afterglow constraints***

  Balasubramanian, A., Corsi, A., Mooley, K. P., Hotokezaka, K., Kaplan, D. L., Frail, D. A., Hallinan, G., Lazzati, D., Murphy, E. J.; 2022, arXiv e-prints, arXiv:2205.14788, ADS link.

- ***Continued Radio Observations of GW170817 3.5 yr Post-merger***

  Balasubramanian, A., Corsi, A., Mooley, K. P., Brightman, M., Hallinan, G., Hotokezaka, K., Kaplan, D. L., Lazzati, D., & Murphy, E. J.; 2021, The Astrophysical Journal, 914, L20, ADS link.

- ***Radio Observations of SN2004dk with VLITE Confirm Late-time Rebrightening***

  Balasubramanian, A., Corsi, A., Polisensky, E., Clarke, T. E., Kassim, N. E.; 2021, The Astrophysical Journal, 923, 32, ADS link

- ***The JAGWAR Prowls LIGO/Virgo O3 Paper I: Radio Search of a Possible Multimessenger Counterpart of the Binary Black Hole Merger Candidate S191216ap***

  Bhakta, D., Mooley, K. P., Corsi, A., **Balasubramanian, A.**, Dobie, D., Frail, D. A., Hallinan, G., Kaplan, D. L., Myers, S. T., & Singer, L. P.; 2021, The Astrophysical Journal, 911, 77, ADS link.

- ***The Panchromatic Afterglow of GW170817: The Full Uniform Data Set, Modeling, Comparison with Previous Results, and Implications***

  Makhathini, S., et al; 2021, The Astrophysical Journal, 922, 154, ADS link

- ***Search for Radio Remnants of Nearby Off-axis Gamma-Ray Bursts in a Sample of Swift/BAT Events***

  Grandorf, C., McCarty, J., Rajkumar, P., Harbin, H., Lee, K. H., Corsi, A., Bartos, I., Márka, Z., **Balasubramanian, A.**, & Márka, S.; 2021, The Astrophysical Journal, 908, 63, ADS link.

- ***The AstroSat mass model: Imaging and flux studies of off-axis sources with CZTI***

  Mate, S., Chattopadhyay, T., Bhalerao, V., Aarthy, E., **Balasubramanian, A.**, Bhattacharya, D., Gupta, S., Kutty, K., Mithun, N. P. S., Palit, S., Rao, A. R., Saraogi, D., Vadawale, S., & Vibhute, A.; 2021, Journal of Astrophysics and Astronomy, 42, 93, ADS link.

- ***Prompt X-Ray Emission from Fast Radio Bursts—Upper Limits with AstroSat***

  Anumarlapudi, A., Bhalerao, V., Tendulkar, S. P., & **Balasubramanian, A.**; 2020, The Astrophysical Journal, 888, 40, ADS link.

- ***Illuminating gravitational waves: A concordant picture of photons from a neutron star merger***

  Kasliwal, M. M., et al.; 2017, Science, 358, 1559, ADS link.

- ***Multi-messenger Observations of a Binary Neutron Star Merger***

  Abbott B., et al; 2017, The Astrophysical Journal, 848, L12, ADS link.

Non-refereed Articles

- ***LIGO/Virgo S191216ap: VLA/JAGWAR radio monitoring of the 1-sigma HAWC region***

  Mooley, K., Myers, S., Frail, D., Corsi, A., **Balasubramanian, A.**, Bhakta, D., Hallinan, G., Kulkarni, S., & Jagwar Team; 2019, GRB Coordinates Network, 26531, 1, ADS link.

- ***LIGO/Virgo S190814bv: VLA/JAGWAR monitoring of the 50% containment region***

  Mooley, K., Myers, S., Frail, D., Hallinan, G., Kulkarni, S., Corsi, A., **Balasubramanian, A.**, Bhakta, D., & Jagwar Team; 2019, GRB Coordinates Network, 25690, 1, ADS link.

- ***LIGO/Virgo G298936: Astrosat CZTI upper limits***

  Balasubramanian, A., Bhalerao, V., Bhattacharya, D., Bose, S., Dewangan, G. C., Misra, R., Mitra, S., Rao, A. R., Souradeep, T., Vadawale, S., & Astrosat CZTI Team; 2017, GRB Coordinates Network, 21714, 1, ADS link.

- ***LIGO/Virgo G299232: Astrosat CZTI upper limits***

  Balasubramanian, A., Bhalerao, V., Bhattacharya, D., Bose, S., Dewangan, G. C., Misra, R., Mitra, S., Rao, A. R., Souradeep, T., Vadawale, S., & Astrosat CZTI Team; 2017, GRB Coordinates Network, 21712, 1, ADS link.

- ***LIGO/Virgo G298048: Astrosat CZTI upper limits***

  Balasubramanian, A., Mate, S., Bhalerao, V., Bhattacharya, D., Vibhute, A., Bose, S., Dewangan, G. C., Misra, R., Mitra, S., Rao, A. R., Souradeep, T., Vadawale, S., & Astrosat CZTI Team; 2017, GRB Coordinates Network, 21514, 1, ADS link.

Computing Skills

Scientific computing and data analysis in decreasing order of experience : Python, Fortran/C++, IDL

Confereneces/Meetings Attended

- **Title :** Computational Astrophysics in the ngVLA Era: Synergistic Simulations, Theory, and Observations

  Duration : June 7 - 9, 2022

  Summary : Presented a short talk (15 min)

- **Title :** AI Super-Resolution Simulations : From Climate Science to Cosmology

  Duration : February 23 - 25, 2022

- **Title :** The Past, Present and Future of VLA: Celebrating 40 years (virtual)

  Duration : August 4 - 7, 2021

  Summary : Presented a short talk (15 min)

- **Title :** Quarks to Cosmos with AI (virtual)

  Duration : July 12 - 16, 2021

- **Title :** APS April 2021 Meeting

  Duration : April 17 - 20, 2021

  Summary : Presented a short talk (10 min) and a poster

- **Title :** 237th meeting of the American Astronomical Society (virtual)

  Duration : January 10 - 15, 2021

- **Title :** The 36th Annual New Mexico Symposium

  Duration : 13 November 2020

  Summary : Presented a poster talk (5 min)

- **Title :** 2020 Joint Fall Meeting of the Texas Sections of APS, AAPT and Zone 13 of the SPS (virtual)

  Duration : November 12 - 14, 2020

  Summary : Presented a short talk (10 min)

- **Title :** GROWTH Astronomy School 2020, (virtual)

  Duration : August 17 - 21, 2020

  Summary : Participated both as attendee and teaching assistant

- **Title :** GROWTH Astronomy School 2019, San Diego State University

  Duration : August 05 - 07, 2019

- **Title :** 2019 Joint Fall Meeting of the Texas Sections of APS, AAPT and Zone 13 of the SPS, Texas Tech University

  Duration : October 25 - 26, 2019

- **Title :** SciPy India Conference

  Duration : November 29 - 30, 2017

  Venue : Indian Institute of Technology, Bombay, India

- **Title :** Workshop on Gamma-ray Bursts : Prompt to Afterglow

  Duration : July 04 - 07, 2017

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

Science Camps

2013 : Selected and attended Vijyoshi National Science Camp at the Indian Institute of Science, Bangalore, organized by KVPY (Kishore Vaigyanik Protsahan Yojana) under the Department of Science and Technology of the Government of India.