Jishnu Suresh

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https://jishnu-suresh.github.io/jishnu.html

Positions Held

2019 – · · · · **Post Doctoral Fellow.** Institute for Cosmic Ray Research (ICRR), KAGRA Observatory, University of Tokyo, Kashiwa, Japan

2016 – 2019 **Post Doctoral Fellow.** Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India.

Education

2012 – 2016 **Ph.D.**, Cochin University of Science and Technology (CUSAT), Kochi, India, in Physics. Thesis title: *Thermodynamics and Geometrothermodynamics of black holes in modified theories of gravity.*

2010 – 2012 **M.Sc.**, Cochin University of Science and Technology (CUSAT), Kochi, India, in Physics.

2007 – 2010 **B.Sc.**, Govt. College Madappally, Department of Physics, University of Calicut, Calicut, India, in Physics.

Synergistic Activities

Membership of Scientific Socities

2019 - · · · · KAGRA collaboration

International Society on General Relativity and Gravitation (ISGRG)

Indian Association for General Relativity and Gravitation (IAGRG)

2016 - · · · · LIGO-Scientific Collaboration (LSC)

Major Collaborations

2019 - · · · · KAGRA collaboration

2016 - · · · · LIGO Scientific Collaboration

2016 - 2019 Indigo Consortium, LIGO-India

Teaching activities

2017 Tutor - General relativity, Pune University Masters course, Pune, India.

2016 Tutor - Group theory and Advanced mathematical techniques, Cochin University of Science and Technology, Kochi, India.

2015 Tutor - General relativity, Cochin University of Science and Technology, Kochi, India

Organization of scientific meetings

2015 Co-organizer, Gravitational Wave Workshop, Cochin University of Science and Technology, Kochi, India.

Co-organizer, School on Gravitation and Cosmology-II, Cochin University of Science and Technology, Kochi, India.

2014 Co-organizer, School on Gravitation and Cosmology-I, Cochin University of Science and Technology, Kochi, India.

Supervision of students and project fellows

2018 3-Master Students:
Sambit Panda – BITS Pilani, Rajasthan, India.
Anitta Sunny – Calicut University, Kerala, India.
Radhika Manoj – Calicut University, Kerala, India. (Now, Ph. D student at University of Delhi, Delhi, India)

2017 1-Master Student:
Mahith Madankumar - Cochin University of Science and Technology, Kochi, India. (Now, Ph. D student at University of New Brunswick

2015 2-Master Students:
Masroor CP – Mahathma Gandhi University, Kottayam, India. (Now, Ph. D student at YITP, Kyoto University, Kyoto, Japan)
Geethu Prabhakar – Mahathma Gandhi University, Kottayam, India. (Now, Ph. D student at IIST, Trivandrum, Kerala, India)

Limited Author Publications

included collaboration-wide papers where I made a significant contribution

1 Parida, A., *Suresh, J.*, Mitra, S., & Jhingan, S. (2019). Component separation map-making for stochastic gravitational wave background, arXiv 1904.05056.

2 Abbott, B. Et al. (2019). Directional limits on persistent gravitational waves using data from Advanced LIGO's first two observing runs. *Phys. Rev. D*, *100*(6), arXiv 1903.08844, 062001.
https://doi.org/10.1103/PhysRevD.100.062001

3 Panda, S., Bhagwat, S., *Suresh, J.*, & Mitra, S. (2019). Stochastic gravitational wave background mapmaking using regularized deconvolution. *Phys. Rev. D*, *100*(4), arXiv 1905.08276, 043541.
https://doi.org/10.1103/PhysRevD.100.043541

4 Ain, A., *Suresh, J.*, & Mitra, S. (2018). Very fast stochastic gravitational wave background map making using folded data. *Phys. Rev. D*, *98*(2), arXiv 1803.08285, 024001.
https://doi.org/10.1103/PhysRevD.98.024001

5 *Suresh, J.* (2016). *Thermodynamics and Geometrothermodynamics of Black holes in Modified Theories of Gravity* (Doctoral dissertation). Cochin U.
https://doi.org/https://inspirehep.net/files/8dfc8759529def7e80ce2e1d5fd02ba5

6 *Suresh, J.*, & Kuriakose, V. (2016a). Geometrothermodynamics of BTZ black hole in new massive gravity, arXiv 1606.06098.

7 *Suresh, J.*, & Kuriakose, V. (2016b). Entropy spectrum of BTZ black hole in massive gravity, arXiv 1605.00142.

8 *Suresh, J.*, Masroor, C. P., Prabhakar, G., & Kuriakose, V. C. (2016). Thermodynamics and Geometrothermodynamics of Charged black holes in Massive Gravity, arXiv 1603.00981.

9 Prasobh, C., *Suresh, J.*, & Kuriakose, V. (2016). Thermodynamics of Charged Lovelock - AdS Black Holes. *Eur. Phys. J. C*, *76*(4), arXiv 1510.04784, 207. https://doi.org/10.1140/epjc/s10052-016-4062-4

10 *Suresh, J.*, & Kuriakose, V. (2015). Entropy spectrum of (1+1) dimensional stringy black holes. *Eur. Phys. J. C*, *75*(5), arXiv 1501.04852, 214. https://doi.org/10.1140/epjc/s10052-015-3444-3

11 *Suresh, J.*, Tharanath, R., & Kuriakose, V. (2015). A unified thermodynamic picture of Hořava-Lifshitz black hole in arbitrary space time. *JHEP*, *01*arXiv 1408.0911, 019. https://doi.org/10.1007/JHEP01(2015)019

12 Tharanath, R., *Suresh, J.*, & Kuriakose, V. (2015). Phase transitions and Geometrothermodynamics of Regular black holes. *Gen. Rel. Grav.*, *47*(4), arXiv 1406.3916, 46. https://doi.org/10.1007/s10714-015-1884-6

13 *Suresh, J.*, Tharanath, R., Varghese, N., & Kuriakose, V. (2014). The thermodynamics and thermodynamic geometry of the Park black hole. *Eur. Phys. J. C*, *74*arXiv 1403.4710, 2819. https://doi.org/10.1140/epjc/s10052-014-2819-1

14 Tharanath, R., *Suresh, J.*, Varghese, N., & Kuriakose, V. (2014). Thermodynamic Geometry of Reissener-Nordström-de Sitter black hole and its extremal case. *Gen. Rel. Grav.*, *46*arXiv 1404.6789, 1743. https://doi.org/10.1007/s10714-014-1743-x

15 Mathew, T. K., *Suresh, J.*, & Divakaran, D. (2013). Modified holographic Ricci dark energy model and statefinder diagnosis in flat universe. *Int. J. Mod. Phys. D*, *22*arXiv 1207.5886, 1350056. https://doi.org/10.1142/S0218271813500569

16 *Suresh, J.*, & Kuriakose, V. (2013a). Area spectrum and thermodynamics of KS black holes in Horava gravity. *Gen. Rel. Grav.*, *45*arXiv 1307.6438, 1877–1886. https://doi.org/10.1007/s10714-013-1565-2

17 *Suresh, J.*, & Kuriakose, V. (2013b). Thermodynamics and quasinormal modes of Park black hole in Horava gravity. *Eur. Phys. J. C*, *73*(10), arXiv 1310.2011, 2613. https://doi.org/10.1140/epjc/s10052-013-2613-5

A complete list of papers can be found at:https://inspirehep.net/authors/1670777

Presentation in Conferences and Meetings

1 (presenter), Component separation in Stochastic Gravitational Wave Background searches, *J. Suresh*, A. Parida and S. Mitra, GW Physics and Astronomy Symposium: Genesis Symposium, 10- 02-2020 to 12-02-2020, Konan University, Kobe, Japan.

2 (presenter), Stochastic Gravitational Wave Background map making techniques, *J. Suresh*, Gravitational Wave Physics and Astronomy Workshop (GWPAW), 14-10-2019 to 17-10-2019, RESCEU, The University of Tokyo, Japan.

3 (presenter), Stochastic Gravitational Wave Background Mapmaking using regularized deconvolution, *J. Suresh*, S. Panda, S. Bhagwat and S. Mitra, Topics in Astroparticle and Underground Physics (TAUP), 09-09-2019 to 13-09-2019, Toyama International Conference Center, Toyama, Japan.

4 (presenter-poster), PyStoch: Stochastic gravitational wave background map-making tool, *J. Suresh*, A.Ain, S. Sudhagar and S. Mitra, 22nd International Conference on General Relativity and Gravitation 13th Edoardo Amaldi Conference on Gravitational Waves, 07-07-2019 to 12-07-2019, Valencia, Spain.

5 (presenter), PyStoch and Folded data set for O3 analysis, *J. Suresh*, LIGO-Virgo Collaboration meeting, 18-03-2019 to 21-03-2019, Lake Geneva, Wisconsin.

Presentation in Conferences and Meetings (continued)

6 (presenter-poster), Stochastic Gravitational Wave Background map-making, *J. Suresh*, A.Ain and S. Mitra, Multi-messenger astronomy in the era of LIGO-India, 15-01-2019 to 18-01-2019, Khandala, Pune, India.

7 (presenter), O2 folded data set, PyStoch and O3 plans, *J. Suresh* and S. Mitra, LIGO-Virgo Collaboration meeting, 04-09-2018 to 07-09-2018, Maastricht University, Maastricht.

8 (panelist), Physics and Astrophysics at the eXtreme (PAX) meeting, Cosmology and gravitation session, 07-08-2018 to 10-08-2018, IUCAA, Pune

9 (contributor), Efficient Techniques to Probe Stochastic Gravitational Wave Background Anisotropy with Ground-based Detectors, A. Ain, *J. Suresh* and S. Mitra, Fifteenth Marcel Grossmann Meeting – MG15, 01-07-2018 to 07-07-2018, University of Rome "La Sapienza", Rome.

10 (presenter), O1/O2 folded data set and PyStoch updates, *J. Suresh* and S. Mitra, LIGO-Virgo Collaboration meeting, 19-03-2018 to 22-03-2018, Sonoma State University, Sonoma.

11 (contributor), Efficient mapmaking of the stochastic gravitational wave background, A. Ain and *J. Suresh*, 03-09-2017 to 05-09-2017, INFN-Pisa, Pisa

12 (contributor), Updates on PyStoch, A. Ain and *J. Suresh*, LIGO-Virgo Collaboration meeting, 28-08-2017 to 01-09-2017, CERN, Geneva

References

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