

Curriculum Vitae

Dr. Partha Sarathi Debnath

Associate Professor, Department of Physics

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➤ **CAREER:**

- ✓ Assistant Teacher of Post Graduate in Physics, Mandalghat High School, Jalpaiguri, India (4th January 2004 – 26th May 2009).
- ✓ Assistant Professor at Department of Physics, A. B .N. Seal College, Cooch Behar, India (27th May 2009 – 7th January 2021).
- ✓ Guest Assistant Professor at Department of Physics, Cooch Behar Panchanan Barma University, Cooch Behar, India (January 2017 to June 2017)
- ✓ Assistant Professor at Department of Physics, APC Roy Govt. College, Siliguri, Darjeeling 734010 (8th January 2021 - Present).

➤ **EDUCATIONAL QUALIFICATIONS:**

- ✓ Bachelor of Science from A. B. N. Seal College, University of North Bengal, India (1999).
- ✓ Master of Science from Dept. of Physics, NBU, India (2001).
- ✓ Ph.D from Dept. of Physics, NBU, India (2012).

Thesis Title: "COSMOLOGICAL MODELS IN THE HIGHER DERIVATIVE GRAVITY AND THEIR DIFFERENT ASPECTS "

Thesis Supervisor: Prof. Bikash Chandra Paul

➤ **ADDITIONAL QUALIFICATIONS/ AWARDS/ ACHIEVEMENTS:**

- ✓ **NET:** June 2002 (CSIR-UGC).
- ✓ **GATE :** 2002 (89 Percentile, AIR -229).
- ✓ **JRF in NBU:** 2002 (CSIR Fellowship).
- ✓ **WBSSC:** 2004 (PGT).
- ✓ **WBPSC:** 2009 (Assistant Professor)

- ✓ **MRP: Cosmological Models of the Universe and its different features, Funding Agency: UGC(ERO), Ref No-F.PSW-68/12-13(ERO) dated 18.02.2013, Period: Two years (2011-2013) Amount: Rs. 96000/-.**
- ✓ **Peer Reviewer: Journal of Astrophysics and Space Science, Bulgarian Journal of Physics, General Relativity and Gravity.**
- ✓ **IUCAA Visiting Associates (2021-2024).**

➤ **RESEARCH AND PUBLICATIONS:**

Research Interest:-

Theoretical Physics (Cosmology): Modified Gravity, Exotic Matter, Cosmological Model Building.

Research Publication:-

1. Hybrid expansion law in viscous braneworld gravity with Gauss Bonnet terms ISSN (print): 0217-7323, ISSN (online): 1793-6632, P. S. Debnath, B. C. Roy & B. C. Paul, Modern Physics Letters A, Vol: 37, 2250129 (2022).

DOI: 10.1142/S0217732322501292, **Impact Factor: 1.594**

2. Cosmological models in R^2 gravity with hybrid expansion law: P. S. Debnath & B. C. Paul, International Journal of Geometric Methods in Modern Physics, Vol 18, 2150143(2021) ; ISSN (print): 0219-8878 | ISSN (online): 1793-6977

DOI: 10.1142/S0219887821501437 **Impact Factor: 1.287**

3. Bouncing scenario with causal cosmology: P. S. Debnath & B. C. Paul, Astrophys Space Sci (2021) 366:32
<https://doi.org/10.1007/s10509-021-03937-3>, **Impact Factor: 1.43. 0004-640X (print) 1572-946X (web)**

4. Observational constraints of bulk viscous Friedmann-Robertson-Walker cosmology with hybrid expansion law, **Partha Sarathi Debnath, International Journal of Modern Physics A, Vol 35, 2050173 (2020). Impact Factor: 1.2;** ISSN (print): 0217-751X | ISSN (online): 1793-656X

DOI:10.1142/S0217751X20501730

5. Causal cosmology with braneworld gravity including Gauss Bonnet coupling, **Partha Sarathi Debnath, Modern Physics Letters A, Vol 35, 2050216 (2020). Impact Factor: 1.391.** ISSN (print): 0217-7323, ISSN (online): 1793-6632.

DOI:10.1142/S0217732320502168

6. Structural study of iron oxide nanoparticles (INPs) synthesized in aloe vera plant extract, by Biplab Kumar Mandal, Abhijit Biswas, Subhdeep Barman, Rahul Das, and **Partha Sarathi Debnath**, AIP Conference Proceedings 2220, 020185 (2020) [ISSN: 0094-243X]; doi.org/10.1063/5.0001998

7. Observational constraints of emergent universe in $f(R,T)$ gravity with bulk viscosity by **Partha Sarathi Debnath**, Bikash Chandra Paul, **International Journal of Geometric Methods in Modern Physics, Vol 17, No 7, (2020) 2050102, Impact Factor: 1.287;** ISSN (print): 0219-8878 | ISSN (online): 1793-6977

DOI:10.1142/S0219887820501029

8. Observational constraints of emergent universe in brane-world with Gauss-Bonnet term and dissipative effect, **Partha Sarathi Debnath, International Journal of Geometric Methods in Modern Physics, Vol 16, No11, (2019), 1950169.** ISSN (print): 0219-8878 | ISSN (online): 1793-6977

Impact Factor: 1.287

DOI:10.1142/S021988781950169X

9. Nonlinear viscous cosmological models in $f(R,T)$ gravity, **Partha Sarathi Debnath, International Journal of Geometric Methods in Modern Physics, Vol 16 (2019), 19500853.** **Impact Factor: 1.287;** ISSN (print): 0219-8878 | ISSN (online): 1793-6977

DOI:10.1142/S0219887819500853

10. Bulk viscous cosmological model in $f(R,T)$ theory of gravity, **Partha Sarathi Debnath, International Journal of Geometric Methods in Modern Physics, Vol 16 (2019), 1950005.** **Impact Factor: 1.287;** ISSN (print): 0219-8878 | ISSN (online): 1793-6977

DOI:10.1142/S021988819500051

11. Nonlinear viscosity in braneworld cosmology with a Gauss-Bonnet term by **P.S.Debnath**, A. Beesham and B. C. Paul, **Classical and Quantum Gravity, Vol 35, Number 11, 115010 (2018).** **Impact Factor: 3.119; 0264-9381 (print) 1361-6382 (web)**

<https://doi.org/10.1088/1361-6382/aabd6d>

12. Emergent Universe model with dissipative effects by **P. S. Debnath** & B. C. Paul, **Modern Physics Letter A, Vol. 32, NO. 39, 1750216 (2017).** **Impact Factor: 1.25;** ISSN (print): 0217-7323, ISSN (online): 1793-6632

DOI: 10.1142/S0217732317502169

13. Accelerating universe in modified theories of gravity by B. C. Paul, **P. S. Debnath**, and S. Ghose, **Phys. Rev. D 79, 083534 (2009).** **Impact Factor: 3.45 ;** 2470-0010 (print); 2470-0029 (online)

DOI: 10.1103/PhysRevD.79.083534

14. Viscous cosmologies with variable Λ in higher derivative gravity by **P. S. Debnath**, B. C. Paul, and A. Beesham, **Phys. Rev. D 76, 123505 (2007) .** **Impact Factor: 3.45; 2470-0010 (print); 2470-0029 (online)**

DOI: 10.1103/PhysRevD.76.123505

15. COSMOLOGICAL MODELS WITH VARIABLE GRAVITATIONAL AND COSMOLOGICAL CONSTANTS IN R^2 GRAVITY by **P. S. Debnath** and B. C. Paul, **International Journal of Modern Physics D Vol. 15, No. 02, 189 (2006).** **Impact Factor: 1.89**

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Some Other Published papers:

1. Cosmological Models with quadratic equation of state and dissipative effects by **Partha Sarathi Debnath** *International journal of pure and applied physics*, ISSN 0973-1776, Volume 13, Number 4 (2017), pp.271-280.
2. Cosmological model with Modified Chaplygin Gas And dissipative effects by **P. S. Debnath**, *Bulletin of Pure and Applied Sciences*, 36D, 1(2017)100-110. (ISSN 0970 6569; ISSN 2320 3218).
3. Viscous cosmologies with modified Chaplygin gas by **P. S. Debnath, B. C. Paul** *SSRG International Journal of Applied Physics*, Volume-3, Issue-2, 1 (2016) (ISSN: 2350-0301).
4. Viscous cosmologies with variable G and Λ in R^2 gravity by **B. C. Paul, P.S. Debnath**, arXiv:1105.3307.

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