

Curriculum Vitae

1. **Name:** DR. ANISUR RAHAMAN
2. **Office Address:**
Physics Department, Durgapur Government College (Affiliated to K. N. University)
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INDIA, PIN-713 214
e-mail: manisurn@gmail.com
3. **Date of birth:** 09.05.1967
4. **Present Designation:** Associate Professor
5. **Institutions served and posts held:** I am presently posted at Durgapur Government College and the present designation is Associate Professor. It is a service under Higher Education Department, West Bengal, and the jobs are transferable in nature. The history of my working positions is the following. I joined A. B. N Seal college, Coochbehar as a lecturer in physics then I have been transferred to Durgapur government college, Durgapur, Burdwan where I hold the position of lecturer initially then promoted to the reader position and finally promoted to the Associate Professor and transferred to the Govt. College of Textile Technology, Serampore. From there I was transferred to Hooghly Mohsin College. Right now I am holding the position of Associate professor and my present institution is Durgapur Government College after being transferred from Hooghly Mohsin College
6. **Academic Qualification**
 - B. Sc. (Hons) in Physics, with first class in the year 1988 from Visva-Bharati.
 - M.Sc. in Physics, with first class in the year 1990 from Visva-Bharati.
 - Post M. Sc. from Saha Institute of Nuclear Physics, in the year 1991.

- Ph. D. from the University of Calcutta, in the year 1998. (Doctoral work done in Saha Institute of Nuclear Physics under the Supervision of Prof. Parthasarathi Mitra). Ph. D. work done on field theory. The title of the thesis was **Study of Some Constrained Field Theoretical Models**.
7. **Specialization:** Particle Physics which is also known as High Energy Physics.
 8. **Area of Research Interest:** 1. Formal Field Theory 2. Black hole physics (theory and phenomenology)3. Cosmology 4. Theories beyond Heisenberg Uncertainty Principle.
 9. **Research and Ph. D. Supervision experience:**
 10. I am a registered **Supervisor of Since (Physics)** of the *University of Burdwan*.
 11. **Ms. Safia Yasmin** has obtained Ph. D. degree under my supervision in 2018. Her thesis title was 'Study of gauge theory in the light of Constrained dynamics'
 12. Three candidates named **Sohan Kumar Jha, Sanjib Ghosal** and **Himangshu Barman** are working for Ph.D. Program under my supervision.
 13. Teaching Experience: 25 years
 14. Research experience: 6 years only research(during Ph. D.) + 25 years teaching and research
 15. Holding the position of **Visiting Research Associate** of IUCAA, Pune, India
 16. **Research paper published:**
 - 34 On the indistinguishability of Chiral QED with parameter-free Faddeevian anomaly and QED under a chiral constraint: Anisur Rahman: Accepted for publication: Mod. Phys. Lett. A

- 33 The inflationary scenario in the $f(R)$ gravity model with a R^4 term: Class.Quant.Grav. 38 (2021) 22, 225008
- 32 Minimal length, maximal momentum and stochastic gravitational waves spectrum generated from cosmological QCD phase transition: Mohamed Moussa, Homa Shababi, Anisur Rahaman, Ujjal Kumar Dey: Phys.Lett.B 820 (2021)
- 31 BRST cohomological aspects of the gauged model of chiral boson: Sanjib Ghoshal, Anisur Rahaman: Nucl.Phys.B 967 (2021) 115399
- 30 Study of Einstein-bumblebee gravity with Kerr-Sen-like solution in the presence of a dispersive medium: Sohan Kumar Jha, Anisur Rahaman: Nucl.Phys.B 967 (2021) 115399
- 29 A Model of Boson in $(1 + 1)$ Dimension with the Non-Covariant Masslike Term for the Gauge Field: Shahin Absar, Sanjib Ghoshal, Anisur Rahaman: Int.J.Theor. Phys. 60 (2021) 214
- 28 Bumblebee gravity with a Kerr-Sen-like solution and its Shadow: Sohan Kumar Jha, Anisur Rahaman
- 27 Bumblebee gravity and particle motion in Snyder: noncommutative spacetime structures: Sohan Kumar Jha, Himangshu Barman, Anisur Rahaman: JCAP 04 (2021) 036
- 26 On the reformulation of the ThomasFermi model to make it compatible with the Planck-scale: Himangshu Barman, Anisur Rahaman, Sohan Kumar Jha: Mod.Phys.Lett.A 36 (2021) 19, 2150130
- 25 Chiral Schwinger model with Faddeevian anomaly and its BRST quantization: Sanjib Ghosal, Anisur Rahaman: Eur.Phys.J.C 80 (2020) 2, 79
- 24 Role of Faddeevian anomaly in the s-wave scattering of chiral fermion off dilaton black holes towards preservation of information: Anisur Rahaman : Nucl.Phys. B941 (2019) 780-793, arXiv: 1903.01086
- 23 Unparticle may be a Remedy to the Information Loss in the Scattering of Fermion off Dilaton Black-hole: Anisur Rahaman : Nucl. Phys. B932 119 (2018), arXiv: 1805.03072

- 22 Chiral Thirring Wess model: Anisur Rahaman: *Annl. Phys.* 361 (2015) 33-43 arXiv:1502.07272
- 21 Chiral Thirring Wess model with Faddeevian Regularization: Anisur Rahaman: *Annl. Phys.* 354 (2015) 511-521 arXiv:1501.00290
- 20 Gauged FloreaniniJackiw type chiral boson and its BRST quantization Anisur Rahaman, Safia Yasmin, *Annals Phys.* 383 (2017) 497-510 e-Print: arXiv:1612.07095
- 19 The nonconfining Schwinger model, P. Mitra, Anisur Rahaman, Published in *Annals Phys.*249:34-43, 1996.
- 18 Nonmanifest Lorentz invariance in vector coupled model. A. Rahaman, P. Mitra, Published in *Mod.Phys.Lett.A*11:2153-2157, 1996
- 17 S-wave scattering of fermion revisited, Anisur rahaman, *Phys. Lett B*697 (2011) 260-263, e-Print:arXiv 1102.2152.
- 16 Does chiral fermion coupled to backgroundd dilaton field preserve information? Anisur Rahaman, *Mod. Phys. Lett. A*24 (2009)2195-2201,e-Print:arXiv 0901.3693.
- 15 Schwinger model in non-commutating space-time. Anirban Saha, Anisur Rahaman, Pradip Mukherjee: *Phys.Lett.B*638:292-295,2006, Erratum-*ibid.B*643:383-384, 2006. e-Print: hep-th/0603050.
- 14 On the question of deconfinement in noncommutative Schwinger model, Anirban Saha, Anisur Rahaman, Pradip Mukherjee, *Mod. Phys. Lett A*23 (2008) 2947-2955,e-Print: hep-th/0611059
- 13 Unparticle in (1+1) dimension with one loop correction: Anisur Rahaman, e-Print: *Modern Physics Letters A: Vol. 29, No. 14* (2014) 1450072 e-Print: arXiv:1210.5134
- 12 Lepton interferometry in relativistic heavy ion collisions: A Case study, Jan-e Alam, Bedangadas Mohaty, Anisur Rahaman Rahaman, Sourav Sarkar, Bikash Sinha, Published in *Phys.Rev.C*70:054901, 2004. e-Print: nucl-th/0402017,
- 11 On the BRST and finite field dependent BRST of a model where vector and axial vector interaction get mixed up with different weight Anisur Rahaman, Safia Yasmin, *Int.J.Mod.Phys. A*31 (2016) 1650171, e-Print: arXiv:1606.04633

- 10 On the Poincaré and Gauge symmetry of a model where vector and axial vector interaction get mixed up with different weight: Safia Yasmin, Anisur Rahaman, *Int.J.Theor.Phys.* 55 (2016) 5172-5185, e-Print: arXiv:1604.05820
- 9 On the gauge and BRST invariance of the chiral QED with Faddeevian anomaly, Anisur rahaman, Safia Yasmin and Sahazada Aziz, *Int. J. Theor. Phys.* 49 (2010) 2607-2620, e-Print arXiv 0906.4874 .
- 8 Study of gauge symmetry through the Lagrangian formulation of some field theoretical models: Safia Yasmin, Anisur Rahaman, *Int. J. Theor. Phys.* 52 (2013) 1539-1565 e-print arXiv:1212.6886 .
- 7 Non-Abelian gauged chiral boson with a generalized Faddeevian regularization, Anisur Rahaman: *Mod.Phys.Lett.A22:1183-1190*, 2007, e-Print: hep-th/0602052.
- 6 Chiral QED in terms of chiral boson with a generalized Faddeevian regularization, Anisur Rahaman: *Int.J.Mod.Phys.A21:1251-1260*, 2006. e-Print: hep-th/0306037.
- 5 Nonperturbative solution of the nonconfining Schwinger model with a generalized regularization, Anisur Rahaman, *Int.J.Mod.Phys.A19:3013-3024*, 2004. e-Print: hep-th/0205112.
- 4 Gauged Models of Multiflavored Chiral Bosons, Anisur Rahaman: *Indn. Jour. Phys.* A69 611-620, 1995.
- 3 Investigation on Bi-chiral Scalar Field, Anisur Rahaman: *Jour. Phys.* A69 657-661, 1995.
- 2 Two-dimensional chiral chromodynamics with Faddeevian anomaly. A. Rahaman, S. Mukhopadhyay: *Mod.Phys.Lett.A12:3121-3129*, 1997.
- 1 To restore the broken symmetry in the nonconfining Schwinger model. A. Rahaman, Published in *Int.J.Mod.Phys.A12:5625-5637*, 1997.

17. Research paper communicated:

- Kerr-Sen-like Lorentz violating black holes and Superradiance phenomena: arXiv: 2203.08099 [gr-qc]
- Study of quantum gravity correction to the accretion onto the black hole in the GUP framework: arXiv: 2203.09252 [gr-qc]
- Chiral Schwinger model with the one-parameter class of Faddeevian anomaly revisited with its BRST cohomological aspects: Anisur Rahaman: arXiv: 2009.13279 [hep-th]
- Study of shadow and parameter estimation of non-commutative Kerr-like Lorentz violating black holes Sohan Kumar Jha, Anisur Rahaman arXiv: 2111.02817 [gr-qc]
- Note on the Generalized version of chiral Schwinger model in terms of chiral bosonization

18. Proceedings:

- A note on the vector Schwinger Model with the photon mass term: Gauge invariant reformulation, operator solution and path integral formulation: arXiv:1011.2392; 2 Citations
- Information Loss Paradox Tested on Chiral Fermion Coupled to a Background Dilatonic Field: Anisur Rahaman e-Print hep-th/0607173; 1 Citation
- Gauge invariant reformulation and BRST quantization of the non confining Schwinger model: SINP-TNP 95-22 Hep-th-9511097; 1 Citation
- QED in (1+1) dimension with the Proca background Proceedings of the International symposium IC-CAST -2015 held at Banaras Hindu University, Varanasi(2015)
- Study of gauge symmetry of both the free and gauged chiral boson through the Lagrangian formulation: S Yasmin, A Rahaman Proceedings of the twentieth DAE-BRNS high energy physics symposium (2012)
- On Axial Gauge fixing Terms: Appeared in the proceedings of XI DAE symposium on High Energy Physics held at Visva-Bharati (1994)

Higgs Mechanism without Higgs Particle: It is a review submitted for the fulfilment of Post. M.Sc. from Saha Institute of Nuclear Physics in the year (1990-1991).

Constrained Hamiltonian Systems: Appeared in the proceedings of Refresher Course held at Academic Staff College, University of Calcutta in the year 2002.

Singular Lagrangian Theories: Appeared in the proceedings of the Academic Staff College, University of Calcutta in the year 2004.

19. Acted as referee for the journals:

**European journal of physics C,
International Journal of Theoretical Physics,
International Journal of modern Physics
Canadian Journal of Physics
Nuclear Physics B**

20. Conference Workshop Attended:

1 7th International Conference on Physics and astrophysics of Quark Gluon Plasma Held at VECC, Kolkata, India, February 1-6 2015.

2 6th IJAA-JSPS International Conference on Contemporary advances of Science and Technology Held at BHU Varansi India August 7-9 2015.

3 International conference on Matter at Extreme Condition held at Bose Institute , Kolkata, January 15-17 2014

4 XX DAE-BRNS High Energy Physics Symposium held at Visva-bharati, January 13-18 2013.

4 6th International Conference on Physics and astrophysics of Quark Gluon Plasma Held at Goa, India, December 6-10 2010.

5 Topical meet on Beyond Standard model Physics at LHC held at IICS Kolkata Jan 15-17, 2009.

6 Workshop on 'Getting ready for physics at LHC' held at HRI, Allahabad, February 16-19, 2009

- 7 International Conference on Physics and Astrophysics of Quark Gluon Plasma held in Calcutta February, 2005.
- 8 XV DAE Symposium held in Kolkata at SINP, November 29th to December 3rd 2004.
- 9 QGP Meet 2004 held at Bhubaneswar, 5th May to 7th October to 9th October 2004
- 10 QGP Meet 2003 held at VECC Calcutta, 5th May to 7th May 2003
- 11 VII SERC School held at Bhubaneswar 9th November to 5th December 2002 XI DAE Symposium held at Visva-Bharati on High Energy physics in 28th December 2nd January 1995
- 12 International Conference on Astrophysics and Cosmology (in Commemoration of the birth centenary of Prof. M. N. Saha) held in Calcutta, December 1993
- 13 Symposium on QFT and Stat Mech. held in Calcutta, conducted jointly by ISI and S. N. Bose National centre for basic sciences in the year 1993.

Seminar organized

- I have conducted a DAE funded Conference 'New era in Nuclear and particle physics, held at The University of Burdwan: Nov 28-29, 2009.
- I have Conducted a UGC funded workshop cum training programme on Instrumentation Maintenance held at Durgapur Govt. College: Dec 6, 2008.

Other Relevant Information:

I have successfully completed one UGC sponsored **Orientation Course** in the year 2001 and two UGC sponsored **Refresher Course** in the year 2002 and 2004 respectively.

I have been invited to chair a session for the national seminar on high energy physics held at Ranigang Girls College.

I have been invited several times as expert for selection of faculties in private engineering colleges.

Department of Higher Education, Govt. of West Bengal appointed me several times as Govt. nominee for Career advancement faculties of different aided colleges.

I was a member of the Court of the University of Burdwan for the period 2004-2006, I was a member of the Executive Council of the same University for the period 2006-2008