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Visiting Associate,
Inter-University Centre for Astronomy and Astrophysics
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Physics & Astronomy International Journal
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Experience

September 23, 2017 - present, Assistant Professor

Department of Physics, K.L.S. College, Nawada (A constituent unit of Magadh University, Bodh-Gaya), India.

August 1, 2018 - July 31, 2021, Visiting Associate

Inter-University Centre for Astronomy and Astrophysics (IUCAA) Pune, Maharashtra-411007, India.

April 01, 2016 - September 22, 2017, Post-Doctoral Fellow

Centre for Theoretical Studies, Indian Institute of Technology Kharagpur, India.

December 16, 2014 - March 31, 2016, Post-Doctoral Fellow

Department of Physics, Indian Institute of Technology Kanpur, India.

May 2014 - December 2014, Research Associate

Dept. of Physics, Banaras Hindu University, Varanasi, India.

March 2014 - April 2014, Post-Doctoral Fellow

UERJ - Universidade do Estado do Rio de Janeiro, Rua Sao Francisco Xavier 524, 20550-013 Maracana, Rio de Janeiro, Brazil.

April 2013 - February 2014, Post-Doctoral Research Associate

S. N. Bose National Centre for Basic Science, Salt Lake, Kolkata, India.

Education

2012, Ph.D. in Physics

Banaras Hindu University (BHU), Varanasi, India.

Thesis title “Finite field dependent BRST transformations and its application to gauge field theories”

Supervisor Prof. Bhabani Prasad Mandal

2008, Post-graduated in Physics

U. P. Autonomous College, Varanasi, India.

2006, Graduated in Physics and Mathematics

U. P. Autonomous College, Varanasi, India.

2003, Intermediate (10+2)

Board of High School and Intermediate Education Uttar Pradesh, India.

2001, Matriculated

Board of High School and Intermediate Education Uttar Pradesh, India.

Scholastic Achievements

National Eligibility Test (NET 2008 and 2009)

Graduate Aptitude Test in Engineering (GATE 2009)

DST-Junior Research Fellowship (JRF)

CSIR-Senior Research Fellowship (SRF)

Advance Diploma in Computer Application (DCA)

CNPq Post-doc junior (PDJ) Fellowship

Awards/Honours Received

- Annals of Physics certificate of reviewing award in Sept. 2015 in recognition of the review made for the journal.
- Paper entitled “Field-dependent quantum gauge transformation” by myself has been selected by the editors of EPL for inclusion in the exclusive ‘Highlights of 2014’ collection.
- Award for University rank # 1 in M.Sc. in 2008.
- Member of student council, Banaras Hindu University, in 2010.

Reviewed For

- European Physical Journal C (EPJC) (**Springer**)
- Annals of Physics (**Elsevier**)
- Europhysics Letters (EPL) (**IOP**)
- European Journal of Physics (**IOP**)
- International Journal of Theoretical Physics (**Springer**)
- Journal of Physics Communications (**IOP**)
- International Journal of Modern Physics D (**World Scientific**)
- General Relativity and Gravitation (**Springer**)
- Modern Physics Letters A (**World Scientific**)
- Int. J. of Geometric Methods in Modern Physics (**World Scientific**)

Research Interests

- Black hole thermodynamics
- AdS/CFT correspondence
- Astrophysics and Cosmology
- Galaxy clustering
- Very special relativity (VSR)
- Quantum gravity
- Super-conformal gauge theories
- Quantum cosmology
- BRST symmetry and its generalization
- Supersymmetry and superspace

Publications

(a) Published Papers in International Journals

1. S. Upadhyay, M. B. Shah, P. A. ganai, *Mod. Phys. Lett. A* (2019).
In press.
“Lorentz-violating gaugeon formalism for rank-2 tensor theory”
DOI: [10.1142/S0217732319502456](https://doi.org/10.1142/S0217732319502456)
[Impact factor: 1.367]
2. M. Faizal, S. E. Korenblit, A. V. Sinitskaya, S. Upadhyay, *Phys. Lett. B* 794, 1 (2019).
“Corrections to scattering processes due to minimal measurable length”
DOI: [10.1016/j.physletb.2019.05.007](https://doi.org/10.1016/j.physletb.2019.05.007)
[Impact factor: 4.162]
3. S. Upadhyay, B. Pourhassan, *Prog. Theor. Exp. Phys.* 013B03 (2019).
“Logarithmic corrected Van der Waals black holes in higher dimensional AdS space”
DOI: [10.1093/ptep/pty145](https://doi.org/10.1093/ptep/pty145)
[Impact factor: 2.022]
4. S. Upadhyay, *Gen. Rel. Grav.* 50, 128 (2018).
“Leading-order corrections to charged rotating AdS black holes thermodynamics”
DOI: [10.1007/s10714-018-2459-0](https://doi.org/10.1007/s10714-018-2459-0)
[Impact factor: 1.515]
5. S. Upadhyay, S. Capozziello, B. Pourhassan, *Int. J. Mod. Phys. D* 28, 1950027 (2019).
“Thermodynamics and phase transitions of galactic clustering in higher-order Modified Gravity”
DOI: [10.1142/S0218271819500275](https://doi.org/10.1142/S0218271819500275)
[Impact factor: 2.004]
6. S. Upadhyay, S. H. Hendi, S. Panahiyan, B. E. Panah, *Prog. Theor. Exp. Phys.* 093E01 (2018).
“Thermal fluctuations of charged black holes in gravity’s rainbow”
DOI: [10.1093/ptep/pty093](https://doi.org/10.1093/ptep/pty093)
[Impact factor: 2.022]
7. M. Hameeda, S. Upadhyay, M. Faizal, A. F. Ali, B. Pourhassan, *Physics of the Dark Universe* 19, 137 (2018).
“Large distance modification of Newtonian potential and structure formation in the Universe”
DOI: [10.1016/j.dark.2018.02.001](https://doi.org/10.1016/j.dark.2018.02.001)
[Impact factor: 5.660]

8. B. Pourhassan, S. Upadhyay, H. Saadat, H. Farahani, *Nucl. Phys.* **B928**, 415 (2018).
“Quantum gravity effects on Hořava-Lifshitz black hole”
DOI: [10.1016/j.nuclphysb.2018.01.018](https://doi.org/10.1016/j.nuclphysb.2018.01.018)
[Impact factor: 3.185]
9. S. Capozziello, M. Faizal, M. Hameeda, B. Pourhassan, V. Salzano, S. Upadhyay, *MNRAS* **474**, 2430 (2018).
“Clustering of Galaxies with $f(R)$ gravity”
DOI: [10.1093/mnras/stx2945](https://doi.org/10.1093/mnras/stx2945)
[Impact factor: 5.231]
10. S. Upadhyay, *Phys. Lett.* **B775**, 130 (2017).
“Quantum corrections to thermodynamics of quasitopological black holes”
DOI: [10.1016/j.physletb.2017.10.059](https://doi.org/10.1016/j.physletb.2017.10.059)
[Impact factor: 4.162]
11. R. Mistry, S. Upadhyay, A. F. Ali, M. Faizal, *Nucl. Phys.* **B923**, 378 (2017).
“Hawking Radiation Power Equations for Black Holes”
DOI: [10.1016/j.nuclphysb.2017.08.010](https://doi.org/10.1016/j.nuclphysb.2017.08.010)
[Impact factor: 3.185]
12. B. Pourhassan, M. Faizal, S. Upadhyay, L. A. Asfar, *Eur. Phys. J. C* **77**, 555 (2017).
“Thermal Fluctuations in a Hyperscaling Violation Background”
DOI: [10.1140/epjc/s10052-017-5125-x](https://doi.org/10.1140/epjc/s10052-017-5125-x)
[Impact factor: 4.843]
13. D. Momeni, S. Upadhyay, Y. Myrzakulov, R. Myrzakulov, *Astrophys. Space Sci.* **362**, 148 (2017).
“Cosmic string in gravity’s rainbow”
DOI: [10.1007/s10509-017-3138-4](https://doi.org/10.1007/s10509-017-3138-4)
[Impact factor: 1.681]
14. R. Bufalo, S. Upadhyay, *Phys. Lett.* **B772**, 420 (2017).
“Axion Mass Bound in Very Special Relativity”
DOI: [10.1016/j.physletb.2017.06.070](https://doi.org/10.1016/j.physletb.2017.06.070)
[Impact factor: 4.162]
15. S. Upadhyay, B. Pourhassan, H. Farahani, *Phys. Rev.* **D95**, 106014 (2017).
“P-V criticality of first-order entropy corrected AdS black holes in massive gravity”
DOI: [10.1103/PhysRevD.95.106014](https://doi.org/10.1103/PhysRevD.95.106014)
[Impact factor: 4.394]

16. S. H. Hendi, S. Panahiyan, **S. Upadhyay**, B. E. Panah, *Phys. Rev. D* **95**, 084036 (2017).
“Charged BTZ black holes in the context of massive gravity’s rainbow”
DOI: [10.1103/PhysRevD.95.084036](https://doi.org/10.1103/PhysRevD.95.084036)
[Impact factor: 4.394]
17. P. Yu. Moshin, S. Upadhyay, R. A. Castro, *Braz. J. Phys.* **47**, 411 (2017).
“Finite BRST Mapping in Higher Derivative Models”
DOI: [10.1007/s13538-017-0503-2](https://doi.org/10.1007/s13538-017-0503-2)
[Impact factor: 0.833]
18. B. Pourhassan, S. Upadhyay, M. Hameeda, M. Faizal, *MNRAS* **468**, 3166 (2017).
“Clustering of Galaxies with Dynamical Dark Energy”
DOI: [10.1093/mnras/stx697](https://doi.org/10.1093/mnras/stx697)
[Impact factor: 5.231]
19. S. Upadhyay, M. Oksanen, R. Bufalo, *Braz. J. Phys.* **47**, 350 (2017).
“BRST Quantization of Unimodular Gravity”
DOI: [10.1007/s13538-017-0500-5](https://doi.org/10.1007/s13538-017-0500-5)
[Impact factor: 0.833]
20. S. Upadhyay, *Phys. Rev. D* **95**, 043008 (2017).
“Thermodynamics and galactic clustering with a modified gravitational potential”
DOI: [10.1103/PhysRevD.95.043008](https://doi.org/10.1103/PhysRevD.95.043008)
[Impact factor: 4.394]
21. S. Upadhyay, M. B. Shah, P. A. Ganai, *Eur. Phys. J. C* **77**, 157 (2017).
“Lorentz Violating p-form Gauge Theories in Superspace”
DOI: [10.1140/epjc/s10052-017-4721-0](https://doi.org/10.1140/epjc/s10052-017-4721-0)
[Impact factor: 4.843]
22. S. Upadhyay, *Europhys. Lett.* **117**, 11001 (2017).
“Construction of a Massive ABJM Theory Without Higgs Superfields”
DOI: [10.1209/0295-5075/117/11001](https://doi.org/10.1209/0295-5075/117/11001)
[Impact factor: 1.886]
23. S. Upadhyay, P. K. Panigrahi, *Nucl. Phys. B* **915**, 168 (2017).
“Quantum Gauge Freedom in Very Special Relativity”
DOI: [10.1016/j.nuclphysb.2016.12.009](https://doi.org/10.1016/j.nuclphysb.2016.12.009)
[Impact factor: 3.185]

24. M. Hameeda, S. Upadhyay, M. Faizal, A. F. Ali, *MNRAS* 463, 3699 (2016).
“Effects of Cosmological Constant on Clustering of Galaxies”
DOI: [10.1093/mnras/stw2202](https://doi.org/10.1093/mnras/stw2202)
[Impact factor: 5.231]
25. S. Upadhyay, *Int. J. Mod. Phys. A* 31, 1650148 (2016).
“A mass-deformed BLG theory in Gribov-Zwanziger framework”
DOI: [10.1142/S0217751X16501487](https://doi.org/10.1142/S0217751X16501487)
[Impact factor: 1.699]
26. S. Upadhyay, B. Paul, *Eur. Phys. J. C* 76, 394 (2016).
“BRST symmetry for Regge-Teitelboim based minisuperspace models”
DOI: [10.1140/epjc/s10052-016-4242-2](https://doi.org/10.1140/epjc/s10052-016-4242-2)
[Impact factor: 4.843]
27. S. Upadhyay, *Int. J. Mod. Phys. A* 31, 1650112 (2016).
“Ward and Nielsen Identities for ABJM Theory in $N = 1$ Super-space”
DOI: [10.1142/S0217751X16501128](https://doi.org/10.1142/S0217751X16501128)
[Impact factor: 1.699]
28. S. Upadhyay, A. Reshetnyak, B. P. Mandal, *Eur. Phys. J. C* 76, 391 (2016).
“Comments on interactions in the SUSY models”
DOI: [10.1140/epjc/s10052-016-4213-7](https://doi.org/10.1140/epjc/s10052-016-4213-7)
[Impact factor: 4.843]
29. S. Upadhyay and P. A. Ganai, *Prog. Theor. Exp. Phys.* 063B04 (2016).
“Finite Field-dependent Symmetry in Thirring Model”
DOI: [10.1093/ptep/ptw084](https://doi.org/10.1093/ptep/ptw084)
[Impact factor: 2.022]
30. M. Faizal, S. Upadhyay, B. P. Mandal, *Eur. Phys. J. C* 76, 189 (2016).
“IR Finite Graviton Propagators in de Sitter Spacetime”
DOI: [10.1140/epjc/s10052-016-4008-x](https://doi.org/10.1140/epjc/s10052-016-4008-x)
[Impact factor: 4.843]
31. S. Upadhyay, *Int. J. Theor. Phys.* 55, 4005 (2016).
“Super-group field cosmology in Batalin-Vilkovisky formulation”
DOI: [10.1007/s10773-016-3029-4](https://doi.org/10.1007/s10773-016-3029-4)
[Impact factor: 1.121]
32. S. Upadhyay, *Eur. Phys. J. C* 75, 593 (2015).
“Reducible Gauge Theories in Very Special Relativity”
DOI: [10.1140/epjc/s10052-015-3818-6](https://doi.org/10.1140/epjc/s10052-015-3818-6)
[Impact factor: 4.843]

33. S. Upadhyay, *Phys. Rev.* **D92**, 065027 (2015).
“Ward identities and gauge flow for M-theory in $N = 3$ superspace”
DOI: [10.1103/PhysRevD.92.065027](https://doi.org/10.1103/PhysRevD.92.065027)
[Impact factor: 4.394]
34. S. Upadhyay, M. Faizal, P. A. Ganai, *Int. J. Mod. Phys.* **A30**, 1550185 (2015).
“Interpolating between different gauges in the ABJM theory”
DOI: [10.1142/S0217751X15501857](https://doi.org/10.1142/S0217751X15501857)
[Impact factor: 1.699]
35. S. Upadhyay, M. K. Dwivedi, B. P. Mandal, *Int. J. Mod. Phys.* **A30**, 1550178 (2015).
“Emergence of Lowenstein-Zimmermann mass terms for QED₃”
DOI: [10.1142/S0217751X1550178X](https://doi.org/10.1142/S0217751X1550178X)
[Impact factor: 1.699]
36. S. Upadhyay, *Prog. Theor. Exp. Phys.* 093B06, 1 (2015).
“A superspace description of Friedmann-Robertson-Walker models”
DOI: [10.1093/ptep/ptv123](https://doi.org/10.1093/ptep/ptv123)
[Impact factor: 2.022]
37. S. Upadhyay, B. P. Mandal, *Eur. Phys. J.* **C75**, 327 (2015).
“Green’s Functions in Perturbative Quantum Gravity”
DOI: [10.1140/epjc/s10052-015-3549-8](https://doi.org/10.1140/epjc/s10052-015-3549-8)
[Impact factor: 4.843]
38. S. Upadhyay, *Int. J. Mod. Phys.* **A30**, 1550150 (2015).
“Spontaneous breaking of nilpotent symmetry in boundary BLG theory”
DOI: [10.1142/S0217751X1550150X](https://doi.org/10.1142/S0217751X1550150X)
[Impact factor: 1.699]
39. S. Upadhyay, B. P. Mandal, *Phys. Lett.* **B744**, 231 (2015).
“Generalized BRST symmetry for arbitrary spin conformal field theory”
DOI: [10.1016/j.physletb.2015.03.066](https://doi.org/10.1016/j.physletb.2015.03.066)
[Impact factor: 4.162]
40. S. Upadhyay, *Annals of Physics* 356, 299 (2015).
“Field-dependent symmetries in Friedmann-Robertson-Walker models”
DOI: [10.1016/j.aop.2015.03.002](https://doi.org/10.1016/j.aop.2015.03.002)
[Impact factor: 2.267]
41. S. Upadhyay, B. P. Mandal, *Int. J. Theor. Phys.* 55, 1 (2016).
“Equivalence between two different field-dependent BRST formulations”
DOI: [10.1007/s10773-015-2628-9](https://doi.org/10.1007/s10773-015-2628-9)
[Impact factor: 1.121]

42. S. Upadhyay, *Phys. Lett.* **B740**, 341 (2015).
“The conformal gauge to the derivative gauge for worldsheet gravity”
DOI: [10.1016/j.physletb.2014.12.013](https://doi.org/10.1016/j.physletb.2014.12.013)
[Impact factor: 4.162]
43. S. Upadhyay, *Mod. Phys. Lett.* **A30**, 1550072 (2015).
“Nilpotent Symmetries in Super-Group Field Cosmology”
DOI: [10.1142/S0217732315500728](https://doi.org/10.1142/S0217732315500728)
[Impact factor: 1.367]
44. M. Faizal, S. Upadhyay, B. P. Mandal, *Int. J. Mod. Phys.* **A30**, 1550032 (2015).
“Anti-FFBRST Transformations for the BLG Theory in Presence of a Boundary”
DOI: [10.1142/S0217751X15500323](https://doi.org/10.1142/S0217751X15500323)
[Impact factor: 1.699]
45. S. Upadhyay, M. K. Dwivedi, B. P. Mandal, *Int. J. Theor. Phys.* **54**, 2076 (2015).
“A superspace description of Chern-Simons theory in Batalin-Vilkovisky formulation”
DOI: [10.1007/s10773-014-2414-0](https://doi.org/10.1007/s10773-014-2414-0)
[Impact factor: 1.121]
46. M. Faizal, S. Upadhyay, B. P. Mandal, *Phys. Lett.* **B738**, 201 (2014).
“Finite field-dependent BRST symmetry for ABJM theory in N=1 superspace”
DOI: [10.1016/j.physletb.2014.09.042](https://doi.org/10.1016/j.physletb.2014.09.042)
[Impact factor: 4.162]
47. M. Faizal, S. Upadhyay, *Phys. Lett.* **B736**, 288 (2014).
“Spontaneous Breaking of the BRST Symmetry in the ABJM theory”

DOI: [10.1016/j.physletb.2014.07.040](https://doi.org/10.1016/j.physletb.2014.07.040)
[Impact factor: 4.162]
48. R. Banerjee, S. Upadhyay, *Phys. Lett.* **B734**, 369 (2014).
“Generalized supersymmetry and sigma models”
DOI: [10.1016/j.physletb.2014.05.076](https://doi.org/10.1016/j.physletb.2014.05.076)
[Impact factor: 4.162]
49. S. Upadhyay, D. Das, *Phys. Lett.* **B733**, 63 (2014).
“ABJM theory in Batalin-Vilkovisky formulation”
DOI: [10.1016/j.physletb.2014.04.019](https://doi.org/10.1016/j.physletb.2014.04.019)
[Impact factor: 4.162]

50. S. Upadhyay, B. P. Mandal, *Prog. Theor. Exp. Phys.* 053B04, 1 (2014).
“Gaugeon formalism in the framework of generalized BRST symmetry”
DOI: [10.1093/ptep/ptu050](https://doi.org/10.1093/ptep/ptu050)
[Impact factor: 2.022]
51. S. Upadhyay, *Annals of physics* 344, 290 (2014).
“Generalized BRST Symmetry and Gaugeon Formalism for Perturbative Quantum Gravity: Novel Observation”
DOI: [10.1016/j.aop.2014.03.002](https://doi.org/10.1016/j.aop.2014.03.002)
[Impact factor: 2.267]
52. S. Upadhyay, *Gen. Rel. Grav.* 46, 1678 (2014).
“Renormalizability of Supersymmetric Group Field Cosmology”
DOI: [10.1007/s10714-014-1678-2](https://doi.org/10.1007/s10714-014-1678-2)
[Impact factor: 1.515]
53. S. Upadhyay, *Europhys. Lett.* **105**, 21001 (2014).
“Field-dependent quantum gauge transformation”
DOI: [10.1209/0295-5075/105/21001](https://doi.org/10.1209/0295-5075/105/21001)
[Impact factor: 1.886]
54. S. Upadhyay, *Eur. Phys. J.* **C74**, 2737 (2014).
“Gaugeon Formalism for Perturbative Quantum Gravity”
DOI: [10.1140/epjc/s10052-014-2737-2](https://doi.org/10.1140/epjc/s10052-014-2737-2)
[Impact factor: 4.843]
55. S. Upadhyay, *Annals of physics* 340, 110 (2014).
“Finite field-dependent symmetries in perturbative quantum gravity”
DOI: [10.1016/j.aop.2013.10.012](https://doi.org/10.1016/j.aop.2013.10.012)
[Impact factor: 2.267]
56. S. Upadhyay, *Europhys. Lett.* 104, 61001 (2013).
“N=1 super-Chern-Simons theory in Batalin-Vilkovisky formulation”
DOI: [10.1209/0295-5075/104/61001](https://doi.org/10.1209/0295-5075/104/61001)
[Impact factor: 1.886]
57. S. Upadhyay, *Phys. Lett.* **B727**, 293 (2013).
“Aspects of finite field-dependent symmetry in SU(2) Cho-Faddeev-Niemi decomposition”
DOI: [10.1016/j.physletb.2013.10.013](https://doi.org/10.1016/j.physletb.2013.10.013)
[Impact factor: 4.162]
58. S. Upadhyay, *Europhys. Lett.* 103, 61002 (2013).
“BRST symmetry and Darboux transformations in Abelian 2-form gauge theory”
DOI: [10.1209/0295-5075/103/61002](https://doi.org/10.1209/0295-5075/103/61002)
[Impact factor: 1.886]

59. S. Upadhyay, *Phys. Lett.* **B723**, 470 (2013).
“Perturbative quantum gravity in Batalin-Vilkovisky formalism”
DOI: [10.1016/j.physletb.2013.05.051](https://doi.org/10.1016/j.physletb.2013.05.051)
[Impact factor: 4.162]
60. R. Banerjee, B. Paul, S. Upadhyay, *Phys. Rev.* **D88**, 065019 (2013).
“BRST symmetry and W -algebra in higher derivative models”
DOI: [10.1103/PhysRevD.88.065019](https://doi.org/10.1103/PhysRevD.88.065019)
[Impact factor: 4.394]
61. S. Upadhyay, B. P. Mandal, *Int. J. Mod. Phys.* **A28**, 1350122 (2013).
“Noncommutative gauge theories: Models for Hodge theory”
DOI: [10.1142/S0217751X13501224](https://doi.org/10.1142/S0217751X13501224)
[Impact factor: 1.699]
62. M. Faizal, B. P. Mandal, S. Upadhyay, *Phys. Lett.* **B721**, 159 (2013).
“Finite BRST Transformations for the Bagger-Lambert-Gustavsson Theory”
DOI: [10.1016/j.physletb.2013.02.057](https://doi.org/10.1016/j.physletb.2013.02.057)
[Impact factor: 4.162]
63. S. Upadhyay, M. K. Dwivedi, B. P. Mandal, *Int. J. Mod. Phys.* **A28**, 1350033 (2013).
“The noncovariant gauges in 3-form theories”
DOI: [10.1142/S0217751X13500334](https://doi.org/10.1142/S0217751X13500334)
[Impact factor: 1.699]
64. S. Upadhyay, B. P. Mandal, *Annals of physics* **327**, 2885 (2012).
“Finite BRST transformation and constrained systems”
DOI: [10.1016/j.aop.2012.07.011](https://doi.org/10.1016/j.aop.2012.07.011)
[Impact factor: 2.267]
65. S. Upadhyay, B. P. Mandal, *Eur. Phys. J.* **C72**, 2059 (2012).
“BV formulation of higher form gauge theories in superspace”
DOI: [10.1140/epjc/s10052-012-2059-1](https://doi.org/10.1140/epjc/s10052-012-2059-1)
[Impact factor: 4.843]
66. S. Upadhyay, B. P. Mandal, *Eur. Phys. J.* **C72**, 2065 (2012).
“Field dependent nilpotent symmetry for gauge theories”
DOI: [10.1140/epjc/s10052-012-2065-3](https://doi.org/10.1140/epjc/s10052-012-2065-3)
[Impact factor: 4.843]
67. S. Upadhyay, B. P. Mandal, *AIP Conf. Proc.* **1444**, 213 (2012).
“Relating Gribov-Zwanziger theory and Yang-Mills theory in Batalin-Vilkovisky formalism”
DOI: [10.1063/1.4715422](https://doi.org/10.1063/1.4715422)

68. S. Upadhyay, B. P. Mandal, *Eur. Phys. J.* **C71**, 1759 (2011).
“The model for self-dual chiral bosons as a Hodge theory”
DOI: [10.1140/epjc/s10052-011-1759-2](https://doi.org/10.1140/epjc/s10052-011-1759-2)
[Impact factor: 4.843]
69. S. Upadhyay, B. P. Mandal, *Europhys. Lett.* **93**, 31001 (2011).
“Relating Gribov-Zwanziger theory to effective Yang-Mills theory”
DOI: [10.1209/0295-5075/93/31001](https://doi.org/10.1209/0295-5075/93/31001)
[Impact factor: 1.886]
70. S. Upadhyay, S. K. Rai, B. P. Mandal, *J. Math. Phys.* **52**, 022301 (2011).
“Off-shell nilpotent finite BRST/anti-BRST transformations”
DOI: [10.1063/1.3545970](https://doi.org/10.1063/1.3545970)
[Impact factor: 1.355]
71. S. Upadhyay, B. P. Mandal, *Mod. Phys. Lett.* **A25**, 3347 (2010).
“Generalized BRST Transformation in Abelian rank-2 antisymmetric tensor field theory”
DOI: [10.1142/S0217732310034535](https://doi.org/10.1142/S0217732310034535)
[Impact factor: 1.367]
72. B. P. Mandal, S. K. Rai, S. Upadhyay, *Europhys. Lett.* **92**, 21001 (2010).
“Finite Nilpotent symmetry in Batalin-Vilkovisky formulation”
DOI: [10.1209/0295-5075/92/21001](https://doi.org/10.1209/0295-5075/92/21001)
[Impact factor: 1.886]

(b) Communicated papers

1. “Thermodynamic geometry of a black hole surrounded by perfect fluid in Rastall theory”
S. Soroushfar, R. Saffari, S. Upadhyay, arXiv:1908.02133.
2. “Time dependent dark energy and the thermodynamics of many-body systems”
B. Pourhassan, S. Upadhyay, arXiv:1907.09903.
3. “First-order corrected thermodynamic geometry of a static black hole in $f(R)$ gravity”
S. Upadhyay, S. Soroushfar, R. Saffari, arXiv:1801.09574.
4. “Thermodynamics of Higher Order Entropy Corrected Schwarzschild-Beltrami-de Sitter Black Hole”
B. Pourhassan, S. Upadhyay, H. Farahani, arXiv:1701.08650.
5. “Thermal fluctuations to thermodynamics of non-rotating BTZ black hole”
N.-ul Islam, Prince A. Ganai, S. Upadhyay, arXiv:1811.05313.

6. “Brief report on thermodynamics of charged Rotating BTZ black hole”
P. A. Ganai, N.-ul Islam, S. Upadhyay, under preparation.
7. “Quantum corrections to the thermodynamics of regular black holes”
Y. H. Khana, S. Upadhyay, N.-ul Islam, P. A. Ganai, under preparation.

(c) Review article

1. S. Upadhyay *Adv. Engi. Tech.* 2, 10 (2017).
“REVISED FINITE FIELD-DEPENDENT BRST FORMULATION”
DOI: [AdvEngTech.2.10](https://doi.org/10.1007/s12045-017-1000-0)

(d) Book

1. S. Upadhyay & B. P. Mandal, “*Finite field dependent BRST symmetry and its applications*” LAP LAMBERT Academic Publishing, Germany 2014; ISBN-13: 978-3-659-58813-6.

Conferences

(a) Invited Talk

1. “Physics Research Workshop 2016” Indian Institute of Technology Kanpur, India since February 6-7, 2016.
2. Department of Physics, IISER Bhopal, India since April 9-10, 2015.
3. “Field Theory: Recent Trends and Applications”, IISER Kolkata, India since Aug. 7-8, 2013.

(b) Oral Presentation

1. “Recent Developments in Cosmology”, Department of Physics/DST-CIMS, Institute of Science, BHU, Varanasi, India since April 6-8, 2018
2. Workshop on “Recent Developments in Quantum Field Theories”, Department of Physics, Institute of Sciences, BHU, Varanasi, India since Feb. 24- March 1, 2016.
3. “International conference on New Trends in Field Theories”, Department of Physics, BHU, Varanasi, India since Nov. 1-5, 2014.
4. “Associates day”, S. N. Bose National Centre for Basic Sciences, Salt Lake, Kolkata, India on Dec. 20, 2013.
5. “International conference on New Trends in Field Theories”, Department of Physics, BHU, Varanasi, India since Nov. 23-26, 2012.

6. “8th International conference on Progress in Theoretical Physics”, Mentouri University, Constantine, Algeria since Oct. 23-25, 2011.
7. “4th one conference on New Trends in Research”, Department of Physics, BHU, Varanasi, India on March 3, 2011.
8. “XIX DAE symposium in HEP”, LNMIIT, Jaipur, India since December 13 -18, 2010.
9. “2nd One-day conference on new trends in research”, Department of Physics, BHU, Varanasi, India on January 17, 2009.
10. “3rd One-day conference on new trends in research”, Department of Physics, BHU, Varanasi, India on March 30, 2010.

(c) Poster Presentation

1. “Field Theory: Recent Trends and Applications”, IISER, Kolkata, Aug. 22-25, 2011.
2. “International conference on New Trends in Field Theories”, Department of Physics, BHU, Varanasi, India, Feb. 7-12, 2011.

(d) Conference Attended

1. “Topical Conference on Gravity and Cosmology - Eastern Region (TCGC-ER)” Theory Division of Saha Institute of Nuclear Physics, Kolkata, India on Dec. 13, 2013.
2. “6th one day Conference on Recent Trends in Research” Department of Physics, BHU, Varanasi, India on Dec. 20, 2012.
3. “QFT 2011” *organized by Max Planck Partner Group in Quantum Field Theory*, IISER Pune, India since Feb. 23-27, 2011.
4. “S. D. Joglekar memorial conference in High Energy Physics”, IIT-Kanpur, India since Feb. 17-19, 2011.
5. “New Trends in Field Theory”, Department of Physics, BHU, Varanasi since Nov. 1-2, 2008.

Schools

1. “Winter School on High Energy Physics” (under UGC networking program), Department of Physics, Banaras Hindu University, Varanasi, India since Jan. 23- Feb. 12, 2013.
2. “SERC Main School in Theoretical High Energy Physics” Department of Physics, Panjab University, Chandigarh, India since April 2-22, 2010.

3. "SERC Preparatory School in Theoretical High Energy Physics", IIT, Madras, India since Oct. 4-30, 2009.

Workshops

1. "Workshop on High Energy Physics Phenomenology (WHEPP)" Indian Institute of Technology Kanpur, India since December 4-13, 2015.
2. International workshop on "Quantum Integrable System", S. N. Bose National Centre for Basic Sciences, Kolkata, India since December 2-6, 2013.
3. "Workshop on Differential Geometry", DST-Centre for Interdisciplinary Mathematical Sciences (CIMS), BHU, Varanasi, India since May 2-11, 2011.
4. "UGC Networking Workshop on Recent Trends in Nuclear and Particle Physics", Department of Physics, BHU, Varanasi, India since March 7-13, 2011.

Teaching

1. I have taken a course on "Advanced Mathematical Techniques" at CTS, IIT Kharagpur, West Bengal.
2. I have taught a course on "BRST quantization" at S. N. Bose National Centre For Basic Sciences, Salt Lake, Kolkata.
3. Two semesters Graduate lab. courses have been taken by me at Banaras Hindu University, Varanasi.
4. I have taken a course of Masters at S. N. Bose National Centre For Basic Sciences, Salt Lake, Kolkata.

Referees

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