

## JOURNAL ARTICLES

1. Utso Bhattacharya, Somnath Maity, Diptiman Sen and Amit Dutta, Critical phase boundaries of static and periodically kicked long-range Kitaev chain, *J. Phys. Condens. Matter*, 31, 174003-1 to 174003-14 (2019).
2. Souvik Bandyopadhyay, Utso Bhattacharya and Amit Dutta, Temporal variation in the winding number due to dynamical symmetry breaking and associated transport in a driven SSH chain, *Phys. Rev. B*, 100, 054305-1 to 054305-12 (2019).
3. Souvik Bandyopadhyay and Amit Dutta, Dynamical preparation of a topological state and out-of-equilibrium bulk-boundary correspondence in a Su-Schrieffer-Heeger chain under periodic driving, *Phys. Rev B*, 100, 144302-1 to 144302-9 (2019).
4. Vatshal Srivastav, Utso Bhattacharya and Amit Dutta, Dynamical Quantum Phase Transitions in Extended Toric-Code Models, *Phys. Rev. B*, 100, 144203-1 to 144203-9 (2019).
5. Sourav Bhattacharjee, Utso Bhattacharya, Wolfgang Niedenzu, Victor Mukherjee and Amit Dutta, Quantum magnetometry using two-stroke thermal machines, *New Journal of Physics*, 22, 013024-1 to 13024-14 (2020).
6. Souvik Bandyopadhyay, Sourav Bhattacharjee and Amit Dutta, Dynamical generation of Majorana edge-correlations in a ramped Kitaev chain coupled to non-thermal dissipative channels, *Phys. Rev. B*, 101, 104307-1 to 104307-10 (2020).
7. Somnath Maity, Utso Bhattacharya and Amit Dutta, One-dimensional quantum many body systems with long-range interactions, *Topical Review, J. Phys. A: Mathematical and Theoretical*, 53, 013001-1 to 013001-30 (2020).
8. Sonu Verma, Tutul Biswas, and Tarun Kanti Ghosh, Thermoelectric and optical probes for a Fermi surface topology change in noncentrosymmetric metals, *Physical Review B*, 100, 045201-1 to 045201-11 (2019).
9. Bashab Dey and Tarun Kanti Ghosh, Floquet topological phase transition in  $\alpha$ -T3 lattice, *Physical Review B*, 99, 205429-1 to 205429-9 (2019).
10. Sonu Verma, Arijit Kundu and Tarun Kanti Ghosh, RKKY interaction in Mn-doped 4 x 4 Luttinger systems, *Journal of Applied Physics*, 125, 233903-1 to 233903-8 (2019).
11. S. Ghosh, A. Dutta, S. Patra, J. Sato, K. Nishinari and D. Chowdhury, Biologically motivated asymmetric exclusion process: Interplay of congestion in RNA polymerase traffic and slippage of nascent transcript, *PHYSICAL REVIEW E*, 99, 052122 (2019).
12. B. Mishra and D. Chowdhury, Biologically motivated three-species exclusion model: Effects of leaky scanning and overlapping genes on initiation of protein synthesis, *PHYSICAL REVIEW E*, 100, 022106 (2019).

13. D. Chowdhury, Laying tracks for poison delivery to “kiss of death”: search for immune synapse by microtubules, New & Notable" article (solicited by Editor), BIOPHYSICAL JOURNAL, 116, 2057 (2019).
14. D. Chowdhury and D. Ghanti, Soft mechano-chemistry of molecular hubs in mitotic spindle: biomechanics and mechanical proofreading at microtubule ends, JOURNAL OF PHYSICS CONDENSED MATTER, 32, 284001 (2020).
15. A. Dutta, G.M. Scheutz and D. Chowdhury, Stochastic thermodynamics and modes of operation of a ribosome: a network theoretic perspective, PHYSICAL REVIEW E, 101, 032402 (2020).
16. Sravya Rao, Rahul Shaw, Dipak Rout, Govind Kumar, Vijaya R and Shilpi Gupta, Diffraction Imaging of Cracks in Self-assembled Photonic Crystals, Optical Materials, 91, 189-194 (2019).
17. Arpita Haldar, Govind Kumar and R.Vijaya, Optical Heterostructure with Dual Features of Broad Spectral Distribution and Wide Spatial Diffraction, ACS Applied Nanomaterials, 2, 6655-6661 (2019).
18. Dipak Rout, Govind Kumar and R.Vijaya, Interplay of dual photonic stopband in fluorescence enhancement from dye-doped photonic crystal heterostructures, Journal of Nanophotonics, 13, 046005 (2019).
19. Sudip Kumar Chatterjee and Vijaya R., Narrowband ultraviolet generation in dispersion-shifted few-mode fiber via combined effect of intermodal four-wave mixing and nonlinear mode coupling, Optics Communications, 458, 124816 (2020).
20. Rabeet Singh, Aashish Kumar and Manoj K Harbola, Semianalytical wavefunctions and Kohn-Sham exchange-correlation potentials for two-electron atomic systems in two-dimensions, JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, 53, pp1-10 (2020).
21. Sujoy Datta, Prashant Singh, Chhandra B Chaudhuri, Debnarayan Jana, Manoj K Harbola, Duane D Johnson and Abhijit Mookerjee, Simple correction to bandgap problems in IV and III-V semiconductors: an improved, local first-principles density functional theory, JOURNAL OF PHYSICS-CONDENSED MATTER, 31, pp1-2 (2019).
22. Rabeet Singh, Bikash Patra, Abhilash Patra, Manoj K Harbola and Prasanjit Samal, Adiabatic connection in density functional theory in two-dimensions: A semi-analytic wavefunction based study for two-electron atomic systems, JOURNAL OF CHEMICAL PHYSICS, 151, pp 1-10 (2019).
23. Ashish Kumar, Rabeet Singh and Manoj K Harbola, Universal nature of different methods of obtaining the exact Kohn-Sham exchange-correlation potential for a given density, JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, 52, pp 1-8 (2019).

24. Pritam Banerjee, Suvankar Paul and Tapobrata Sarkar, Tidal effects away from the equatorial plane in Kerr backgrounds, *Physics Letters B*, 795, 29 – 36 (2019).
25. Rajibul Shaikh, Pritam Banerjee, Suvankar Paul and Tapobrata Sarkar, Analytical approach to strong gravitational lensing from ultracompact objects, *Phys. Rev. D*, 99, 104040-1 to 104040-10, (2019).
26. Shaswata Chowdhury, Tapobrata Sarkar, Small Anisotropy in Stellar Objects in Modified Theories of Gravity, *Astrophysical Journal*, 884:95, 1 to 11 (2019).
27. Kaushik Bhattacharya, Dipanjan Dey, Arindam Mazumdar and Tapobrata Sarkar , New class of naked singularities and their observational signatures, *Phys. Rev. D*, 101, 043005-1 to 043005-19 (2020).
28. Rajibul Shaikh, Pritam Banerjee, Suvankar Paul and Tapobrata Sarkar, Strong gravitational lensing by wormholes, *Journal of Cosmology and Astroparticle Physics*, 07, 28 (2019).
29. Suvankar Paul, Rajibul Shaikh, Pritam Banerjee and Tapobrata Sarkar, Observational signatures of wormholes with thin accretion disks, *Journal of Cosmology and Astroparticle Physics*, 03, 1 to 21, (2020).
30. Ritu Gupta, A. Thamizhavel, P. Rodière, S. Nandi, K.P. Rajeev and Zakir Hossain, Electrical resistivity under pressure and thermal expansion of LaPt<sub>2</sub>Si<sub>2</sub> single crystal, *J. Appl. Phys.*, 125, 143902 (2019).
31. Antu Laha, Sudip Malick, Ratnadwip Singha, Prabhat Mandal, P.V. Rambabu Kanchana and Zakir Hossain, Magnetotransport properties of the correlated topological nodal-line semimetal YbCdGe, *Phys. Rev. B*, 99, 241102(R) (2019).
32. Ravindra Kumar, Biswanath Samantaray and Zakir Hossain, Ferromagnetic resonance studies of strain tuned Bi:YIG films, *J. Phys.: Condens. Matter*, 31, 435802, (2019).
33. Pramod Ghising and Zakir Hossain, Electric field control of photoinduced effect in La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub>/LaTiO<sub>3</sub>/SrTiO<sub>3</sub> heterostructure, *Phys. Rev. B*, 100, 115119 (2019).
34. Rama Chand Sahoo, Y ra Takeuchi and Zakir Hossain, Exchange bias and spin glass states driven by antisite disorder in the double perovskite compound LaSrCoFeO<sub>6</sub>, *Phys. Rev. B*, 6 (2019).
35. Pramod Ghising, Biswanath Samantaray and Zakir Hossain, Spin inhomogeneities at the interface and inverted hysteresis loop in La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub>/SrTiO<sub>3</sub>, *Phys. Rev. B*, 101, 024408 (2020).
36. Vinay Malvimat, Gautam Sengupta and Sayid Mondal, Time Evolution of Entanglement Negativity from Black Hole Interiors, *Journal of High Energy Physics*, JHEP 05, 183, 25 pages, (2019).

37. Vinay Malvimat, Sayid Mondal, Boudhayan Paul and Gautam Sengupta, Covariant holographic entanglement negativity for disjoint intervals in AdS<sub>3</sub>/CFT<sub>2</sub>, European Physical Journal, European Physical Journal, 79 (2019) 6, 514, 17 pages, (2019).
38. Parul Jain, Vinay Malvimat, Sayid Mondal and Gautam Sengupta, Covariant holographic entanglement negativity for adjacent subsystems in AdS<sub>3</sub>/CFT<sub>2</sub>, Nuclear Physics B, Nucl. Phys. B 945, 114683, 18 pages (2019).
39. Vinay Malvimat, Himanshu Parihar, Boudhayan Paul and Gautam Sengupta, Entanglement negativity in Galilean conformal field theories, Physical Review D, Phys. Rev. D 100, 2, 026001, 12 Pages (2019).
40. Parul Jain, Vinay Malvimat, Sayid Mondal and Gautam Sengupta, Holographic entanglement negativity conjecture for adjacent intervals in AdS<sub>3</sub>/CFT<sub>2</sub>, Physics Letters B, Phys.Lett.B 793, 104-109 (2019)
41. Ranjeev Misra, Divya Rawat, JS Yadav and Pankaj Jain, Identification of QPO frequency of GRS 1915+105 as the relativistic dynamic frequency of a truncated accretion disk, Astrophys. J.Lett., 889,L36(2020).
42. Prabhakar Tiwari, Shamik Ghosh and Pankaj Jain, The galaxy power spectrum from TGSS ADR1 and the effect of flux calibration systematics, 887, 175 (2019).
43. Khun Sang Phokon, Anuradha Gupta, Sukanta Bose and Pankaj Jain, Effect of orbital eccentricity on the dynamics of precessing compact binaries, Phys.Rev.D , 100, 12, 124008 (2019).
44. Shamik Ghosh and Pankaj Jain, A Pixel Space Method for Testing Dipole Modulation in the CMB Polarization, MNRAS, 492, 3, 3994 (2020).
45. Prasenjit Sanyal, Alekha Nayak, Gopal Kashyap and Pankaj Jain, Cosmological Dark Matter in a Conformal Model, Phys.Rev.D , 100,11,115032, (2019).
46. M. Zuberi, S. Ahmad, M. Chakraborty, A. Chandra, S. R. Dugad, S. K. Gupta, B. Hariharan, Y. Hayashi, P. Jagadeesan, A. Jain, P. Jain, V. B. Jhansi, S. Kawakami, S. Mahapatra, P. K. Mohanty, S. D. Morris, P. K. Nayak, A. Oshima, D. Pattanaik, P. S. Rakshe, K. Ramesh, B. S. Rao, L. V. Reddy and F. Varsi, Simulation of atmospheric pressure dependence on GRAPES-3 particle density, Experimental Astronomy, 49, 61–71(2020).
47. Raghwendra Kumar and S. Anantha Ramakrishna, Simple trilayer metamaterial absorber associated with Fano-like resonance, Journal of Nanophotonics, 14, 016011 (2020).
48. Kajal Chaudhary, Gaganpreet Singh, J Ramkumar, S Anantha Ramakrishna, Kumar Vaibhav Srivastava and Praveen C Ramamurthy, Optically transparent protective coating for ITO-coated PET-based microwave metamaterial absorbers, IEEE Transactions on Components, Packaging and Manufacturing Technology, 10, 378-388 (2020).

49. M Saikia, KV Srivastava and SA Ramakrishna, Frequency Shifted Reflection of Electromagnetic Waves Using a Time-modulated Active Tunable Frequency Selective Surface, IEEE Transactions on Antennas and Propagation, 68, 2937-2944 (2019).
50. Saleem Shaik, Anjani K Tiwari and SA Ramakrishna, Alcohol sensor based on gold-coated nanoporous anodic alumina membrane, Pramana – journal of Physics, 93, 30 (2019).
51. Gaganpreet Singh, Harsh Sheokand, Kajal Chaudhary, Kumar Vaibhav Srivastava, J Ramkumar and S Anantha Ramakrishna, Fabrication of a non-wettable wearable textile-based metamaterial microwave absorber, Journal of Physics D: Applied Physics, 52, 385304 (2019).
52. Abhinav Bhardwaj, Kumar Vaibhav Srivastava and S Anantha Ramakrishna, Enhanced Coupling of Light From Subwavelength Sources Into a Hyperbolic Metamaterial Fiber, Journal of Lightwave Technology, 37, 3064-3072 (2019).
53. Shashank Sharma, Vijay Mandal, SA Ramakrishna and J Ramkumar, Numerical simulation of melt pool oscillations and protuberance in pulsed laser micro melting of SS304 for surface texturing applications, Journal of Manufacturing Processes, 39, 282-294 (2019).
54. Rajesh Kumar, Faraz A Inam, Anh Ly, Carlo Bradac and S Anantha Ramakrishna, Silver Columnar Thin-Film-Based Half-Wavelength Antennas for Bright Directional Emission from Nanodiamond Nitrogen-Vacancy Centers, Physical Review Applied, 11, 034002 (2019).
55. Sagar Paul, Ganesh Kotagiri, Harsh Parashari, Hervé Courtois, Clemens Winkelmann and Anjan K. Gupta, Probing magnetism of individual nano-structures using Nb-SQUIDs in hysteresis free mode, J. Mag. Mag. Mater., 503, 166625 (2020).
56. Sourav Biswas, C. B. Winkelmann, H. Courtois, Thierry Dauxois, Hillol Biswas and Anjan K. Gupta, Elimination of thermal bistability in superconducting weak links by an inductive shunt, Phys. Rev. B, 101, 024501 (2020).
57. Vinod Kumar Dwivedi and Soumik Mukhopadhyay, Influence of electronic structure parameters on electrical transport and magnetic properties of  $Y_{2-x}Bi_xIr_2O_7$  pyrochlore iridates, J. Appl. Phys., 126, 165112 (2019).
58. Vinod Kumar Dwivedi and Soumik Mukhopadhyay, Coexistence of high electrical conductivity and weak ferromagnetism in Cr doped  $Y_2Ir_2O_7$  pyrochlore iridates, J. Appl. Phys., 125, 223901 (2019).
59. Vinod Kumar Dwivedi and Soumik Mukhopadhyay, Suppression of long-range magnetic ordering and electrical conduction in  $Y_{1.7}Bi_{0.3}Ir_2O_7$  thin film, J. Magn. Magn. Mater., 484, 313-319 (2019)

60. Vinod Kumar and Soumik, Evolution of structural, magnetic and electrical transport properties of  $Y_{1.7}Bi_{0.3}Ir_2O_7$  thin film grown on YSZ (100) substrate by PLD, *Physica B*, 571, 137-141 (2019).
61. Manas khan, Kathryn Regan and Rae M. Robertson-Anderson, Optical Tweezers Microrheology Maps the Dynamics of Strain-Induced Local Inhomogeneities in Entangled Polymers, *Phys. Rev. Lett.*, 123, 038001-1 to 6 (2019).
62. Mahendra Kumar Verma, Ali Asad, and Soumyadeep Chatterjee, COVID-19 Pandemic: Power Law Spread and Flattening of the Curve Transactions of the Indian National Academy of Engineering, 5, 1 (2020).
63. Mahendra Kumar Verma, Shadab Alam, and Soumyadeep Chatterjee, Turbulent drag reduction in magnetohydrodynamic and quasi-static magnetohydrodynamic turbulence, *Physics of Plasmas*, 27, 052301 (2020).
64. Mahendra Kumar Verma, Boltzmann equation and Hydrodynamic equations: Their equilibrium and nonequilibrium behaviour *Philosophical Transactions A*, In press (2020).
65. Mahendra Kumar Verma, Roshan Samuel, Soumyadeep Chatterjee, Shashwat Bhattacharya, and Ali Asad Challenges in fluid flow simulations using Exascale computing *S. N. Computer Science*, 1, 178 (2020).
66. Franck Plunian, Andrei Teimurazov, RodionStepanov, and Mahendra Kumar Verma, Inverse cascade of energy in helical turbulence, *Journal of Fluid Mechanics*, 865, A13, (2020).
67. Mohammad Anas, and Mahendra Kumar Verma, Modelling Ekman and quasi-static magnetohydrodynamic turbulence using Pao's hypothesis, *Physical Review Fluids*, 4, 104611 (2019).
68. Akanksha Gupta, Rohith Jayaram, Anando Gopal Chatterjee, Shubhadeep Sadhukhan, Ravi Samtaney, and Mahendra Kumar Verma, Energy and enstrophy spectra and fluxes for the inertial-dissipation range of two-dimensional turbulence, *Physical Review E*, 100, 053101 (2019).
69. Shashwat Bhattacharya, Shubhadeep Sadhukhan, Anirban Guha, and Mahendra Kumar Verma, Similarities between the structure functions of thermal convection and hydrodynamic turbulence, *Physics of Fluids*, 31, 115107 (2019).
70. Franck Plunian, RodionStepanov, and Mahendra Kumar Verma, On uniqueness of transfer rates in magnetohydrodynamic turbulence, *J. Plasma Phys.*, 85, 905850507 (2019).
71. Andrei Vasilev, Peter Frick, Abhishek Kumar, Rodion Stepanov, Andrei Sukhanovskii, and Mahendra Kumar Verma, Transient flows and reorientations of large-scale convection in a cubic cell, *Int. Commun. Heat Mass Transfer*, 108, 104319 (2019).

72. Mahendra Kumar Verma, Asymmetric energy transfers in driven nonequilibrium systems and arrow of time, *European Physical Journal B*, 90, 190 (2019).
73. Manohar Kumar Sharma, Mahendra Kumar Verma, and Sagar Chakraborty, Anisotropic energy transfers in rapidly rotating turbulence, *Physics of Fluids*, 31, 085117 (2019).
74. Shubhadeep Sadhukhan, Roshan Samuel, Franck Plunian, Rodion Stepanov, Ravi Samtaney, and Mahendra Kumar Verma, Enstrophy transfers in helical turbulence, *Physical Review Fluids*, 4, 084607 (2019).
75. Jayanta Kumar Bhattacharjee, Abhishek Kumar, and Mahendra Kumar Verma, Turbulence in a stably stratified fluid: Onset of global anisotropy as a function of the Richardson number *Physica Scripta*, 94, 125008 (2019).
76. Yada Nandukumar, Suman Chakraborty, Mahendra Kumar Verma, and Rajaram Lakkaraju, On heat transport and energy partition in thermal convection with mixed boundary conditions, *Physics of Fluids*, 31, 066601 (2019).
77. Shadab Alam, Anirban Guha, and Mahendra Kumar Verma, Revisiting Bolgiano-Obukhov scaling for moderately stably stratified turbulence, *Journal of Fluid Mechanics*, 875, 961 (2019).
78. Shashwat Bhattacharya, Ravi Samtaney, and Mahendra Kumar Verma, Scaling and spatial intermittency of thermal dissipation in turbulent convection, *Physics of Fluids*, 31, 075104 (2019).
79. Mahendra Kumar Verma, Contrasting turbulence in stably stratified flows and thermal convection, *Physica Scripta*, 94, 064003 (2019).
80. Sumit Vashishtha, Roshan Samuel, Anando Gopal Chatterjee, Ravi Samtaney, and Mahendra Kumar Verma, Large eddy simulation of hydrodynamic turbulence using renormalized viscosity, *Physics of Fluids*, 31, 065102 (2019).
81. R. Sharma, SD Edkins, Z. Wang, A Kostin and C Sow, Momentum-resolved superconducting energy gaps of  $\text{Sr}_2\text{RuO}_4$  from quasiparticle interference imaging, *PNAS*, 117, 5222 (2020).
82. MS Anwar, M Kunieda, R Ishiguro, SR Lee, C Sow, JWA Robinson, S. Yonezawa, TW Noh and Y Maeno, Anomalous anisotropic behaviour of spin-triplet proximity effect in  $\text{Au}/\text{SrRuO}_3/\text{Sr}_2\text{RuO}_4$  junctions, *Sci. Rep.* 9, 15827 (2019).
83. M-C Lee, CH. Kim, I Kwak, CW Seo, C Sohn, F Nakamura, C. Sow, Y Maeno, EA Kim, TW Noh and KW Kim, Strong spin-phonon coupling unveiled by coherent phonon oscillations in  $\text{Ca}_2\text{RuO}_4$ , *Phys. Rev. B*, 99, 14430 (2019).
84. J. Zhang, AS. McLeod, Q. Han, X. Chen, HA. Bechtel, Z. Yao, SNG. Corder, T. Ciavatti, TH. Tao, M. Aronson, GL. Carr, MC. Martin, C. Sow, S. Yonezawa, F. Nakamura, I. Terasaki, DN.

- Basov, A.J. Millis, Y. Maeno and M. Liu., Nano-Resolved Current-Induced Insulator-Metal Transition in the Mott Insulator  $\text{Ca}_2\text{RuO}_4$ , *Phys. Rev. X*, 9, 011032 (2019).
85. S. Nappini and A Agarwal, Transition-metal dichalcogenide  $\text{NiTe}_2$ : an ambient-stable material for catalysis and nano- electronics, *Advanced functional materials*, 2000915 (2020).
86. K. Sadhukhan, A. Politano and A. Agarwal, Novel Undamped Gapless Plasmon Mode in a Tilted Type-II Dirac Semimetal, *Phys. Rev. Lett.*, 124, 046803 (2020).
87. K. Das and A. Agarwal, Thermal and gravitational chiral anomaly induced magneto-transport in Weyl semimet- als, *Phys. Rev. Research*, 2, 013088, (2020).
88. B. Ghosh, S. Mardanya, B. Singh, X. Zhou, B. Wang, T.-R. Chang, C. Su, H. Lin, A. Agarwal, and A. Bansil, Saddle-point Van Hove singularity and dual topological state in  $\text{Pt}_2\text{HgSe}_3$ , *Phys. Rev. B*, 100, 235101 (2019).
89. B. Ghosh, D. Mondal, C.-N. Kuo, C. S. Lue, J. Nayak, J. Fujii, I. Vobornik, A. Politano, and A. Agarwal, Observation of bulk states and spin-polarized topological surface states in transition metal dichalcogenide Dirac semimetal candidate  $\text{NiTe}_2$ , *Phys. Rev. B*, 100, 195134 (2019).
90. W.-C. Chiu, M. M. Hosen, Q. Zhang, Li Ying, M. Neupane, A. Agarwal, H. Lin, and A. Bansil, Topological crystalline insulator state with type-II Dirac fermions in transition metal dipnictides, *Phys. Rev. B*, 100, 205118 (2019).
91. K. Sonowal, A. Singh and A. Agarwal, Giant optical activity and Kerr effect in type-I and type-II Weyl semimet- als, *Phys. Rev. B*, 100, 085436(2019).
92. K. Das and A. Agarwal, Berry curvature induced thermopower in type-I and type-II Weyl semimetals, *Phys. Rev. B*, 100, 085406 (2019).
93. S. Mardanya, B. Singh, S.-M. Huang, T.-R. Chang, C. Su, H. Lin, A. Agarwal, and A. Bansil, Prediction of three-fold fermions in a nearly-ideal Dirac semimetal  $\text{BaAgAs}$ , *Phys. Rev. Materials*, 3, 071201R (2019).
94. Kaushik Bhattacharya and Pritha Bari, Evolution of scalar and vector cosmological perturbations through a bounce in metric  $f(R)$  gravity in flat FLRW spacetime, *Journal of Cosmology and Astroparticle Physics*, 11, 19 (2019).
95. Kaushik Bhattacharya, Dipanjan Dey, Arindam Mazumdar and Tapobrata Sarkar, New class of naked singularities and their observational signatures, *Physical Review D*, 101, 043005 (2020).
96. Ritu Gupta, A Thamizhavel, P Rodiere, S Nandi, K P Rajeev and Z Hossain, Electrical resistivity under pressure and thermal expansion of  $\text{LaPt}_2\text{Si}_2$  single crystal, *Journal of Applied Physics*, 125, 143902(article number) (2019).



97. Joydeep Chakraborty and FCC Collaboration, FCC Physics Opportunities : Future Circular Collider Conceptual Design Report Volume 1, Eur.Phys.J.C, 79, 6, 474 (2019).
98. Joydeep Chakraborty and FCC Collaboration, HE-LHC: The High-Energy Large Hadron Collider : Future Circular Collider Conceptual Design Report Volume 4, Eur.Phys.J.ST, 228, 5, 1109(2019).
99. Joydeep Chakraborty and FCC Collaboration, FCC-hh: The Hadron Collider : Future Circular Collider Conceptual Design Report Volume 3, Eur.Phys.J.ST , 228, 4, 755 (2019).
100. Joydeep Chakraborty and FCC Collaboration, FCC-ee: The Lepton Collider : Future Circular Collider Conceptual Design Report Volume 2, Eur.Phys.J.ST, 228, 2, 261 (2019).
101. Joydeep Chakraborty, Rinku Maji and Stephen F. King, Unification, Proton Decay and Topological Defects in non-SUSY GUTs with Thresholds, Physical Review D, 99, 9, 095008 (2019).
102. Anisha, Anisha, Supratim Das Bakshi, Joydeep Chakraborty and Suraj Prakash, Hilbert Series and Plethystics: Paving the path towards 2HDM- and MLRSM-EFT, Journal of High Energy Physics, 1909, 035, (2019).
103. Renaud Ferrand, sebastien Galtier, Fouad Sahraoui, Romain Meyrand, Nahuel Andres and Supratik Banerjee, On Exact Laws in Incompressible Hall Magnetohydrodynamic Turbulence, The Astrophysical Journal, 881, 50(1-6)(2019).
104. Sukhdev Mouraya and Supratik Banerjee, Determination of energy flux rate in homogeneous ferrohydrodynamic turbulence using two-point statistics, Physical Review E, 100, 053105 (1-6) (2019).
105. Ranjeev Misra, Divya Rawat, J. S. Yadav and Pankaj Jain, Identification of QPO Frequency of GRS 1915+105 as the Relativistic Dynamic Frequency of a Truncated Accretion Disk, The Astrophysical Journal Letters, 889L, 36-42 (2020).
106. Sneha Prakash Mudambi, Bari Maqbool, Ranjeev Misra, Sobhya Hebbar, J. S. Yadav, Shivappa B. Gudennavar and S. G. Bubby, Unveiling the Temporal Properties of MAXI J1820+070 through AstroSat Observations, The Astrophysical Journal Letters, 889L, 17-20 (2020).
107. Pranjupriya Goswami, Atreyee Sinha, Sunil Chandra, Ranjeev Misra, Varsha Chitnis, Rupjyoti Gogoi, Sunder Sahayanathan, C. S. Stalin, K. P. Singh and J. S. Yadav, Unravelling the unusually curved X-ray spectrum of RGB J0710 + 591 using AstroSat observations, Monthly Notices of the Royal Astronomical Society, 492, 796-803 (2020).
108. Tomaso M. Belloni, Dipankar Bhattacharya, Pietro Caccese, Verun Bhalerao, Santosh Vadawale and J. S. Yadav, A variable-frequency HFQPO in GRS 1915+105 as observed with AstroSat, Monthly Notices of the Royal Astronomical Society, 489, 1037-1043, (2019).

109. Yashpal Bhulla, Ranjeev Misra, J. S. Yadav, S. N. A. Jaaffrey and AstroSat observation of GX 5-1: spectral and timing evolution, *Research in Astronomy and Astrophysics*, 19, 114-125 (2019).
110. Bari Maqbool, Sneha Prakash Mudambi, R. Misra, J. S. Yadav, S. B. Gudennavar, S. G. Bubbly, A. Rao, S. Jogadand, M. K. Patil, S. Bhattacharyya and K. P. Singh, A stochastic propagation model to the energy dependent rapid temporal behaviour of Cygnus X-1 as observed by AstroSat in the hard state, *Monthly Notices of the Royal Astronomical Society*, 486, 2964-2975 (2019).
111. Gyana Ranjan Sahoo, Rajib N Dey, Nandan Das, Nirmaiya Ghosh and Asima Pradhan, Two dimensional multifractal detrended fluctuation analysis of low coherence images for diagnosis of cervical precancer, *Biomedical Physics & Engineering Express*, 6, 025011 (2020).
112. Aviru Kumar Basu, Amar Nath Sah, Mayank Manjul Dubey, Prabhat Dwivedi, Asima Pradhan and Shantanu Bhattacharya, MWCNT and  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> embedded rGO-nanosheets based hybrid structures for room temperature chloroform detection using fast response/ recover cantilever based sensors, *Sensors and Actuators B: Chemical*, 305, 127457 (2020).
113. Mohammad Zafar and Asima Pradhan, Assessment of anisotropy of collagen structures through spatial frequencies of Muller matrix images for cervical precancer detection, *Applied Optics*, 59, 1237-1248 (2020).
114. Pavan Kumar, Surendra Kumar Kanaujia, Asutosh Singh and Asima Pradhan, In vivo detection of oral precancer using a fluorescence based, in-house fabricated device: a Mahalanobis distance-based classification, *Lasers in Medical Science*, 34, 1243-1251 (2020).
115. Prabodh Kumar Pandey, Omprakash Gottam, Naren Naik and Asima Pradhan, Comparative study of one-step and two-step quantitative fluorescence photo-acoustic tomography, *Applied Optics*, 58, 3116-3127 (2019).
116. Sonu Verma, Arjit kundu and Tarun Kanti Ghosh, RKKY interaction in Mn-doped  $4 \times 4$  Luttinger systems, *Journal of Applied Physics*, 125, 233903-1-8 (2019).
117. Arijit Kundu, Mark Rudner, Erez Berg and Netanel Lindner, Quantized large-bias current in the anomalous Floquet-Anderson insulator, *Physical Review B (Rapid Communication)*, 101, 041403-1-6 (2020).
118. Sonu Verma, Debasmita Giri, Herb Fertig and Arijit Kundu, RKKY coupling in Weyl semimetal thin films, *Physical Review B*, 101, 085419-1-12 (2020).
119. Anuj Ram Baitha, Ayesha Nanda, Sargam Hunjan and Sudeep Bhattacharjee, Steady state densities in a plasma confined by a dipole magnet: Diffusion induced transport explored through direct measurements and modelling, *AIP Advances*, 10, 045328-1 to 13, (2020).

120. Anuj Ram Baitha, Ayesha Nanda, Sargam Hunjan and Sudeep Bhattacharjee, Particle balance in a steady state plasma in a dipole magnetic field, *Plasma Research Express*, 1, 045005-1 to 12, (2019).
121. Sanjeev Kumar Maurya, Sushanta Barman, Nandita Pan and Sudeep Bhattacharjee, Effect of plasma and beam parameters on focal dimensions in micrometer charged particle optics: enhanced nonlinear demagnification below the Debye length, *Physics of Plasmas*, 26, 063103-1 to 15, (2019).
122. M. Sharma, P. K. Roy, J. Barman and K. Khare “Mobility of Aqueous and Binary Mixture Drops on Lubricating Fluid Coated Slippery Surfaces” *Langmuir* 35, 7672, (2019).
123. P. K. Roy, S. K. Ujjain, S. Dattatreya, S. Kumar, R. Pant and K. Khare “Mechanically Tunable Single Component Soft Polydimethylsiloxane (PDMS) Based Robust and Sticky Superhydrophobic Surfaces” *Applied Physics A125*, 535, (2019).
124. M. Sharma, S. S. Mondal, P. K. Roy and K. Khare “Evaporation Dynamics of Pure and Binary Mixture Drops on Dry and Lubricant Coated Slippery Surfaces” *Journal of Colloid and Interface Science* 569, 244 (2020).
125. D.K. Sharma and S.M. Tripathi, Chalcogenide glass microstructured optical fiber as a potential candidate for slow-light generation via stimulated Brillouin scattering, *Journal of Non-Crystalline Solids*, 542, 120114 (2020).
126. Garima Bawa, Krishnendu Dandapat, Gyanendra Kumar, Indrajeet Kumar, and S.M. Tripathi, Single-Multi-Single Mode Fiber Optic Structure Based Water Depth Sensor, *IEEE Sensors Journal*, 19, 6756 – 6762 (2019).
127. D.K. Sharma and S.M. Tripathi, Synopsis on optical attributes of chalcogenide glass solid-core hexagonal microstructured optical fibers in infrared regime, *Materials Chemistry and Physics*, 243, 122632 (2019).
128. D.K. Sharma and S.M. Tripathi, Splicing of silica-based MOF and standard SMF: Loss evaluation using an enhanced field model, *Optical Fiber Technology*, 53, 102030 (2019).
129. D.K. Sharma and S.M. Tripathi, Theoretical analysis for exploring the optical performance of solid-core polymer based microstructured optical fibers, *Physica B: Condensed Matter*, 572, 279-290 (2019).
130. D.K. Sharma and S.M. Tripathi, Implications of theoretical analysis to explore the functional core dimension in one-rod core microstructured optical fibers, *Optical and Quantum Electronics*, 51, 318 (2019).
131. S.M. Tripathi, K. Dandapat, W.J. Bock, P. Mikulic, J. Perreault, and B. Sellamuthu, Gold coated dual-resonance long-period fiber gratings (DR-LPFG) based aptasensor for cyanobacterial toxin detection, *Sensing and Bio-Sensing Research*, 25, 100289 (2019).

132. D.K. Sharma and S.M. Tripathi, Analysis of the beam divergence for one-rod core microstructured optical fibers, *Opto-Electronics Review*, 27, 224-231 (2019).
133. D.K. Sharma and S.M. Tripathi, Optical performance of tellurite glass microstructured optical fiber for slow-light generation assisted by stimulated Brillouin scattering, *Optical Materials*, 94, 196-205 (2019).
134. D.K. Sharma, S.M. Tripathi and A. Sharma, Modal analysis of high-index core tellurite glass microstructured optical fibers in infrared regime, *Journal of Non-Crystalline Solids*, 511, 147-160 (2019).
135. D. K. Sharma, A. Sharma, and S.M. Tripathi, Optimum splicing of high-index core microstructured optical fibers and traditional single-mode fibers using improved field model, *Optics and Laser Technology*, 109, 157-167 (2019).
136. Nitesh Kumar, Mengyu Yao, Jayita Nayak, Maia G. Vergniory, Jörn Bannier, Zhijun Wang, Niels B. M. Schröter, Vladimir N. Strocov, Lukas Muechler, Wujun Shi, Emile D. L. Rienks, J. L. Mañes, Chandra Shekhar, Stuart S. P. Parkin, Jörg Fink, Gerhard H. Fecher, Yan Sun, B. Andrei Bernevig, and Claudia Felser, Signatures of six-fold degenerate exotic fermions in a superconducting metal PdSb<sub>2</sub>, *Advanced Materials*, 32, 1906046 (2020).
137. J. Fink, J. Nayak, E. D. L. Rienks, J. Bannier, S. Wurmehl, S. Aswartham, I. Morozov, R. Kappenberger, M. A. ElGhazali, L. Craco, H. Rosner, C. Felser, and B. Büchner, Evidence of hot and cold spots on the Fermi surface of LiFeAs, *Phys. Rev. B*, 99, 245156 (2019).
138. Barun Ghosh, Debashis Mondal, Chia-Nung Kuo, Chin Shan Lue, Jayita Nayak, Jun Fujii, Ivana Vobornik, Antonio Politano and Amit Agarwal, Low-energy type-II Dirac fermions and spin-polarized topological surface states in transition-metal dichalcogenide NiTe<sub>2</sub>, *Phys. Rev. B*, 100, 195134 (2019).
139. Benedikt Ernst, Roshnee Sahoo, Yan Sun, Jayita Nayak, Lukas Muechler, Ajaya K. Nayak, Nitesh Kumar, Jacob Gayles, Anastasios Markou, Gerhard H. Fecher, and Claudia Felser, Anomalous Hall effect and the role of Berry curvature in Co<sub>2</sub>TiSn Heusler films, *Phys. Rev. B*, 100, 054445 (2019).
140. Ankit Kumar, Amit Jash, Tsuyoshi Tamegai and S. S. Banerjee, Imaging the effect of drive on the low-field vortex melting phenomenon in Ba<sub>0.6</sub>K<sub>0.4</sub>Fe<sub>2</sub>As<sub>2</sub> single crystal, *Phys. Rev. B*, 101, 184516 (2020).
141. Nirmal Roy, Arpita Sen, Prasenjit Sen and S. S. Banerjee, Localized spin waves at low temperatures in a Cobalt Carbide nanocomposite, *Journal of Applied Physics*, 127, 124301 (2020).

142. Amit Jash, Sayantan Ghosh, A. Bharathi, and S. S. Banerjee, Coupling-decoupling of conducting topological surface states in thick Bi<sub>2</sub>Se<sub>3</sub> single crystals, *Phys. Rev. B*, 101, 165119 (2020).
143. Ankit Kumar, Sayantan Ghosh, Tsuyoshi Tamegai, and S. S. Banerjee, Low-field vortex melting in a single crystal of Ba<sub>0.6</sub>K<sub>0.4</sub>Fe<sub>2</sub>As<sub>2</sub>, *Phys. Rev. B*, 101, 14502 (2020).
144. Amit Jash, Kamalika Nath, T. R. Devidas, A. Bharathi and S. S. Banerjee, A non-contact mutual inductance based measurement of an inhomogeneous topological insulating state in Bi<sub>2</sub>Se<sub>3</sub> single crystals with defects, *Phys. Rev. Applied*, 12, 14056 (2019).
145. Kamalika Nath, Jaivardhan Sinha and S.S Banerjee, Flipping anisotropy and changing magnetization reversal modes in nano-confined Cobalt structures, *Journal of Magnetism and Magnetic Materials*, 476, 412-416 (2019).
146. Najirul Islam, Tanmaoy Mondal, Sagar Chakraborty and Shyamal Biswas, Re-examining Einstein's B coefficient and rate equations with the Rabi model, *Journal of Statistical Mechanics: Theory and Experiment*, No volume number assigned, 113104 (1-22) (2019).
147. Manohar Kumar Sharma, Mahendra Kumar Verma and Sagar Chakraborty, Anisotropic energy transfers in rapidly rotating turbulence, *Physics of Fluids*, 31, 085117 (1-12) (2019).
148. Anurag Mondal, Basudeb Bhattacharjee, Jayanta Kumar and Sagar Chakraborty, Understanding order-chaos-order in the planar elastic pendulum, *Physica D*, 402, 132256(1-14) (2020).
149. Shubhajyoti Mohapatra, Sreemayee Aditya, Rohit Mukherjee and Avinash Singh, Octahedral Tilting Induced Isospin Reorientation Transition in Iridate Heterostructures, *Phys. Rev. B*, 140409(R), 100 (2019).
150. Arjun Bagchi, Aditya Mehra and Poulami Nandi, Field Theories with Conformal Carrollian Symmetry, *Journal of High Energy Physics*, 108, 05 (2019).
151. Arjun Bagchi, Amartya Saha and Zodinmawia, BMS Characters and Modular Invariance, *Journal of High Energy Physics*, 138, 07 (2019).
152. Arjun Bagchi, Aritra Banerjee and Pulastya Parekh, The Tensionless Path from Closed to Open Strings, *Physical Review Letters*, 111601, 123 (2019) 11.
153. Arjun Bagchi, Rudranil Basu, Aditya Mehra and Poulami Nandi, Field Theories on Null Manifolds, *Journal of High Energy Physics*, 141, 02 (2020).
154. Arjun Bagchi, Aritra Banerjee, Shankhadeep Chakraborty and Pulastya Parekh, Exotic Origins of Tensionless Superstrings, *Physics Letters B*, 801, 135139 (2020).

155. Arjun Bagchi, Aritra Banerjee, Shankhadeep Chakraborty, Sudipta Dutta and Pulastya Parekh, A tale of three: tensionless strings and vacuum structure, *Journal of High Energy Physics*, 04 (2020), 061 (2020).
156. Avik Banerjee, Gautam Bhattacharyya, Debtosh chowdhury and Yann Mambrini, Dark matter seeping through dynamic gauge kinetic mixing, *Journal of Cosmology and Astroparticle Physics*, 12, 009(1-14) (2019).
157. Steven Abel, Quentin Bonnefoy and Debtosh chowdhury, BPS solutions for generalised Wess-Zumino models and their applications, *Journal of High Energy Physics*, 10, 242 (1-15) (2019).
158. Jason Baldes, Debtosh Chowdhury and Michel H.G. Tytgat, Forays into the dark side of the swamp, *Physical Review D*, 100, 095009(1-13) (2019).
159. Jorge de Blas, Debtosh Chowdhury, Marco Ciuchini, Antonio M. Coutinho, Otto Eberhardt, Marco Fedele, Enrico Franco, Giovanni Grilli di Cortona, Victor Miralles, Satoshi Mishima, Ayan Paul, Ana Penuelas, Maurizio Pierini, Laura Reina, Luca Silvestrini, Mauro Valli, Ryoutaro Watanabe and Norimi Yokozaki, HEPfit: a code for the combination of indirect and direct constraints on high energy physics models, *The European Physical Journal C*, 80, 456(1-31) (2020).
160. Abu-Saleh Musa Patoary, Girish Kulkarni, and Anand Kumar Jha, Intrinsic degree of coherence of classical and quantum states, *JOSA B*, 36, 2765 (2019).
161. Abhinandan Bhattacharjee, Rishabh Sahu, and Anand Kumar Jha, Generation of a Gaussian Schell-model field as a mixture of its coherent modes, *Journal of Optics*, 21, 105601 (2019).
162. Nilakantha Meher, Abu-Saleh Musa Patoary, Girish Kulkarni, and Anand Kumar Jha, Intrinsic degree of coherence of two-qubit states and measures of two-particle quantum correlations, *JOSA B*, 37, 1224 (2020).
163. S Singh, YN Mohapatra, TIPS-pentacene based MIS structure using a polymer insulator: role of interface traps studied using HMDS treatment, frequency and light intensity- *Physica Scripta*, 95, 055812 (2020).
164. Akanksha Gupta, Rupak Mukherjee, and Rajaraman Ganesh, “Viscoelastic effects on asymmetric two-dimensional vortex patterns in a strongly coupled dusty plasma”, *Contrib. Plasma Phys.* 2019;e201800189 (2019).
165. Rajibul Shaikh and Pankaj S. Joshi, “Can we distinguish black holes from naked singularities by the images of their accretion disks?”, *JCAP* 10, 064 (2019).
166. N. Meher, “Perfect quantum state transfer in Glauber-Fock cavity array”, *Int. J. Theor. Phys.*, 59, 218-228 (2020).

167. N. Meher and S. Sivakumar, "Atomic switch for control of heat transfer in coupled cavities", *J. Opt.Soc. Am. B*, 37, 138-147 (2020).
168. N. Meher and S. Sivakumar, "Enhancing phase sensitivity with number state filtered coherent states", *Quantum Information Processing*, 19, 51 (2020).
169. N. Meher, "Scheme for realizing quantum dense coding via entanglement swapping", *J. Phys. B: At. Mol. Opt. Phys.* 53, 065502 (2020).
170. Garima Mishra, Lavi Bigman and Yaakov Levy, ssDNA diffuses along replication protein A via a reptation mechanism *Nucleic Acids Research*, vol 48, p. 1701 (2020).