Curriculum Vitae

AMAR PRASAD MISRA

Email:apmisra@visva-bharati.ac.in; apmisra@gmail.com
Mobile: +91 9433 368 843; +91 8240 766 193
URL:https://publons.com/researcher/583526/amar-prasad-misra/
https://vidwan.inflibnet.ac.in/profile/155499
http://www.scopus.com/authid/detail.url?authorId=7402454191

Date and Country of Birth: 27 September 1973; India.

Positions held: 2004-2005: Assistant Professor, Department of Basic Science and Humanities, Techno India College, Kolkata, India.
01 March 2005 to 28 Feb 2017: Assistant Professor, Department of Mathematics, Visva-Bharati (A Central University), Santiniketan-731 235, India.
01 March 2017 to till date: Associate Professor, Department of Mathematics, Visva-Bharati (A Central University), Santiniketan-731 235, India.

Educational Profile:

- B. Sc. (Hons. in Mathematics) with 1st class, University of Calcutta, Kolkata, India (1995).
- M. Sc. (Applied Mathematics) with 1st class, University of Calcutta, Kolkata, India (1997).
- Ph. D. (Sc.) in Theoretical Plasma Physics, Department of Physics, Jadavpur University, Kolkata-700 032, India (Admitted to the Degree on 08.12.2006).
- Postdoctoral Fellow, Department of Physics, Umeå University, Umeå, SE-901 87, Sweden (01 October 2009 to 30 September 2011).

Area of Research Interests:

Plasma Physics and Material Sciences, Magnetohydrodynamics, Nonlinear Dynamics, Dynamical systems, Chaos based Cryptography and Networking

- Basic plasma waves, Instabilities, Solitary waves, Formation of double layers, Shocks, Modulational instability, Envelope solitons, Laser-plasma interactions.
- Surface plasmons at the interface of plasma-vacuum/ plasma-metal, metal-crystal, plasmas with different densities.
- Pattern formation, Chaotic (Temporal and Spatiotemporal) Dynamics, Plasma wave turbulence.
- Atmospheric waves, Acoustic-gravity waves.

Research Supervision/ Mentorship: (i). **Ph. D. degree awarded: 06**
(ii). Working for the Ph. D. degree: 05
(iii) Working as a postdoctoral fellow: 01

Editorial Board member (Advisory): Physica Scripta (IOP Sciences)

Invited Speaker/ Committee Member:

1. Presented a paper in the VIII Ramanujan Symposium on *Recent Developments In Nonlinear Systems* held during 14-16 Feb 2001 at The Ramanujan Institute For Advanced Study In Mathematics, University of Madras, Chennai, India.

2. Participated in the national conference on *Contemporary Issues In Nuclear And Particle Physics* held during 14-15 Dec 2001 in the Department of Physics, Jadavpur University, Kolkata-700 032, India.

3. Presented a paper in the Seminar on *Recent Advances in Mathematical Physics held* during 12-13 March 2002 in the Department of Applied Mathematics, University of Calcutta, India.

4. Presented a paper in a UGC-DSA Programme held on 25 March 2003 at the Department of Applied Mathematics, University of Calcutta, India.

5. Participated in the DST sponsored First National Workshop on *Techniques in Applied Mathematics* held during 18-28 Oct 2005 in the Department of applied Mathematics, University of Calcutta, India.

6. Participated in and completed the *2007 Summer College on Plasma Physics* held during 30 July -24 Aug 2007 at The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.

7. Invited talk in the seminar on "*Recent Trends in Theoretical Physics and Applied Mathematics*" held on 29 September 2007 at the Institute of Theoretical Physics, 4/1, Mohan Bagan Lane, Kolkata-700 004, India.

8. Invited talk in the workshop on "*Mathematics and Contemporary Physics*" held on 25 January, 2008 in the epartment of Mathematics, Jadavpur University, Kolkata-700 032, India.

9. Participated in and completed the *International workshop on the Frontiers of Modern Plasma Physics* held at The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy during 14.07.2008 to 25.07.2008.

10. Jt. Convener in the three-day National Seminar on "*Advances in Nonlinear Systems*" held in the Department of Mathematics, Visva-Bharati University, Santiniketan, India during February 21-23, 2009.

11. Participated in and completed the *Summer College on Plasma Physics* held at The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy during 10.08.2009 to 28.08.2009.

12. Invited talk titled "Wave-wave interactions in quantum plasmas" in the *International Advanced Workshop on the Frontiers of Plasma Physics* (5-16 July, 2010), The Abdus Salam ICTP, Trieste, Italy.

13. Invited talk titled "Spin-ponderomotive force in plasmas" in the *International Advanced Workshop on the Frontiers of Plasma Physics* (5-16 July, 2010), The Abdus Salam ICTP, Trieste, Italy.

14. Participated in the *6th International Conference on the Physics of Dusty Plasmas* (ICPDP2011) (May 16-20, 2011; Garmisch-Partenkirchen, Germany).

15. Committee member and Invited talk titled "Stability and evolution of wave envelopes in strongly coupled degenerate plasmas" in the *International Topical Conference on Plasma Science: Strongly Coupled Ultra-Cold and Quantum Plasmas* (Sept. 12-14, 2011; Lisbon, Portugal).

16. Committee member in the *National Seminar on Nonlinear Aspects of Analysis & Algebra* (NAAA-2012) (March 24-25, 2012; Department of Mathematics, Visva-Bharati University, Santiniketan, India).

17. Invited talk in the Departmental Seminar of Department of Mathematics & Statistics, IISER Kolkata (28 March, 2012) Haringhata, Nadia, India.

18. Invited talk in the National Seminar on Mathematics & Applications (NSMA-2012, 28-29 March, 2012), Department of Mathematics, The University of Burdwan, Burdwan, India.

19. Committee member in the *International Topical Conference on Plasma Science: Advanced Plasma Concepts* (Sept. 24-28, 2012; Faro, Portugal).

20. Invited talk titled "Nonlinear interaction of waves in plasmas: Evolution of spatiotemporal chaos" in the National Workshop on Nonlinear Waves: Theory and Simulation (14-18 January, 2013), Department of Mathematics, National Institute of Technology, Durgapur, India.

21. Committee member in the *National Seminar on Mathematics for nonlinear systems,* Department of Mathematics, Siksha Bhavana, Visva-Bharati, Santiniketan, India (17-18 March, 2013).

22. Invited talk titled "Modelling of quantum plasmas: some applications" in the International conference on nonlinear science and engineering (23-24 Dec, 2013), College of Engg. & Management, Kolaghat, India.

23. Presented a paper in the 3rd Internal Conference on Mathematics & Applications (28-30 January, 2014), Department of Mathematics, University of Burdwan, Burdwan, India.

24. Presented a paper in the National Conference on Emerging trends in physics of fluids

& solids 06-07 March, 2014), Department of Mathematics, Jadavpur University, Kolkata, India.

25. Presented a paper in the 3rd International symposium on Complex dynamical systems and applications (10-12 March, 2014), Indian Statistical Institute, Kolkata, India.

26. Convener in the National seminar on Recent perspectives on nonlinear mathematics & Applications (25-26 March, 2014), Department of Mathematics, Visva-Bharati University, Santiniketan, India.

27. Presented a poster titled "Nonlinear Landau damping and wave modulation in a nonextensive pair plasma" in the 30th National symposium on Plasma Science and Technology (1-4 Dec., 2015), Saha Institute of Nuclear Physics, Kolkata, India.

28. Invited talk titled "Generation of rogue waves in geophysical fluids and plasmas" In the National seminar on Nonlinear & Complex Phenomena on Plasmas and Fluids (21 Jan., 2016), Centre for Plasma Studies, Jadavpur University, Kolkata, India.

29. Invited talk titled "Landau damping of wave envelopes in pair plasmas" in the 4th International conference on Complex Dynamical Systems & Applications (15-17 Feb. 2016), NIT, Durgapur, India.

30. Committee member and Convener in the National Conference on Computational Mathematics and Nonlinear Dynamics (19-21 Feb 2016), Department of Mathematics, Visva-Bharati, Santiniketan, India.

31. Invited talk titled "Nonlinear Landau damping and modulation of electrostatic waves in pair plasmas" in the International Conference on Frontiers of Physics and Plasma Science (FPPS-2016) (7-8 Nov 2016), Ujjain Engg. College, Ujjain, MP, India.

32. Invited lectures titled "Basics of dusty plasma theory" in the DST-SERB School on Plasma Theory (9-29 Nov 2016), IASST, Guwahati, India.

33. Presented a paper in the International Conference on Nonlinear systems and Dynamics (16-18 Dec 2016), IISER Kolkata, India.

34. Invited talk titled "Landau damping due to group velocity and multi-plasmon resonances in plasmas" in the national seminar on Recent developments in plasma physics (27 Feb 2017), Jadavpur University, Kolkata-700 032.

35. Invited talk titled "Nonlinear interaction of high-frequency and low-frequency waves in plasmas" and Scientific advisory committee member in the National conference on Plasma physics and nonlinear dynamics 2017 (23-24 March 2017), JIS University, Agarpara, Kolkata.

36. Committee member in Collaborative conference on Plasma Physics (CCPP) (4-8 September 2017), Budapest, Hungary.

37. Invited talk titled "Nonlinear Landau damping of electrostatic waves in quantum plasmas" in the 1st Asia-Pacific conference on plasma physics (18-23 September 2017), Chengdu, China.

38. Invited talk titled "Nonlinear interaction of waves in plasmas-a simulation approach" in the 32nd National Symposium On Plasma Science & Technology (7-10 November 2017), Gandhinagar, India.

39. Invited talk titled "Revisiting Mathematics-past, present and future" in memory of Srinivasa Ramanujan (8 March 2018), Mugberia Gangadhar Mahavidyalaya, Mugberia, Purba Medinipur, India.

40. Delivered a series of lectures on Nonlinear Landau damping and surface waves in plasmas (17 to 22 April 2018), Department of Physics, Guru Nanak Dev University, Amritsar, India.

41. Invited talk titled "Nonlinear differential equations: Applications to biological and physical sciences " (28 September 2018), Amity University, Kolkata, India.

42. Invited talk titled "Surface plasmons in a massless Dirac plasma" in the 2nd Asia-Pacific conference on plasma physics (12-17 November 2018), Kanazawa, Japan.

43. Invited talk titled "Surface plasmon in graphene and semiconductor plasmas" in the International conference on Photonics, Metamaterials & Plasmonics (PMP-2019, 14-16 February 2019), Jaypee Institute of Information Technology (JIIT), Noida, India.

44. Invited talk titled "Wakefield generation and the formation of EM soliton in relativistic plasmas" in the 22nd National conference on atomic and molecular physics (25-28 March 2019), IIT Kanpur, India.

45. Invited talk titled "Mathematical theory and structures of nonlinear waves in plasmas" in the international conference on applied mathematics in science and engineering (24-26 Oct 2019), SOA University, Bhubaneswar, India.

46. Invited talk titled "Stimulated scattering in relativistic plasmas" in the 3rd Asia-Pacific conference on plasma physics (AAPPS-DPP2019, 4-8 November 2019), Hefei, China.

47. Committee member in the 12th international conference on plasma science and applications (ICPSA 2019, 11-14 Nov 2019), University of Lucknow, India.

48. Invited talk titled "Stimulated Raman and Brillouin scattering instabilities in degenerate plasmas" in the 14th Asia-Pacific Physics Conference (APPC2019, 17-22 Nov 2019) Kuching, Malaysia.

49. Invited talk titled "Mathematics and its application in nonlinear sciences" in the celebration of National Mathematics Day (132nd Birth anniversary of Ramanujan, 23 Dec 2019), Deptt. of Appl. Maths. with Oceanology and Computer Programming, Vidyasagar University, India.

50. Invited talk titled "Mathematical theory and structures of nonlinear waves in fluids and plasmas" in the International conference on Mathematical sciences and applications (ICMA-2020, 27-29 Jan 2020), Department of Mathematics, Sacred Heart College, Tirupattur, India.

51. Invited talk titled "Generation of wakefields and electromagnetic solitons in degenerate plasmas" in the Scholars Colloquium on Plasma Physics (econference, 3-11 Sept 2020), organized by Physics Joint, Kolkata-32, India.

52. Invited talk titled "Landau damping due to multi-plasmon resonances in a degenerate plasma: A new nonlocal KdV equation" in the international econference on Plasma Theory and Simulations (PTS-2020, 14-15 Sept 2020), organized by the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilashpur, India.

Completed/Ongoing Projects

Completed:

Major research project titled “Nonlinear waves and instabilities at multiscales in plasmas”. PI: Dr. Amar Prasad Misra. Funding agency: University Grants Commission (UGC), India. Grant Sanctioned: Rs. 7,65,000. Duration: 01.07.2015 to 30.06.2018.

Ongoining:

Major research project titled “Electromagnetic solitons and nonlinear Landau damping in plasmas” (Sanctioned order/File no. CRG/2018/004475) for a duration of three years. PI: Amar Prasad Misra. Funding agency: Science and Engineering Research Board (SERB), India. Grant sanctioned: Rs. 19,14,948.00. Starting date: 27 March 2019 (for a period of 36 months).

Research Publications (reverse chronological)

(Phys. Rev. Lett.: 01, Phys. Rev. E: 13, Phys. Plasmas: 38, Others: 47)

1. Optical surface plasmons at a metal-crystal interface with the Drude-Lorentz model for material permittivity, A. P. Misra, M. Shahmansouri and N. Khoddam, Phys. Scr. 96, 015601 (2021) [8 pages].

2. Stability and evolution of electromagnetic solitons in relativistic degenerate laser plasmas, S. Roy and A. P. Misra, J. Plasma Phys 86, 905860611 (2020) [15 pages].

3. Large amplitude electromagnetic solitons in a fully relativistic magnetized electron-positron-pair plasma, G. Banerjee, S. Dutta and A. P. Misra, Adv. Space Res. 66, 2265-2273 (2020).

4. Synchronization in networks of coupled hyperchaotic CO_2 lasers, A. Roy, A. P. Misra and S. Banerjee, Phys. Scr., 95, 045225 (2020).

5. Generation of wakefields and electromagnetic solitons in relativistic degenerate plasmas, S. Roy, D. Chatterjee and A. P. Misra, Phys. Scr. 95, 015603 (2020).

6. Polarized Debye sheath in degenerate plasmas, M. Shahmansouri and A. P. Misra, Commun. Th. Phys., in press (2019).

7. Degenerating the butterfly attractor in a plasma perturbations model using nonlinear controllers, H. Natiq, S. Banerjee, A. P. Misra and M.R.M Said, Chaos, Solitons & Fractals 122, 58-68 (2019).

8. Dynamical properties of acoustic-gravity waves in the atmosphere, A. Roy, S. Roy and A. P. Misra, J. Atmos. Solar-Terrestrial Phys., 186, 78-81 (2019).

9. Chaos-based image encryption using vertical-cavity surface-emitting lasers, A. Roy, A. P. Misra and S. Banerjee, Optik 176, 119-131 (2019).

10. Surface plasmon oscillations in a semi-bounded semiconductor plasma, M. Shahmansouri and A. P. Misra, Plasma Sci. Technol. 20, 025001 (2018).

11. Characteristics of solitary waves in a relativistic degenerate ion beam driven magnetoplasma, M. K. Deka, A. N. Dev, A. P. Misra and N. C. Adhikary, Phys. Plasmas 25, 012102 (2018) [8 pages].

12. Surface plasmons in a semi-bounded massless Dirac plasma, M. Shahmansouri, R. Aboltaman and A. P. Misra, in press, Phys. Lett. A 382, 2133-2136 (2018).

13. Modulation of kinetic Alfven waves in an intermediate magnetoplasma, D. Chatterjee and A. P. Misra, Phys. Plasmas, 25, 052121 (2018) [7 pages].

14. Stimulated scattering instability in a relativistic plasma, A. P. Misra and D. Chatterjee, Phys. Plasmas 25, 062116 (2018) [6 pages]

15. Nonlinear ion-acoustic solitary waves in an electron-positron-ion plasma with a relativistic positron beam, R. Sharma, A. P. Misra, and N. C. Adhikary, Chin. Phys. B 27, 105207 (2018) [6 pages].

16. Effects of group velocity and multi-plasmon resonances on the modulation of Langmuir waves in a degenerate plasma, A. P. Misra, D. Chatterjee and G. Brodin, Phys. Rev. E, 96, 053209 (2017) [12 pages].

17. Audio signal encryption using chaotic Henon map and lifting wavelet transforms, Animesh Roy and A. P. Misra, Submitted to Euro. Phys. J. Plus, 132, 524 (2017) [10 pages].

18. Effects of Landau damping on ion-acoustic solitary waves in a semiclassical plasma, A. Barman and A. P. Misra, Phys. Plasmas, 24, 052116 (2017) [10 pages].

19. Nonlinear dust-acoustic solitary waves and shocks in dusty plasmas with a pair of trapped ions, N. C. Adhikary, A. P. Misra, M. K. Deka and A. N. Dev. Phys. Plasmas, 24, 073703 (2017) [8 pages].

20. Magnetohydrodynamic shocks in a dissipative quantum plasma with exchange-correlation effects, B. Sahu and A. P. Misra, Euro. Phys. J. Plus 132, 316 (2017) [7 pages]. http://arxiv.org/abs/1702.04961.
21. Amplitude modulation of three-dimensional low-frequency solitary waves in a magnetized dusty superthermal plasma, Shalini, A. P. Misra, and N. S. Saini, published online, J. Th. Appl. Phys. 11, 217-224 (2017).
22. Elliptically polarized electromagnetic waves in a magnetized quantum electron-positron plasma with effects of exchange-correlation, M. Shahmansouri and A. P. Misra, Phys. Plasmas 23, 072105 (2016) [6 pages].
23. Nonlinear Landau damping of wave envelopes in a quantum plasma, D. Chatterjee and A. P. Misra, Phys. Plasmas, 23, 102114 (2016).
24. Modulation and nonlinear evolution of multi-dimensional Langmuir wave envelopes in a relativistic plasma, M. Shahmansouri and A. P. Misra, Phys. Plasmas, 23, 122112 (2016).
25. Dust-acoustic solitary waves in a magnetized dusty plasma with nonthermal electrons and trapped ions, A. P. Misra and Y. Wang, Commun. Nonlinear Sci. Numer. Simul, 22, 1360-1369 (2015).
26. Multidimensional ion-acoustic solitary waves and shocks in quantum plasmas, A. P. Misra and B. Sahu, Physica A 421, 269-278 (2015).
27. Complex Korteweg-de Vries equation and nonlinear dust-acoustic waves in a magnetoplasma with a pair of trapped ions, A. P. Misra, Appl. Math. Comput. 256, 368-374 (2015).
28. Landau damping of Gardner solitons in a dusty bi-ion plasma, A. P. Misra and A. Barman, Phys. Plasmas 22, 073708 (2015) [12 pages].
29. Modulation of ion-acoustic waves in a nonextensive plasma with two-temperature electrons, Shalini, N. S. Saini, and A. P. Misra, Phys. Plasmas 22, 092124 (2015) [10 pages].
30. Nonlinear Landau damping and modulation of electrostatic waves in a nonextensive electron-positron pair plasma, D. Chatterjee and A. P. Misra, Phys. Rev. E 92, 063110 (2015) [18 pages].
31. Modulation of drift-wave envelopes in a nonuniform quantum magnetoplasma, A. P. Misra, Phys. Plasmas, 21, 042306 (2014) [7 pages].
32. Oblique propagation of dust ion-acoustic solitary waves in a magnetized dusty pair-ion plasma, A. P. Misra and A. Barman, Phys. Plasmas, 21, 073702 (2014) [11pages].
33. Landau damping effects on dust-acoustic solitary waves in a dusty negative-ion plasma, A. Barman and A. P. Misra, Phys. Plasmas, 21, 073708 (2014) [11 pages].

34. Kadomtsev-Petviashvili (KP) Burgers equation in dusty negative ion plasmas: Evolution of dust-ion acoustic shocks, A. N. Dev, J. Sarmah, M. K. Deka, A. P. Misra and N. C. Adhikary, Commun. Theor. Phys. 62, 875–880 (2014).
35. Electrostatic solitary waves in dusty pair-ion plasmas, A. P. Misra and N. C. Adhikary, Phys. Plasmas 20, 102309 (2013) [11 pages].
36. Spatiotemporal evolution in a (2+1)-dimensional chemotaxis model, S. Banerjee, A. P. Misra and L. Rondoni, Physica A 391, 107-112 (2012).
37. Stability and evolution of wave packets in strongly coupled degenerate plasmas, A. P. Misra and P. K. Shukla, Phys. Rev. E 85, 026409 (2012) [15 pages].
38. Amplitude modulated drift wave packets in a nonuniform magnetoplasma, P. K. Shukla and A. P. Misra, Phys. Lett. A 376, 2591-2594 (2012).
39. Characteristics of ion-acoustic solitary wave in a laboratory dusty plasma under the influence of ion-beam, M. K. Deka, N. C. Adhikary, A. P. Misra, H. Bailung and Y. Nakamura, Phys. Plasmas 19,103704 (2012) [9 pages].
40. Ion-acoustic solitary waves and shocks in a collisional dusty negative ion plasma, A. P. Misra, N. C. Adhikary and P. K. Shukla, Phys. Rev. E, 86, 056406 (2012) [10 pages].
41. Rossby rogons in atmosphere and in the solar photosphere, A. P. Misra and P. K. Shukla, Europhys. Lett. 100, 55001 (2012) [6 pages].
42. Modulational instability and nonlinear evolution of wave envelopes in strongly coupled degenerate plasmas, AIP Conf. Proc. 1421, 55-67 (2012).
43. Electromagnetic surface modes in a magnetized quantum electron-hole plasma, A. P. Misra, Phys. Rev. E 83, 057401 (2011) [4 pages].
44. Upper-hybrid wave driven Alfvénic turbulence in magnetized dusty plasmas, A. P. Misra and S. Banerjee, Phys. Rev. E 83, 037401 (2011) [4 pages].
45. Ponderomotive force due to the intrinsic spin in extended fluid and kinetic models, M. Stefan, J. Zamanian, G. Brodin, A. P. Misra, and M. Marklund, Phys. Rev. E 83, 036410 (2011) [6 pages].
46. Stability of two-dimensional ion-acoustic wave packets in quantum plasmas, A. P. Misra, M. Marklund, G. Brodin, and P. K. Shukla, Phys. Plasmas 18, 042102 (2011) [7 pages].
47. Modulational instability and nonlinear evolution of two-dimensional electrostatic wave packets in ultra-relativistic degenerate dense plasmas, A. P. Misra and P. K. Shukla, Phys. Plasmas 18, 042308 (2011) [8 pages].
48. Modulational instability of ion-acoustic wave packets in quantum pair-ion plasmas, A. P. Misra and N. K. Ghosh, Astrophys. Space Sci, 331, 605-609 (2011).

49. Synchronization of spatiotemporal semiconductor lasers and its application in color image encryption, S. Banerjee, L. Rondoni, S. Mukhopadhyay, and A. P. Misra, Optics Communications 284, 2278-291 (2011).

50. Large amplitude solitary waves in ion-beam plasmas with charged dust impurities, A. P. Misra and N. C. Adhikary, Phys. Plasmas 18, 122112 (2011) [7 pages].

51. Spin contribution to the ponderomotive force in a plasma, G. Brodin, A. P. Misra, and M. Marklund, Phys. Rev. Lett., 105, 105004 (2010) [4 pages].

52. Spatiotemporal chaos and the dynamics of coupled Langmuir and ion-acoustic waves in plasmas, S. Banerjee, A. P. Misra, P. K. Shukla, and L. Rondoni, Phys. Rev. E 81, 046405 (2010) [9 pages].

53. Double-layer shocks in a magnetized quantum plasma, A. P. Misra and S. Samanta, Phys. Rev. E 82, 037401 (2010) [4 pages]. Selected for October 2010 issue (Vol. 9, Issue 10, High Field Physics) of Virtual Journal of Ultrafast Science.

54. Localized whistlers in magnetized spin quantum plasmas, A. P. Misra, G. Brodin, M. Marklund, and P. K. Shukla, Phys. Rev. E 82, 056406 (2010) [8 pages].

55. Modulational instability of ion-acoustic wave envelopes in magnetized quantum electron-positron-ion plasmas, A. S. Bains, A. P. Misra, N. S. Saini, and T. S. Gill, Phys. Plasmas 17, 012103 (2010) [7 pages].

56. Temporal dynamics in the one-dimensional quantum Zakharov equations for plasmas, A. P. Misra, S. Banerjee, F. Haas, P. K. Shukla, and L. P. G. Assis, Phys. Plasmas 17, 032307 (2010) [6 pages]. http://arxiv.org/abs/1002.3300. Selected for April 2010 issue (Vol. 9, Issue 4, High Field Physics) of Virtual Journal of Ultrafast Science.

57. Ion-beam driven dust ion-acoustic solitary waves in dusty plasmas, N. C. Adhikary, A. P. Misra, H. Bailung, and J. Chutia, Phys. Plasmas 17, 044502 (2010) [4 pages]. http://arxiv.org/abs/1003.6038.

58. Generation of wakefields by whistlers in spin quantum magnetoplasmas, A. P. Misra, G. Brodin, M. Marklund, and P. K. Shukla, Phys. Plasmas 17, 122306 (2010) [7 pages].

59. On the formation of shock and soliton in a dense quantum dusty plasma with cylindrical geometry, S. Bagchi, K. R. Chowdhury, A. P. Misra, and A. R. Chowdhury, Commun. Nonlinear Sci. Numer. Simulat. 15, 275-280 (2010).

60. Surface waves in magnetized quantum electron-positron plasmas, A. P. Misra, N. K. Ghosh and P. K. Shukla J. Plasma Phys. 76, 87-99 (2010).

61. Circularly polarized modes in magnetized spin plasmas, A. P. Misra, G. Brodin, M. Marklund, and P. K. Shukla, J. Plasma Phys. 76, 857-864 (2010).

62. Nonlinear wave-wave interactions in quantum plasmas, A. P. Misra and P. K. Shukla, AIP Conf. Proc. 1306, 103-110 (2010) .

63. Pattern dynamics and spatiotemporal chaos in the quantum Zakharov equations, A. P. Misra, and P. K. Shukla, Phys. Rev. E 79, 056401 (2009) [6 pages].
64. Coupled drift-Alfven-Shukla Varma modes in quantum dusty plasmas, A. P. Misra and C. Bhowmik, Phys. Plasmas 16, 012103 (2009) [5 pages].
65. Dust ion-acoustic shocks in quantum dusty pair-ion plasmas, A. P. Misra, Phys. Plasmas 16, 033702 (2009) [6 pages].
66. Singular waves in a magnetized pair-ion plasma, S. Samanta and A. P. Misra, Physics Plasmas 16, 074505 (2009) [4 pages].
67. Modulational instability and envelope excitation of ion-acoustic waves in quantum electron-positron-ion plasmas, A. P. Misra, C. Bhowmik, and P. K. Shukla, Phys. Plasmas 16, 072116 (2009) [7 pages].
68. Evolution of Alfvénic wave envelopes in spin-1/2 quantum Hall-MHD plasmas, A. P. Misra, N. K. Ghosh, and P. K. Shukla, Physics Plasmas 16, 102309 (2009) [6 pages].
69. Nonlinear Oscillations in a Magnetized Dusty Plasma with Nonthermal Ions, S. Bagchi, A. P. Misra, K. R. Chowdhury and A. R. Chowdhury Chaos, Solitons and Fractals 40, 758-765 (2009).
70. On the Nonlinear Excitation in Self Gravitating Quantum Dusty Plasma, S. Bagchi, K. R. Chowdhury, A. P. Misra and A. R. Chowdhury International J. Th. Phys. 48, 1132-141 (2009).
71. A novel hyperchaos in the quantum Zakharov system for plasmas, A. P. Misra, D. Ghosh and A. R. Chowwdhury, Phys. Lett. A 372, 1469-1476 (2008).
72. Spin magnetosonic shock-like waves in quantum plasmas, A. P. Misra and N. K. Ghosh, Phys. Lett. A 372, 6412-6415 (2008).
73. Ion-acoustic shocks in quantum electron-positron-ion plasmas, K. Roy, A. P. Misra and P. Chatterjee, Phys. Plasmas 15, 032310 (2008) [8 pages]. Selected for April 2008 issue (Vol. 7, Issue 4, High Field Physics) of Virtual Journal of Ultrafast Science.
74. Modulational instability of magnetosonic waves in a spin ½ quantum plasma, A. P. Misra and P. K. Shukla, Phys. Plasmas 15, 052105 (2008) [6 pages].
75. Quantum electron-acoustic double layers in a magnetoplasma, A. P. Misra and S. Samanta, Phys. Plasmas 15, 122307 (2008) [8 pages].
76. Relativistic modulational instability of electron-acoustic waves in an electron-pair ion plasma, A. P. Misra and P. K. Shukla, Phys. Plasmas 15, 122107 (2008) [5 pages].
77. Solitary wave propagation in quantum electron-positron plasmas, A. P. Misra, N. K. Ghosh and C. Bhowmik, Eur. Phys. J. D 49, 373-377 (2008).

78. Nolinear propagation of dust ion-acoustic waves in a dusty quantum magnetoplasma, A. P. Misra, S. Samanta and A. R. Chowdhury, J. Plasma Phys. 74, 197-205 (2008).
79. Effect of obliqueness and external magnetic field on the large amplitude solitary waves in a dusty plasma, S. Samanta, A. P. Misra and A. R. Chowdhury, Planet. Space Sc. 55, 1380-1387 (2007).
80. Nonplanar ion-acoustic waves in a quantum plasma, A. P. Misra and C. Bhowmik, Phys. Lett. A 369, 90-98 (2007).
81. Erratum to ``Nonplanar ion-acoustic waves in a quantum plasma. [Phys. Lett. A 369 (2007) 90], A. P. Misra and C. Bhowmik, Phys. Lett. A 369, 530-532 (2007).
82. Nonolinear wave modulation in a quantum magnetoplasma, A. P. Misra and C. Bhowmik, Phys. Plasmas 14, 012309 (2007) [8 pages].
83. Saddle-node bifurcation and modulational instability associated with the pulse propagation of dust ion-acoustic waves in a viscous dusty plasma: A complex NLSE, A. P. Misra, K. R. Chowdhury and A. R. Chowdhury, Phys. Plasmas 14, 012110 (2007) [10 pages].
84. Alfvén surface modes in dusty spin ½ quantum magnetoplasmas, A. P. Misra, Phys. Plasmas 14, 064501 (2007) [4 pages].
85. Amplitude modulation of electron plasma oscillations in a dense electron-hole plasma, A. P. Misra and P. K. Shukla, Phys. Plasmas 14, 082312 (2007) [11 pages].
86. Electron-acoustic solitary waves in dense quantum electron-ion plasmas, A. P. Misra, P. K. Shukla and C. Bhowmik, Phys. Plasmas 14, 082309 (2007) [9 pages].
87. Oblique Modulation of electron-acoustic waves in a Fermi electron-ion plasma, C. Bhowmik, A. P. Misra and P. K. Shukla, Phys. Plasmas 14, 122107 (2007) [7 pages].
88. Dust-acoustic solitary waves in an inhomogeneous magnetized hot dusty plasma with dust charge fluctuations, A. P. Misra and A. R. Chowdhury, Phys. Plasmas 13, 062307-314 (2006) [8 pages].
89. Modulation of dust acoustic waves with a quantum correction, A. P. Misra and A. R. Chowdhury, Phys. Plasmas 13, 072305 (2006) [7 pages].
90. Dust acoustic waves in a self-gravitating complex plasma with trapped electrons and nonisothermal ions, A. P. Misra and A. R. Chowdhury, Eur. Phys. J. D 37, 105-113.
91. Modulational instability of dust acoustic waves in a dusty plasma with nonthermal electrons and ions, A. P. Misra and A. R. Chowdhury, Eur. Phys. J. D 39, 49-57 (2006).

92. Solitary waves in a dusty plasma with charge fluctuation, dust size distribution and vortex like ion distribution, K. R. Chowdhury, A. P. Misra and A. R. Chowdhury, Chaos, Solitons and Fractals 29, 125-130 (2006).

93. Acoustic waves in a self-gravitating collisional dusty plasma, A. P. Misra, K. R. Chowdhury and A. R. Chowdhury Physica Scripta 71, 207-212 (2005).

94. Comment on ``Nonrelativistic electromagnetic surface waves: Dispersion properties in a magnetized dusty-electron-positron plasma", A. P. Misra and A. R. Chowdhury, Phys. Rev. E 70, 058401 (2004) [3 pages].

95. Electrostatic acoustic modes in a self-gravitating complex plasma with variable charge impurities, A. P. Misra, A. R. Chowdhury and K. R. Chowdhury, Phys. Lett. A 323, 110-121 (2004).

96. Acoustic surface waves in a collisional dusty plasma, A. P. Misra and A. R. Chowdhury, Physica Scripta 69, 44-47 (2004).

97. Higher order contribution to the propagation characteristics of low frequency transverse waves in a dusty plasma, A. P. Misra, A. R. Chowdhury and S. N. Paul, PRAMANA-J. Phys. 63, 579-593 (2004).

98. Nonlinear interaction of e-m pulses with an electron-positron plasma--a coupled NLS equation, A. P. Misra and A. R. Chowdhury, Chaos, Solitons and Fractals 15, 801-810 (2003).

99. Modulated ion-acoustic wave near criticalness-a new NLSE in a collisional plasma, A. P. Misra and A. R. Chowdhury, FIZIKA A 11, 163-176 (2002).