

Curriculum Vitae of
Dr. Prasanta Chatterjee , **Professor**,
Department of Mathematics, Visva Bharati.



Name

: **PRASANTA CHATTERJEE**



Designation

: **Prof. and Ex-HOD, Mathematics
and Prof-in-charge, Centre for
Mathematics Education.**



Father's Name

: Niranjan Chatterjee.



Date of Birth

: 5 September, 1968



Nationality

: Indian.

Status

: Married.



Mailing Address

: Department of Mathematics,
Siksha Bhavana, Visva- Bharati University
Santiniketan, Pin – 731 235, INDIA.
E-mail: prasantacvb@gmail.com,
:prasanta.chatterjee@visva-bharati.ac.in
Phone: +91 9476 252041



Broad Subject Area

: Applied mathematics



Specialization

: Non-linear structures in plasmas,
Dynamical Systems

Educational Qualifications :

Name of Examination	Board/University	Year of Passing	Class	Subjects
B.Sc (Hons)	Burdwan University, India	1988	1st	Mathematics (Hons), Physics, Electronics
M. Sc.	Indian Institute of Technology, Kharagpur, India	1991	1st	Mathematics
Ph.D.	Indian Statistical Institute, Calcutta, India (Awarded from Jadavpur University)	1996		Non-perturbative approach to solitary waves in plasma.

***Research and Teaching experiences :***

Name of the post	Duration	Name and address of the employer	Nature of the post
Research Fellow, I. S. I., Kolkata	24.01.1992 to 12.12.1995	Council of Scientific and Industrial Research (CSIR) India	Research
Scientist – “B”, D.R.D.O (India)	14.12.1995 to 31.07.1997	Defense Research and Development Org. (DRDO) India	Research and Teaching
Lecturer, B G College, The University of Calcutta	01.08.1997 to 25.11.1999	University of Calcutta, Kolkata, India	Teaching and Research
Lecturer, Visva- Bharati (A Central University)	26.11.1999 to 13.12.1999	Visva Bharati University, Santiniketan, India	do
Senior Lecturer, Visva- Bharati	14.12. 1999 to 02.03.2002	do	do
Reader, Visva- Bharati University	03.03.2002 to 31.12.2005	do	do
Associate Professor, Visva- Bharati University	01.01.2006 to 31.12.2008	Do	Do
Professor	01.01.2009-Till today	Do	Do

Head of the Department	25.8.15- 12.10.2017		
Prof-in charge CME	From April 2017		

Experience of Guiding research scholars

➤ *Ph.D Degree Awarded*

Sl. No.	Name of the Student	Title of the thesis	Year
1	Brindaban Das	Studies on Existence and Properties of solitary waves in plasma	2008
2	Bholanath Sen	Studies on some problems of nonlinear waves in plasma	2010
3	Kaushik Roy	Studies on some problems in non linear waves in dusty plasma and quantum plasma	2011
4	Tarak Nath Saha	Some problems on nonlinear structures in magnetized plasma	2012
5	Anindita Tarai	Studies on some problems on Chaos synchronization, chaos control and its applications	2012
6	Uday Narayan Ghosh	Head on collision of solitary waves in plasmas	2013
7	Sanjib Kumar Kundu	Studies on some problems of nonlinear wave propagation in plasma	2013
8	Malay Kr Ghorui	Head-on collision of solitary waves in quantum plasmas.	2014
9	Ganesh Mondal	Some studies of dressed solitons in dusty plasma and quantum plasmas.	2014
10	Debkumar Ghosh	Spherical and cylindrical solitons and shocks in plasma	2014
11	Utpal Samanta	Generation and interaction of solitary waves and shocks in magnetized plasma	2014
12	Pankaj Mondal	Computational study on nonlinear structures in plasma	2015

Sl no	Name of the student	Title of the thesis	year
13	Akshay Mondal	Nonlinear Dynamics of Eco-epidemiological systems with special emphasis on food sources and food preferences	2015
14	Asit Saha	Bifurcations and interactions of nonlinear waves in plasmas.	2016
15	Nikhil Pal	Mathematical studies of ecological models with omnivory and switching	2016
16	Tushar Kanti Das	Dynamic behavior of waves in plasma	2018
17	Sourav Choudhury	Nonlinear structure in spin $\frac{1}{2}$ quantum plasma and semi conductor quantum plasma	2018
18	Tapas Kumar Maji	Studies on collisions of solitons in plasmas	2019

Thesis submitted for Ph.D degree

1	Rustam Ali	Quasiperiodicity chaos and soliton tubbulence in plasmas	2021
2	Niranjan Pal	Effect of damping and externally applied periodic force on solitary waves in plasma	2021

➤ *List of Ph.D students (Ongoing)*

1. Laxmikanta Mandi
2. Eusob Ali Ahmed

Number of research papers published in journals: 165

Number of research papers published in proceedings of International Conferences: 07

Citation – 2612

H-index- 29

i-10 index- 89

1994-2005: 17

01. Effect of ion temperature on large amplitude ion acoustic solitary waves in relativistic plasma, **P. Chatterjee** and R. Roychoudhury, *Phys. Plasmas* Vol-1, year 1994, pp 2148.
02. The effect of finite ion temperature on solitary waves in a plasma with an ion beam. **P.Chatterjee** and R. Roychoudhury, *Phys. Plasmas* Vol-2, year 1995, pp 1352.
03. Arbitrary amplitude electron acoustic solitary waves in a plasma, **P. Chatterjee** and R. Roychoudhury, *J. Plasma Phys.* Vol-53, year 1995, pp 25.
04. Ion acoustic soliton in an electron beam plasma, **P. Chatterjee** and R. Roychoudhury, *Z. Naturforsch* Vol-51(a), year 1995, pp 1002.
05. Effect of finite ion-temperature on ion acoustic solitary waves in a two temperature electron plasma system, **P. Chatterjee** and R. Roychoudhury, *Can. Journal of Phys.* Vol-75, year 1997, pp 337.
06. Effect of finite ion temperature on large amplitude solitary kinetic Alfvén waves, R. Roychoudhury and **P. Chatterjee**, *Phys. Plasmas* Vol-5, year 1998, pp 3828.
07. On the formation of local skin-friction coefficient in a turbulent boundary layer, B. K. Chakraborty, H.P. Mazumder, S. Bandyopadhyay and **P. Chatterjee**, *Acta tech.* Vol-43, Year-1998, pp 153.
08. Arbitrary amplitude double layers in dusty plasma, R. Roychoudhury and **P. Chatterjee**, *Phys. Plasmas* Vol-6, year 1999, pp 406.
09. Large amplitude solitary waves in a relativistic non isothermal plasma with warm ions, R. Roychoudhury and **P. Chatterjee**, *Can. J. Phys.* Vol-78, year 2000, pp 267.
10. Large amplitude ion-acoustic solitary waves in a relativistic multi-component plasma, **P. Chatterjee**, *Indian J. Phys.* Vol-78(6), year 2004, pp 505.
11. Speed and Shape of solitary waves in two-electron plasmas with relativistic warm ions, **P. Chatterjee**, *Z. Naturforschung*, Vol-59a, year 2004, pp 353.
12. Speed and Shape of solitary waves in non-isothermal plasma with warm ions, **P. Chatterjee** and B. Das, *Indian J. Phys.* Vol-78B(2), year 2004, pp 223.
13. Effect of electron inertia on the speed and shape of ion-acoustic solitary waves in plasma **P. Chatterjee** and B. Das, *Phys. Plasmas*, Vol-11, year 2004, pp.3616.
14. Effect of electron inertia on the speed and shape of ion-acoustic solitary waves in relativistic plasma, **P. Chatterjee** and R. Jana, *Czech J. Phys*, Vol-54 year 2004 pp.489.

15. Speed and shape of dust acoustic solitary waves in presence of dust streaming, **P. Chatterjee** and R. Jana, *Z. Naturforschung*, Vol-60a, year 2005 pp.275.
16. Speed and shape of electron acoustic solitary waves in plasma, **P. Chatterjee** , R. Jana and B. Sen, *Indian J. Phys*, Vol-79(5), year 2005 pp 523.
17. Effect of ion temperature on the speed and shape of ion-acoustic solitary waves in plasma, **P. Chatterjee**, *Bull. Cal. Math. Soc.*, 97(4), year 2005 pp 311.

01.01.2006-31. 12.2008:11

18. Speed and shape of dust acoustic solitary waves in three component dusty plasma with vortex like ion distribution, **P. Chatterjee** and B. Sen, *Indian J. Physics*, Vol-80(2) year 2006 pp 195-199.
19. Speed and shape of solitary waves in relativistic warm plasma, B. Das and **P. Chatterjee**, *Czech. Journal of Physics*, Vol-56 year 2006 pp 389.
20. Speed and shape of dust acoustic solitary waves with variable dust charge and two temperature ions, B. Das and **P. Chatterjee**, *Phys. Plasmas* Vol-13, Year 2006, pp 062106.
21. Speed and shape of large-amplitude solitary waves in ion-beam plasma system, B. Sen and **P. Chatterjee**, *Czech. Journal of Physics*, Vol-56 year 2006 pp 1429.
22. Speed and shape of electrostatic waves in a dust-ion plasma, **P. Chatterjee** and B. Sen, *Z. Naturforschung*, Vol-61a, year 2006 pp 661-666.
23. Large-amplitude solitary waves in four component dusty plasma, **P. Chatterjee** and S. Kundu , *Indian J. Phys*, 82(4), 447(2008).
24. Ion-acoustic shocks in quantum electron-positron-ion plasmas, K. Roy, A. P. Misra and **P. Chatterjee**, *Phys. Plasmas*, 15, 032310 (2008). {scitation-89}
25. Large amplitude solitary waves in four component dusty plasma with non-thermal ions, **P Chatterjee** and K. Roy, *Z. Naturforschung*, 63a, 393(2008).
26. Solitary waves in a four component dusty plasma with nonthermal electron, K. Roy, G. Mandal, and **P. Chatterjee**, *Wesleyan Journal of Research*, 1, 59 (2008).
27. Effect of electron inertia on large amplitude solitary waves in presence of kinematic viscosity in dusty plasma, B. Sen, B Das and **P. Chatterjee**, *Euro Phys J. D.* 49, 211 (2008). {scitation 4}
28. Obliquely propagating ion acoustic solitary waves and double layers in a magnetized dusty plasma with anisotropic ion pressure, **P. Chatterjee**, T. Saha and C. M RYu, *Phys. Plasmas*, 15, 123702(2008).

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29. Obliquely propagating ion acoustic solitary waves in magnetized dusty plasma in the presence of nonthermal electrons, T. Saha and **P. Chatterjee**, *Phys. Plasmas*, 16, 013707 (2009).
30. Synchronization of generalized linearly bidirectionally coupled unified chaotic system, A. Tarai(Poria), S. Poria and **P. Chatterjee**, *Chaos, Solitons and Fractals*, 40, 885 (2009).
31. Synchronization of bi-directionally coupled unified chaotic Chen's system with delay, A. Tarai(Poria), S. Poria and **P. Chatterjee**, *Chaos, Solitons and Fractals*, 41, 190(2009) .
32. Synchronization threshold of a n coupled n-dimensional time-delay system, A. Tarai Poria, S. Poria and **P. Chatterjee**, *Chaos, Solitons and Fractals* 41, 1123 (2009).
33. Nonlinear Ion Acoustic Waves in a Magnetized Dusty Plasma in the Presence of Nonthermal Electrons, T. Saha, **P Chatterjee** and M R Amin, *Z. Naturforsch.* 64a, 370(2009).
34. Generalized chaos synchronization of discrete maps via linear transformations, S. Poria, A. Tarai and **P. Chatterjee**, *Journal Fizik Malaysia*, 29, 95(2009).
35. Large amplitude double layers in dusty plasma with non-thermal electrons and two temperature isothermal ions, B. Das and **P. Chatterjee**, *Phys. Lett. A*, 373, 1144(2009).
36. Effect of Ion temperature on arbitrary amplitude ion acoustic solitary waves in quantum electron-ion plasmas, **P. Chatterjee**, K. Roy, S. V. Muniandy, S. L. Yap and C. S. Wong, *Phys. Plasmas*, 16, 042311(2009),
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38. An Eco-Epidemiological study with parasite attack and alternative prey, A. Mondal, K. Kundu, **P. Chatterjee** and J. Chattopadhyay, *J. Bio. Systems*, 17, 269 (2009).
39. Large amplitude double layers in a four component dusty plasma with non-thermal ions, G. Mondal, K. Roy and **P Chatterjee**, *Ind. J. Phys.*, 83(3), 365 (2009).
40. Generalized lag synchronization in chaotic system, **P. Chatterjee**, S. Poria and A. Tarai, *J. Sci. & Tech.* 5, 111(2009) .

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 42. Solitary waves and double layers in dense magnetoplasma, **P. Chatterjee**, T. Saha, S. V. Muniandy, S. L. Yap and C. S. Wong, *Phys. Plasmas* 16, 072110 (2009).
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 46. Dressed soliton in quantum electron-positron-ion plasma, **P. Chatterjee**, K. Roy, G. Mondal, S. V. Muniandy, S. L. Yap and C. S. Wong, *Phys. Plasmas* 16, 122112 (2009).
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47. Shock Waves in a Dusty Plasma with Positive and Negative Dust where Ions are Non-thermal, G. Mandal and **P. Chatterjee**, *Z. Naturforsch. A*. 65a, 85 (2010).
 48. Ion acoustic solitary waves and double layers in dense electron-positron-ion magnetoplasma, **P. Chatterjee**, T. Saha, S. V. Muniandy, C. S. Wong and R. Roychoudhury, *Phys. Plasmas* 17, 012106 (2010).
 49. Higher order corrections to dust-acoustic soliton in a quantum dusty plasma, **P. Chatterjee**, B. Das, G. Mondal, S. V. Muniandy and C. S. Wong, *Phys. Plasmas* 17, 103705 (2010).
 50. Large amplitude double layers in a dusty plasma with an arbitrary streaming ion beam, B. Das, D. K. Ghosh and **P. Chatterjee**, *Pramana- J. Phys.*, 74, 973 (2010)
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 52. Effect of ion temperature on arbitrary amplitude quantum dust ion acoustic solitary waves, **P. Chatterjee**, S. V. Muniandy and C. S. Wong, *Journal Fizik Malaysia*, 31 (1&2), 23 (2010).

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56. Head on collision of dust ion acoustic soliton in quantum pair ion plasma, **P. Chatterjee**, M. Ghorui and C. S. Wong, Phys. Plasmas, 18, 103710 (2011).
57. Head-on collision of ion acoustic solitary waves in an electron-positron-ion plasma with superthermal electrons and positrons, **P.Chatterjee** and U.N.Ghosh, Euro. Phys. J. D, 64, 413 (2011).
58. Ion-acoustic dressed soliton in electron-ion quantum plasma, K. Roy and **P. Chatterjee** Indian J. Phys., 85, 1653 (2011)
59. Shock waves in a dusty plasma with positive and negative dust, where electrons are superthermally distributed, S. K. Kundu, D. K. Ghosh, **P. Chatterjee** and B. Das, Bulg. J. Phys., 38, 409(2011).

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60. Nonplanar dust-ion acoustic Gardner solitons in a dusty plasma with q - nonextensive electron velocity distribution. D K Ghosh, **P Chatterjee** and U N Ghosh, Phys. Plasmas, 19, 033704 (2012).
61. The effect of q -distributed electrons on the head-on collision of ion acoustic solitary waves, U. N. Ghosh, **P. Chatterjee** and R. Roychoudhury, Phys. Plasmas, 19, 012113 (2012).
62. The effect of q -distributed ions during the head-on collision of dust acoustic solitary waves, U. N. Ghosh, **P. Chatterjee** and S. Kundu, Astrophys. Space Sci. , 339, 255(2012).
63. Head on collision of dust acoustic solitary waves with variable dust charge and two temperature ions in an unmagnetized plasma. S. Kundu, **P. Chatterjee** and U. N. Ghosh Astrophys. Space Sci., 340, 87(2012).
64. Planar and nonplanar ion acoustic shock waves with nonthermal electrons and positrons, **P. Chatterjee**, D. K. Ghosh and B. Sahu, Astrophys. Space Sci., 339, 261(2012).
65. Head -on collision of dust acoustic solitary waves in dusty plasmas with nonthermal ions, U. N. Ghosh and **P. Chatterjee**, Indian J. Phys., 86 (5), 407 (2012).

66. Dust acoustic solitary waves in a dusty plasma with variable dust charge and an arbitrary streaming ion beam, **P. Chatterjee**, B. Das and C. S. Wong, Indian J. Phys., 86(6), 529(2012).
67. Dust acoustic solitary waves with superthermal electrons in cylindrical and spherical geometry, D. K. Ghosh, **P. Chatterjee** and B. Das, Indian J. Phys., 86(9), 829(2012).
68. Large amplitude double layers in a dusty plasma with a q-nonextensive electron velocity distribution and two temperature isothermal ions, K. Roy, T. Saha, **P. Chatterjee** and M. Tribeche, Phys. Plasmas, 19, 042113 (2012).
69. Dust acoustic dressed solitons in a four component dusty plasma with nonthermal electron, K. Roy, **P. Chatterjee** and S. Kundu, Advan. Space Res, 50, 1288 (2012).
70. Arbitrary amplitude double layers in a four component dusty plasma with kappa distributed electron, K. Roy, T. Saha and **P. Chatterjee**, Astrophys. Space Sci., 342, 125 (2012).
71. Nonplanar ion acoustic solitary waves with superthermal electrons and positrons, D. K. Ghosh, **P. Chatterjee** and B. Sahu, Astrophys. Space Sci., 341, 559(2012) .
72. Superthermal effect of electrons on dust-ion acoustic solitary waves and double layers in a dusty plasma., U.N. Ghosh, D.K. Ghosh, **P. Chatterjee** and B. Sahu, Astrophys. Space Sci. 342, 449 (2012).
73. Interaction of dust-ion acoustic solitary waves electrons featuring Tsallis distribution, U. N. Ghosh, **P. Chatterjee** and M. Tribeche, Phys. Plasmas, 19, 112302 (2012).
74. Effect of ion temperature on ion-acoustic solitary waves in a plasma with a q-nonextensive electron velocity distribution, K. Roy, T. Saha, **P. Chatterjee**, Phys. Plasmas, 19, 104502 (2012).
75. Dynamical behaviour of charge fluctuation in dusty plasma with nonthermal electron distribution: van der Pol-matheu model equation, S K Kundu, S Poria, **P Chatterjee** and U N Ghosh, Bull Cal Math Soc, 104(4) 331(2012).
76. Dust acoustic dressed soliton in a four component dusty plasma with superthermal electron, **P Chatterjee**, G Mondal, G Mondal and C S Wong, JOSTT 8, 29(2012).

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77. Non-planar ion acoustic Gardner solitons in electron-positron-ion plasma with superthermal electrons and positrons, D. K. Ghosh, U. N. Ghosh and **P. Chatterjee**, J. Plasma Phys., 79, 37(2013) .

78. Interaction during face to face collision between nonlinear electron acoustic solitary waves in quantum plasma by M K Ghorui, **P Chatterjee** and R Roychoudhury. Indian J Phys 87,77(2013).
79. Nonplanar ion-acoustic Gardner solitons in a pair-ion plasma with nonextensive electrons and positrons U.N. Ghosh, D.K. Ghosh, **P. Chatterjee**, B. Mostafa and M. Tribeche, Astrophys. Space Sci. 343, 265(2013).
80. Head on collision of dust ion acoustic solitary waves in magnetized quantum dusty plasmas by M K Ghorui, **P. Chatterjee**, C. S. Wong, Astrophys and space sci., 343, 639 (2013).
81. Phase shifts of magneto acoustic solitons in spin-1/2 fermionic quantum plasma during head-on collision by **P Chatterjee**, R Roychoudhury and M K Ghorui, J. Plasma Phys., 79, 305(2013).
82. Head-on collision of dust-ion-acoustic solitons in electron- dust-ion quantum plasmas by M K Ghorui, **P Chatterjee** and R Roychoudhury, Pramana- J. Phys. 80(3), 519(2013)
83. Bifurcations of dust ion acoustic travelling waves in a magnetized dusty plasma with a q-non extensive velocity distribution, U K Samanta, A Saha and **P Chatterjee**, Phys. Plasmas 20, 022111(2013).
84. Effect of superthermal electrons on dust acoustic Gardner soliton in nonplanar geometry, D K Ghosh, U N Ghosh, **P Chatterjee** and C S Wong, Pramana- J. Phys. 80(4), 665(2013)
85. Interaction of cylindrical and spherical ion acoustic solitary waves with superthermal electrons and positrons, U N Ghosh and **P Chatterjee**, Astrophys and Space Sci. 344, 127(2013).
86. Soliton and shocks in pair ion plasma in presence of superthermal electron- U Samanta, **P Chatterjee** and M Mej, Astrophys and space sci, 345, 291(2013)
87. Head-on collisions of ion-acoustic Kortweg de Vries/ modified Kortweg de vries solitons in a magnetized quantum electron- positron -ion plasma by M K Ghorui, U Samanta, **P Chatterjee**, Astrophys. and space sci., 345, 273(2013).
88. Effect of nonextensivity during the collision between inward and outward ion acoustic solitary waves in cylindrical and spherical geometry, U N Ghosh and **P Chatterjee**, J. Plasma Phys. 2013
89. Nonplanar ion acoustic solitary waves in electron-positron-ion plasma with warm ions, and electron and positron following q-nonextensive velocity distribution, D K Ghosh, U N Ghosh, G Mondal and **P Chatterjee**, IEEE Trans. Plasma Sci. 41, 1600(2013)

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91. Bifurcation of nonlinear ion acoustic travelling waves in the frame of a ZK equation in magnetized plasma with a kappa distributed electron, U K Samanta, A Saha and **P Chatterjee**, *Phys. Plasmas*, 20, 052111(2013).

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96. Effects of Kappa-Distributed Electrons on Ion-Acoustic Shock Waves in an e-p-i Plasma in Non-Planar Geometry- K. Roy, A. Paul, G. Mandal, **P. Chatterjee**, *Journal of International Academy of Physical Sciences*, 17, 1 (2013) (ISSN-0974-9373)

➤ Bifurcation of dust ion acoustic travelling waves in a magnetized quantum dusty plasma, U K Samanta, A Saha, **P Chatterjee**, *Astrophys & space Sci.* (2013) 347:293–298

98. Head-on collision of electron-acoustic Korteweg-de Vries solitons in a magnetized quantum plasma by M K Ghorui, U K Samanta and P Chatterjee, *Astrophys & space Sci.* 348:89-97(2013)

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100. Bifurcation of electron acoustic travelling waves in an unmagnetized quantum plasma with hot and cold electrons, A Saha and **P Chatterjee**, *Astrophys & space Sci.* 349, 239–244 (2014).

101. Dust ion acoustic travelling waves in the framework of a modified Kadomtsev-Petviashvili equation in a magnetized dusty plasma with superthermal electrons, A Saha and **P Chatterjee**, *Astrophysics and Space Science*, 349, 813-820 (2014).

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103. Bifurcations of ion acoustic solitary waves and periodic waves in an unmagnetized plasma with kappa distributed multi-temperature electrons, A Saha and **P Chatterjee**, Astrophysics and Space Science, 350, 631-636 (2014).
104. Shock waves in a dusty plasma having q-nonextensive electron velocity distribution, K Roy, **P Chatterjee**, S. S. Kausik and C.S. Wong, Astrophysics and Space Science, 350, 599-605 (2014).
105. New analytical solutions for dust acoustic solitary and periodic waves in an unmagnetized dusty plasma with kappa distributed electrons and ions, A Saha and **P Chatterjee**, Physics of Plasmas, 21, 022111 (2014).
106. Bifurcations of ion acoustic solitary and periodic waves in an electron-positron-ion plasma through non perturbative approach, A Saha and **P Chatterjee**, Journal of Plasma Physics 80, 553(2014).
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108. Head-on collision of two types of dust acoustic solitons in magnetized quantum plasma MK Ghorui, UK Samanta, T Maji, and **P Chatterjee**, Astrophysics and Space Science, 352, 359-369 (2014)
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112. Dynamic behavior of ion acoustic waves in electron-positron-ion magnetoplasmas with superthermal electrons and positrons, A Saha, N Pal and **P Chatterjee**, Phys Plasmas, 21, 102101 (2014).
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