Prabir Kumar Haldar

Curriculum Vitae

Cooch Behar Panchanan Barma University
Department of Physics
Panchanan Nagar
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Education

2003 **Ph.D (Physics)**, *Jadavpur University*, Jadavpur, Kolkata.

1997 **M.Sc (Physics)**, *Jadavpur University*, Jadavpur, Kolkata.
First Class

1995 **B.Sc (Physics)**, *Jadavpur University*, Jadavpur, Kolkata.
First Class

Ph.D Thesis

Title ***"Fluctuation in fragmentation and pionisation in ultra relativistic nuclear interactions"***

Supervisors Prof. Dipak Ghosh & Prof. Arghya Deb, Department of Physics, Jadavpur University.

Teaching Experience: 18 Years

Name Of The Institution	Position Held	Working Period
Cooch Behar Panchanan Barma University	Professor	01-02-2018 to till date
Dinhata College	Assistant Professor of Physics	02-03-2005 to 31-01-2018
Siliguri Institute of Technology	Lecturer of Physics	24-08-2004 to 01-03-2005

Awards

1991 National Scholarships (H.S. Examination) by Government of India.

2009 Recipients of SERC FAST TRACK Scheme for Young Scientists from DST, Govt. of India.

2011 The best oral presentation award in 18^{th} WB State Science & Technology Congress.

2016 The best oral presentation award in 1^{st} Regional Science & Technology Congress,Jalpaiguri Div.

2002 UGC NET Qualified.

2020 Recipient of **Shiksha Ratna** award given by Govt. of West Bengal.

Administrative Experience:

Positions Held	Period
Dean, Faculty of Post Graduate Studies in Science,Technology and Vocational Studies, Cooch Behar Panchanan Barma University (CBPBU)	From 14-06-2019 to 14-06-2022
Controller of Examinations (Offg.), Cooch Behar Panchanan Barma University	From 29-03-2018 to 28-09-2018 (Six Months)
Head ,Department of Physics, Cooch Behar Panchanan Barma University (CBPBU)	From 08-02-2022 to till date
Served as a Jt. Coordinator in the Dept. of Physics, CBPBU	Since Aug, 2015 to 31-10-2017
Head, Department of Physics, Dinhata College	From 01-09-2014 to 01-07-2017

Research

Specializations

High Energy Physics

Areas of Research Interest

• High-energy Heavy-ion Interactions, Studies on different global and local aspects of multi-particle production, Particle density fluctuation, Complex network analysis, Nuclear multifragmentation etc. by using various statistical/analytical methods and Monte Carlo simulations.

• Quantum dots, Advance Functional Materials, Polymer Electronics, Piezoelectric & Polymeric Nanogenerator, Metal Nanoparticles, Rare-earth Materials, Electrospinning Technique for Nanofiber preparation, Mechanical energy Harvesting.

• Receiving techniques of Very Low Frequency (VLF, 3-30 kHz) radio waves, Space Weather/Solar activities, Atmospheric phenomena e.g. Tropical Cyclones, Lightning-thunderstorm, Earthquakes etc. and their impacts on Ionosphere. Observation of naturally generated Extremely Low Frequency (ELF, 1-300 Hz) and Ultra Low Frequncy (300-3000 Hz) radio signals.

Ph.D. Thesis Guidance

Awarded: 03

1. Thesis Submitted to the University of North Bengal for Ph.D degree by **Mr. Sanjib Kumar Manna** on 2022 and recommended for Ph.D. degree. (Jointly supervised).
   Thesis title: "Non-statistical Fluctuation of Singly Charged Particles Produced in $^{16}O - Ag/Br$ Interaction at 200 A GeV/c"

2. Thesis Submitted to the Cooch Behar Panchanan Barma University for Ph.D degree by **Mr. Prosenjit Saha** on 2020 and recommended for Ph.D. degree.
   Thesis title: "Dynamical fluctuation of pions and target fragments for ring and jet like events at CERN SPS energies"

3. Thesis Submitted to the Cooch Behar Panchanan Barma University for Ph.D degree by **Mr. Bakul Das** on 2022 and recommended for Ph.D. degree.
   Thesis title: "Detection and study of the impacts of sudden natural disturbances on lower ionosphere using ELF/VLF wave propagation techniques"

Submitted: 01

1. Thesis Submitted to the Cooch Behar Panchanan Barma University for Ph.D degree by **Mr. Abubakkar Siddik** on 2022 (Reg. No.: CBPBU/115/Ph.D/001).

Registered: 07

1. Ms. Nikita Ghosh (Ph.D. Reg. No.: CBPBU/115/Ph.D/002)

2. Mr. Niharendu Barman (Ph.D. Reg. No.: CBPBU/115/Ph.D/008)

3. Mr. Azharuddin Ahmed (Ph.D. Reg. No.: CBPBU/115/Ph.D/013)

4. Mr. Nirpat Subba (Ph.D. Reg. No.: CBPBU/115/Ph.D/011)

5. Mr. Asadullah Sk (Ph.D. Reg. No.: CBPBU/115/Ph.D/012)

6. Ms. Shreya Bhattacharjee (Ph.D. Reg. No.: CBPBU/115/Ph.D/016)

7. Ms. Kheyali Barman (Ph.D. Reg. No.: CBPBU/115/Ph.D/017)

Sponsored Projects:

Details of Sponsored Projects :				
Agency	**Project Sanction No**	**Title**	**Approved Allocation**	**Status**
University Grants Commission	PSW-139/06-07 (ERO) Dated: 19/02/2007 Duration : two Years	Fluctuation Studies of Pionisation Process for ring like and Jet like events in Ultra-Relativistic Nuclear Interactions	90,000/-	Completed
Department of Science and Technology (Fast Track Scheme For Young scientists)	Do No: SR/FTP/PS-21/2008 Recommended Date 25/09/2008	Investigation of ring like (Super spiky) events in Ultra-relativistic Nuclear Interactions – evidence of QGP formation or Cerenkov Gluon Radiation (A new Concept in High energy Physics)	Total: Rs. 14,69,200/- Manpower: One JRF	Started on 03.04.2009(three years) Completed
Department of Science & Technology and Biotechnology (Government of West Bengal)	917(Sanc.)/STBT-11012(20)/42/2019-ST SEC	Study of lightning induced mesospheric phenomena and its association with severe weather using coordinated radio receivers and optical camera	Total: Rs. 3,80,000/-	Started on 05.03.2021-upto three years

Research Publications:

, *International Journals*, 71.

, *International conference papers*, 14.

, *National conference papers*, 19.

, *Regional/state level conference papers*, 02.

, *Books with ISBN number*, 02.

Publication Details

International Journals:

[1] Organic-inorganic $FAPbBr_3$ perovskite based flexible optoelectronic memory device for light-induced multi level resistive switching application - Abubakkar Siddik, **Prabir Kumar Haldar**, Ujjal Das, Asim Roy and Pranab Kumar Sarkar, ***Materials Chemistry and Physics*** **297** 127292 (2023).

[2] Search for fractality and phase transition in p–p collisions at LHC energy - S. Bhattacharjee, S. Paul, A. Ahmed, N. Subba, A. N. Tawfik, **P. K. Haldar**, ***International Journal of Modern Physics E*** **31(8)** 2250079 (2022).

[3] Energy dependence of the freeze-out parameters extracted from $Au + Au$ and $Pb + Pb$ collisions using THERMUS - M. Ghimiray, N. Subba, A. Ahmed, A. N. Tawfik, **P. K. Haldar**, ***Indian J. Phys.***, `https://doi.org/10.1007/s12648-022-02492-z` (2022).

[4] Recent Advances in Halide Perovskite-Based Nonvolatile Resistive Random-Access Memory - A. Siddik, P. K. Sarkar, **P. K. Haldar**, **Journal of Electronic Materials 51** 434–446 (2022)

[5] Impact of Three Solar Eclipses of 2019–2020 on the D-Region Ionosphere Observed From a Subtropical Low-Latitude VLF Radio Station- B. Das, K. Barman, S. Pal and **P. K. Haldar**, **Journal of Geophysical Research: Space Physics 127(8)** (2022).

[6] Nonvolatile resistive switching and synaptic characteristics of lead-free all-inorganic perovskite-based flexible memristive devices for neuromorphic systems - Abubakkar Siddik, **Prabir Kumar Haldar**, Tufan Paul, Ujjal Das, Arabinda Barman, Asim Roy and Pranab Kumar Sarkar, ***Nanoscale*** **13** 8864-8874 (2021).

[7] Evidence of forward-backward correlation of pions in ultra-relativistic ring- and jet-like events in $^{16}O - Ag/Br$ interactions at E_{lab}=60 A GeV - A. Ahmed, N. Subba, S. Bhattacharjee, A. N. Tawfik, **P. K. Haldar**, ***Eur. Phys. J. A*** **57** 332 (2021).

[8] Degree of multifractality and correlations in framework of multi-dimensional complex network analysis for ^{16}O–Ag/Br interactions at 60 A GeV - N. Subba, A. Ahmed, S. Bhattacharjee, **P. K. Haldar**, A. N. Tawfik, ***Eur. Phys. J. Plus*** **136** 813 (2021).

[9] An approach to explore exotic hadronic states in $^{24}Mg - Ag/Br$ interactions at 4.5 A GeV/c in framework of complex network analysis,- A. Ahmed, N. Subba, **P. K. Haldar**, A. N. Tawfik, ***Eur.***

Phys. J. Plus **136** 100 (2021).

[10] Pronounced fluctuations of pions in ring-like events in $^{16}O - Ag/Br$ interactions at 60 AGeV/c in the framework of complex network analysis- N. Subba, A. Ahmed, **P. K. Haldar**, A. N. Tawfik, **International Journal of Modern Physics E 30(01)** 2150002 (2021).

[11] First-principles study of anisotropic thermoelectric properties of hexagonal $KBaBi$- N. Barman, A. Barman, **P. K. Haldar**, **Journal of Solid State Chemistry 296** 121961 (2021).

[12] Response of the sub-ionospheric VLF signals to the Super Cyclonic Storm amphan: First observation from Indian subcontinent, - Bakul Das, Arnab Sen, Sujay Pal, **Prabir Kumar Haldar**, ***Journal of Atmospheric and Solar-Terrestrial Physics*** $DOI : 10.1016/j.jastp.2021.105668$ (2021).

[13] First-principles study of anisotropic thermoelectric properties of hexagonal $KBaBi$- N. Barman, A. Barman, **P. K. Haldar**, **Journal of Solid State Chemistry 296** 121961 (2021).

[14] VLF radio signal anomaly associated with geomagnetic storm followed by an earthquake at a subtropical low latitude station in northeastern part of India- B. Das, A. Sen, **P. K. Haldar** and S. Pal, **Indian J Phys.** https://doi.org/10.1007/s12648-020-01966-2 (2021).

[15] D-region ionospheric disturbances associated with the Extremely Severe Cyclone Fani over North Indian Ocean as observed from two tropical VLF stations- B. Das, S. Sarkar, **P. K. Haldar** S. K. Midya, S. Pal, **Advances in Space Research 67** 75-86 (2021).

[16] Enhancement of luminescence behaviour of colloidal ZnO quantum dots coated with SiO2 irradiated by Ni^{+7} ion-D. Chakdar, A. Siddik, N. Ghosh, G. Gope, and **P. K. Haldar**,***Advanced Science, Engineering and Medicine*** **22**, 278-283,(2020).

[17] Wavelet Analysis of Produced Pions in $^{24}Mg - Ag/Br$ Interactions at 4.5 A GeV/c, - P. Saha, N. Subba, A. Ahmed and **P. K. Haldar**, ***Braz. J. Phys*** $https://doi.org/10.1007/s13538 - 020 - 00736 - z$,(2020).

[18] Enhancement of data storage capability in a bilayer oxide based memristor for wearable electronic applications, - A. Siddik, **P. K. Haldar**, P. Garu, S. Bhattacharjee, U. Das, A. Barman, A. Roy, P. K. Sarkar, ***J. Phys. D: Appl. Phys.*** **53** 295103 (2020).

[19] Enhancement of luminescence behaviour of colloidal ZnO quantum dots coated with SiO2 irradiated by Ni^{+7} ion-D. Chakdar, A. Siddik, N. Ghosh, G. Gope, and **P. K. Haldar**,***Advanced Science, Engineering and Medicine*** **22**, 278-283,(2020).

[20] Wavelet analysis of particle density function in nucleus-nucleus interactions, -S. K. Manna, **P. K. Haldar**, P. Mali, A. Mukhopadhyay and G. Singh, ***Int. J. Mod. Phys. E*** **27**, 1850009-1850025, (2018).

[21] Multifractal analysis of multiparticle emission data in the framework of visibility graph and sandbox

algorithm, - P. Mali, S. K. Manna, **P. K. Haldar**, A. Mukhopadhyay and G. Singh, ***Physica A*** **493**, 253-266, (2018).

[22] Multifractal analysis of charged particle distributions using horizontal visibility graph and sandbox algorithm -P. Mali, S. K. Manna, **P. K. Haldar**, A. Mukhopadhyay and G. Singh, ***Mod. Phys.Lett. A*** **32**, 1750024-1750033 (2017).

[23] Detrended analysis of shower track distribution in nucleus-nucleus interactions at CERN SPS energy Chaos -P. Mali, S. K. Manna, **P. K. Haldar**, A. Mukhopadhyay and G. Singh, ***Chaos Soliton Fract*** **94**,86-94, (2017).

[24] Multidimensional Intermittency Study of Target Fragments at CERN SPS Energies - **P. K. Haldar**, S. K. Manna, P. Saha and D. Ghosh, ***Astroparticle Physics*** **42**,76-85, (2013).

[25] Ring and jet study on the azimuthal substructure of pions at CERN SPS energy-**P. K. Haldar**, S.K. Manna, P.Saha, D. Ghosh, ***Pramana J. Phys*** **80(04)**, 631-642, (2012)

[26] Dynamical fluctuations of pions for ring and jet-like events at SPS energy: an in-depth study with factorial correlator - P.K. Haldar, S.K. Manna, P.Saha, D. Ghosh, ***Indian J Phys*** **86(12)**, 1155-1162, (2012).

[27] Pecularities in the Distribution of Produced Particles emission in ^{24}Mg-Ag/Br interactions at 4.5 A Gev - **P. K. Haldar**, S.K. Manna, P.Saha, D. Ghosh, ***Indian Journal of Pure and Applied Physics*** **Vol. 50**, 156-160, (2012).

[28] Non-Statitical Fluctuations Of Pions For Ring- And Jet-Like Events At CERN SPS Energy - An In-Depth Analysis With Factoial Correlator - **P. K. Haldar**, S.K. Manna, P.Saha, D. Ghosh, ***International Journal of Modern Physics E*** **Vol. 20, No. 9**, 2027-2038, (2011).

[29] Fluctuation pattern of shower and compound multiplicity distributions in nucleus-nucleus interactions at a few GeV, -D. Ghosh, A. Deb, M.Lahiri, P.Mandal, S. Biswas, J. Ghosh, S. Bhattacharyya, **P. K. Haldar** and D. Maity, ***Int. J. Mod. Phys. E*** **20**,1287-1306, (2011).

[30] Factorial correlators and oscillatory multiplicity moments study of ring and jet-like events in $^{16}O - Ag/Br$ interactions at 60 A GeV, -**P. K. Haldar** and S. K. Manna, ***Can. J. Phys.*** **89**,713-721, (2011).

[31] Factorial correlators and oscillatory multiplicity moments at the CERN SPS energy for ring-like and jet-like events, -**P. K. Haldar** and S. K. Manna, ***Chinese Phys. Lett.*** **28**,012502, (2011).

[32] Ring and jet-like structure and two-dimensional intermittency in nucleus-nucleus collisions at 200A GeV/c, -M. K. Ghosh, **P. K. Haldar**, S. K. Manna, A. Mukhopadhyay and G. Singh, ***Nucl. Phys. A*** **858**,67-85, (2011).

[33] Intermittency and related issues in $^{16}O - Ag/Br$ collision at 200A GeV/c, -M. K.Ghosh, **P. K. Haldar**, S. K. Manna, A. Mukhopadhyay and G. Singh, ***Can. J. Phys*** **88**, 575-584 (2010).

[34] Levy index analysis for a multifractality and phase transition study of target fragments in ring-like and jet-like events, -D. Ghosh, A. Deb, A. Dhar(Mitra), R. Saha, D. Bhattacharya and **P. K. Haldar**, ***Phys. Scr.*** **82**,045201-045209, (2010).

[35] Levy index and multifragmentations of targets at SPS energy-evidence of both monofractality and multifractality-D. Ghosh, A. Deb, **P. K. Haldar**, S. Guptaroy and A. Dhar(Mitra), ***Fractals*** **18**,75-86, (2010).

[36] Void analysis of Target residues at SPS energies-. Sarkar, D. Ghosh, A. Deb, **P. K. Haldar** and R. Das, ***Int. J. Mod. Phys. E*** **19**,407-417, (2010).

[37] Ring type events and nuclear collision at SPS energies and nuclear refractive index-D. Ghosh, A. Deb, A. Dhar(Mitra) and **P. K. Haldar**, ***Acta. Phys. Pol. B*** **40**,2355-2361, (2009).

[38] Azimuthal correlation and fractal study of compound hadrons (pions and protons) at dubna and sps energies, -D. Ghosh, A. Deb, S. Ghosh, P. Mondal A. K. Mallik and **P. K. Haldar**, ***Indian J. Phys.*** **83**,1463 - 1485, (2009).

[39] Multifragmentations of targets at SPS energy-evidence of both monofractality and multifractality -D. Ghosh, A. Deb, S. Sarkar and **P. K. Haldar**, ***Fractals*** **16**,1-6, (2008).

[40] Fluctuation and fractal characteristics of ring like and jet like events produced at SPS Energies-D. Ghosh, A. Deb, **P. K. Haldar** and S. Guptaroy, *Indian J. of Phys.* **82**,1339-1371. (2008).

[41] Signature of void probability scaling in jet like events $^{16}O - Ag/Br$ interactions at 60 GeV/n-D. Ghosh, A. Deb, **P. K. Haldar** and S. Guptaroy, ***Astropart. Phys.*** **27**,127-133, (2007).

[42] Fractality of emission of compound multiplicity in $^{12}C - Ag/Br$ interactions at 4.5 A GeV -, D. Ghosh, A. Deb, S. Ghosh, P. Mondal and **P. K. Haldar**, ***Can. J. Phys.*** **85**,385-392, (2007).

[43] Self-affine scaling and non-thermal phase transition in target fragments of muon-nucleus interactions at high energy -D. Ghosh, A. Deb, **P. K. Haldar**, S.I. Ahmed and P. Ghosh, ***Mod. Phys. Let. A*** **22**,1759-1768, (2007).

[44] Azimuthal asymmetry and dynamical fluctuation of compound multiplicity in nucleus-nucleus collisions at ultra-relativistic energy-D. Ghosh, A. Deb, **P. K. Haldar** and S. Guptaroy, ***Can. J. Phys.*** **85**,1035-1043, (2007).

[45] Pronounced pionic self-similarity in ring-like events in $^{16}O - Ag/Br$ interactions-D. Ghosh, A. Deb, **P. K. Haldar** and A. Dhar, ***EPL*** **80**,22003, (2007).

[46] Study of multidimensional fluctuation and non-thermal phase transition study in ring and jet like events in ultra-relativistic nuclear collisions -D. Ghosh, A. Deb, **P. K. Haldar** and S. Guptaroy, ***Indian J. Pure. A. Phys.*** **45**,419-424, (2007).

[47] Dynamical fluctuation of compound multiplicity in nucleus-nucleus interactions at 4.5 A GeV -Evidence of projectile dependence of azimuthal asymmetry -D. Ghosh, A. Deb, S. Ghosh, P. Mondal and **P. K. Haldar**, ***Indian J. Pure. A. Phys.*** **45**,965-968, (2007).

[48] Strong self-similar fluctuations of target fragments in ring-like events in Ultra-relativistic nuclear collision-D. Ghosh, A. Deb, S. Sarkar and **P. K. Haldar**, ***Chinese Phys. Letts.*** **23**,2944-2947, (2006).

[49] Pronounced fluctuation of target fragments in forward hemisphere only in Ultra-relativistic nuclear collision-D. Ghosh, A. Deb, S. Sarkar and **P. K. Haldar**, ***Chinese Phys. Letts.*** **23**,1441, (2006).

[50] Maximum pseudorapidity gap analysis in nuclear interaction at few GeV to few hundred GeV -D. Ghosh, A. Deb, **P. K. Haldar**, and S. R. Sahoo, ***Fizika B (Zagrab)*** **12**,133-140, (2006).

[51] Fragmentation of targets in Muon-nucleus interactions at (420 $\pm$ 45) GeV strong two particle azimuthal correlation -D. Ghosh, A. Deb, **P. K. Haldar**, P. Ghosh and S.I. Ahmed, *Fizika B (Zagrab)* **15**,107-114, (2006).

[52] Evidence of strong pion fluctuation in jet like events in $^{32}S - Ag/Br$ interaction -D. Ghosh, A. Deb, **P. K. Haldar** and S. Guptaroy, ***Chinese Phys. Lett.*** **23**,815, (2006).

[53] Dynamical azimuthal fluctuation of target fragments in forward and backward hemisphere in case of $^{32}S - Ag/Br$ interaction -D. Ghosh, A. Deb, S. Sarkar and **P. K. Haldar**, ***Indian J. Phys.*** **80**,1029-1032, (2006).

[54] Azimuthal pion fluctuation and phase transition in ultra-relativistic ring like and jet like events-D. Ghosh, A. Deb, **P. K. Haldar** and S. Guptaroy, ***Indian J. Phys.*** **80**,807-813, (2006).

[55] Evidence of fractal behavior of pions and protons in high energy interaction - an experimental Investigation -D. Ghosh, A. Deb, S. Pal, **P. K. Haldar** , S. Bhattacharyya, P. Mondal, S. Biswas and M. Mondal, ***Fractals*** **13**,325-329, (2005).

[56] Compound multiplicity distribution in nucleus-nucleus interactions - phase transition study -D. Ghosh, A. Deb,P. Mondal, S. Biswas and **P. K. Haldar**, ***Fizika B*** **14**,317-326, (2005).

[57] Multifractal behaviour of nuclear fragments in high energy leptonic interactions-D. Ghosh, A. Deb, M. B. Lahiri , P. Ghosh and S. I. Ahmed and **P. K. Haldar**, ***Phys. Rev. C*** **70**, 054903-054910, (2004).

[58] Validity of negative binomial multiplicity distribution in case of ultra-relativistic nucleus-nucleus interaction in azimuthal bins -D. Ghosh, A. Deb, **P. K. Haldar**, S. R. Sahoo and D. Maity, ***EPL*** **65**,311-315, (2004).

[59] Non - statistical fluctuation in compound multiplicity distribution in ultrarelativistic nuclear collisions-factorial correletor study -D. Ghosh, A. Deb, M. B. Lahiri , P. Mondal, S. Biswas and **P. K. Haldar**, ***J. Phys. G: Nucl. Part. Phys.*** **30**,351, (2004).

[60] Proton emission in nucleus nucleus interactions at 14.5 A GeV - Evidence of monofractality -D. Ghosh, A. Deb, S. R. Sahoo, **P. K. Haldar** and M. Mondal, ***EPL*** **65**,472-477, (2004).

[61] Dynamical fluctuation of proton emission in heavy ion interactions -D. Ghosh, A. Deb, S. R. Sahoo, **P. K. Haldar**, and M. Mondal, ***Indian J. Phys.*** **78**,1249-1252, (2004).

[62] Proton emission in asymmetric nuclear interactions at 14.5 A GeV -Evidence of strong dynamical fluctuation- D. Ghosh, A. Deb, S. R. Sahoo, **P. K. Haldar**, K. K. Patra and J. Ghosh, ***Indian J. Pure. Ap. Phy.*** **42**,403-406, (2004).

[63] Fragmentation in $^{32}S - Ag/Br$ interaction at 200 GeV/n-Evaporation model revisited-D. Ghosh, A. Deb, **P. K. Haldar** and S. R.Sahoo, ***Indian J. Phys.77A***,63-65, (2003).

[64] Observation of void probability scaling of proton emission in high energy nucleus-nucleus collisions -D. Ghosh, A. Deb, **P. K. Haldar** and S. R.Sahoo, ***Mod. Phys. Lett. A*** **18**, 2281-2286 (2003).

[65] Multifractal specific heats in ultra-high energy nuclear collisions -Dipak Ghosh,Argha Deb, **P. K. Haldar** and S. R.Sahoo, A. Jaffery, ***Nucl. Phys. A*** **707**, 213-223 (2002).

[66] Evidence of dynamical fluctuation of target residues in relativistic nuclear interaction at 14.5 A GeVc -D. Ghosh, A. Deb, S.R. Sahoo, K. K. Patra, **P. K. Haldar**, J. Ghosh, ***Czech. J. Phys.*** **52**, 789-794 (2002).

[67] Target Fragmentation in $^{28}Si - Ag/Br$ interactions at 14.5 AGeV evidence for two-and many-particle dynamical Correlations -D. Ghosh, A. Deb, S. Bhattacharyya, M. Mondol, R. Das, J. Ghosh, K. Chattopadhayay, R. Sarkar, S. Mukherjee, S. Biswas, P. Mondal, K. Kr. Patra, I. Dutta, S. R. Sahoo, **P. K. Haldar**, S. Prasad, S. Ghosh, ***Fizika B*** **11**, 73-82 (2002).

[68] Non-statistical fluctuation of 'compound multiplicity' in nucleus-nucleus interactions - evidence of strong intermittency- D. Ghosh, A. Deb, S. Bhattacharyya, M. Mondol, R. Das, J. Ghosh, K. Chattopadhayay, R. Sarkar, S. Mukherjee, S. Biswas, P. Mondal, K. Kr. Patra, I. Dutta, S. R. Sahoo, **P. K. Haldar**, S. Prasad, S. Ghosh, ***Chinese Phys. Letts.*** **19**, 1436-1438, (2002).

[69] A study on azimuthal asymmetry of emission of pions produced in ultra-relativistic nuclear collisions -D. Ghosh, A. Deb, S. R.Sahoo and **P. K. Haldar**, ***EPL*** **56**, 639-643, (2002).

[70] Fragmentation of targets in $^{28}Si - Ag/Br$ interactions at 14.5 A GeV- signature of side splash and strong azimuthal correlation-D. Ghosh, A. Deb, S. Bhattacharyya, M. Mondol, R. Das, J. Ghosh, K. Chattopadhayay, R. Sarkar, S. Mukherjee, S. Biswas, P. Mondal, K. Kr. Patra, I. Dutta, S. R. Sahoo, **P. K. Haldar**, S. Prasad, S. Ghosh, ***Indian J. Phys.*** **76A**, 277-281, (2002).

[71] Fragmentation in $^{16}O - Ag/Br$ interactions at 60 GeV/n, Evaporation model revisited-D. Ghosh, A. Deb, **P. K. Haldar** and S. R.Sahoo, ***Fizika B (Zagreb)*** **9**, 197-202, (2000).

International Conference Papers

[1] VLF radio signal perturbations during two recent solar eclipses observed from a VLF receiving station, Cooch Behar, India - B. Das, S. Pal, **P. K. Haldar**, **2021 XXXIVth General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)** DOI:10.23919/URSIGASS51995.2021.9560244 (2021).

[2] Effects of tropical cyclones on the VLF atmospherics observed from low latitude receiving stations - K. Barman, B. Das, S. Pal, **P. K. Haldar**, **2021 XXXIVth General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)** DOI:10.23919/URSIGASS51995.2021.9560207 (2021).

[3] Response of the mesosphere and lower ionosphere to the Extremely Severe Cyclone 'Fani' of 2019 over the North Indian Ocean - S. Pal *et al.*, **2020 XXXIIIrd General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)** DOI:DOI:10.23919/URSIGASS49373.2020.9232341 (2020).

[4] Combined effects of Geomagnetic storm and regional Earthquake on low latitude VLF radio signals: A case Study - **P. K. Haldar**, B. Das, A. Sen, S. Pal, **2020 XXXIIIrd General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)** DOI:10.23919/URSIGASS49373.2020.9231996 (2020).

[5] Study of earthquake precursors using Very Low Frequency (VLF) signals received at Cooch Behar in eastern India - B. Das, **P. K. Haldar**, C. Barman , A. Sen, **2019 URSI Asia-Pacific Radio Science Conference (AP-RASC)** DOI:10.23919/URSIAP-RASC.2019.8738253 (2019).

[6] Factorial correlators and Oscillatory multiplicity moments study at the CERN SPS energy for Ring-like and Jet-like events-S. K. Manna and **P. K. Haldar**, ***ICPAQGP 2010***, **Goa**, $6-10^{th}$ Dec, (2010).

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