

## Publication List of Sanjib Kumar Agarwalla

<https://inspirehep.net/authors/1039649>

According to Google Scholar: h-index is 36 and i10-index is 98

### **I. Latest Articles (1)**

#### **1. Probing Earth's core using atmospheric neutrino oscillations with NSI**

Krishnamoorthi J, Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla

**Submitted in JHEP**

Impact Factor: **5.0**

*e-Print: 2507.02167 [hep-ph]*

### **II. Papers published in peer-reviewed journals (74)**

#### **1. Improved precision on 2-3 oscillation parameters using the synergy between DUNE and T2HK**

Sanjib Kumar Agarwalla, Ritam Kundu, Masoom Singh

**JHEP 10 (2024) 243**

Impact Factor: **5.0**

*e-Print: 2408.12735 [hep-ph]*

#### **2. A plethora of long-range neutrino interactions probed by DUNE and T2HK**

Sanjib Kumar Agarwalla, Mauricio Bustamante, Masoom Singh, Pragyanprasu Swain

**JHEP 09 (2024) 055**

Impact Factor: **5.0**, Number of Citations: **6**

*e-Print: 2404.02775 [hep-ph]*

#### **3. Constraining non-unitary neutrino mixing using matter effects in atmospheric neutrinos at INO-ICAL**

Sadashiv Sahoo, Sudipta Das, Anil Kumar, Sanjib Kumar Agarwalla

**JHEP 09 (2024) 184**

Impact Factor: **5.0**, Number of Citations: **6**

*e-Print: 2309.16942 [hep-ph]*

**4. Search for a light sterile neutrino with 7.5 years of IceCube DeepCore data**

R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*

**Phys.Rev.D 110 (2024) 7, 072007**

Impact Factor: **4.60**, Number of Citations: **10**

*e-Print: 2407.01314 [hep-ex]*

**5. Exploration of mass splitting and muon/tau mixing parameters for an eV-scale sterile neutrino with IceCube**

R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*

**Phys.Lett.B 858 (2024) 139077**

Impact Factor: **4.30**, Number of Citations: **5**

*e-Print: 2406.00905 [hep-ex]*

**6. A search for an eV-scale sterile neutrino using improved high-energy  $\nu_\mu$  event reconstruction in IceCube\***

R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*

**Phys.Rev.Lett. 133 (2024) 20, 201804**

Impact Factor: **9.16**, Number of Citations: **17**

*e-Print: 2405.08070 [hep-ex]*

*[\* Selected as PRL Editors' Suggestion]*

**7. Methods and stability tests associated with the sterile neutrino search using improved high-energy  $\nu_\mu$  event reconstruction in IceCube**

R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*

**Phys.Rev.D 110 (2024) 9, 092009**

Impact Factor: **4.60**, Number of Citations: **7**

*e-Print: 2405.08077 [hep-ex]*

**8. Measurement of atmospheric neutrino oscillation parameters using convolutional neural networks with 9.3 years of data in IceCube DeepCore\***

R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*

**Phys.Rev.Lett. 134 (2025) 9, 091801**

Impact Factor: **9.16**, Number of Citations: **25**

*e-Print: 2405.02163 [hep-ex]*

*[\* Selected as PRL Editors' Suggestion]*

**9. Observation of Seven Astrophysical Tau Neutrino Candidates with IceCube\***

R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*

**Phys.Rev.Lett. 132 (2024) 15, 151001**

Impact Factor: **9.16**, Number of Citations: **19**

*e-Print: 2403.02516 [astro-ph.HE]*

*[\* Selected as PRL Editors' Suggestion and featured in APS Physics]*

**10. Flavor-dependent long-range neutrino interactions in DUNE & T2HK: alone they constrain, together they discover**

Masoom Singh, Mauricio Bustamante, Sanjib Kumar Agarwalla

**JHEP 08 (2023) 101**

Impact Factor: **5.0**, Number of Citations: **10**

*e-Print: 2305.05184 [hep-ph]*

**11. Present and future constraints on flavor-dependent long-range interactions of high-energy astrophysical neutrinos**

Sanjib Kumar Agarwalla, Mauricio Bustamante, Sudipta Das, Ashish Narang

**JHEP 08 (2023) 113**

Impact Factor: **5.0**, Number of Citations: **11**

*e-Print: 2305.03675 [hep-ph]*

**12. Constraining Lorentz Invariance Violation with Next-Generation Long-Baseline Experiments**

Sanjib Kumar Agarwalla, Sudipta Das, Sadashiv Sahoo, Pragyanprasu Swain

**JHEP 07 (2023) 216**

Impact Factor: **5.0**, Number of Citations: **10**

*e-Print: 2302.12005 [hep-ph]*

13. **Enhancing Sensitivity to Leptonic CP Violation using Complementarity among DUNE, T2HK, and T2HKK**  
Sanjib Kumar Agarwalla, Sudipta Das, Alessio Giarnetti, Davide Meloni, Masoom Singh  
[Eur.Phys.J.C 83 \(2023\) 8, 694](#)  
Impact Factor: **4.20**, Number of Citations: **16**  
*e-Print: 2211.10620 [hep-ph]*
14. **Measurement of Atmospheric Neutrino Mixing with Improved IceCube DeepCore Calibration and Data Processing**  
R. Abbasi, M. Ackermann, J. Adams, S. K. Agarwalla *et al.*  
[Phys.Rev.D 108 \(2023\) 1, 012014](#)  
Impact Factor: **4.60**, Number of Citations: **52**  
*e-Print: 2304.12236 [hep-ex]*
15. **Probing Dark matter inside Earth using atmospheric neutrino oscillations at INO-ICAL**  
Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
[Phys.Rev.D 107 \(2023\) 11, 115030](#)  
Impact Factor: **4.60**, Number of Citations: **10**  
*e-Print: 2112.14201 [hep-ph]*
16. **Discriminating between Lorentz violation and non-standard interactions using core-passing atmospheric neutrinos at INO-ICAL**  
Sadashiv Sahoo, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
[Phys.Lett.B 841 \(2023\) 137949](#)  
Impact Factor: **4.95**, Number of Citations: **10**  
*e-Print: 2205.05134 [hep-ph]*
17. **Locating the core-mantle boundary using oscillations of atmospheric neutrinos**  
Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
[JHEP 04 \(2023\) 068](#)  
Impact Factor: **5.0**, Number of Citations: **14**  
*e-Print: 2211.08688 [hep-ph]*

18. **Model-Independent Constraints on Non-Unitary Neutrino Mixing from High-Precision Long-Baseline Experiments**  
Sanjib Kumar Agarwalla, Sudipta Das, Alessio Giarnetti, Davide Meloni  
[JHEP 07 \(2022\) 121](#)  
Impact Factor: **5.0**, Number of Citations: **17**  
*e-Print: 2111.00329 [hep-ph]*
  
19. **A close look on 2-3 mixing angle with DUNE in light of current neutrino oscillation data**  
Sanjib Kumar Agarwalla, Ritam Kundu, Suprabh Prakash, Masoom Singh  
[JHEP 03 \(2022\) 206](#)  
Impact Factor: **5.0**, Number of Citations: **9**  
*e-Print: 2111.11748 [hep-ph]*
  
20. **Probing Lorentz Invariance Violation with Atmospheric Neutrinos at INO-ICAL**  
Sadashiv Sahoo, Anil Kumar, Sanjib Kumar Agarwalla  
[JHEP 03 \(2022\) 050](#)  
Impact Factor: **5.0**, Number of Citations: **17**  
*e-Print: 2110.13207 [hep-ph]*
  
21. **Evolution of Neutrino Mass-Mixing Parameters in Matter with Non-Standard Interactions**  
Sanjib Kumar Agarwalla, Sudipta Das, Mehedi Masud, Pragyanprasu Swain  
[JHEP 2111 \(2021\) 094](#)  
Impact Factor: **5.0**, Number of Citations: **16**  
*e-Print: 2103.13431 [hep-ph]*
  
22. **Validating the Earth's Core using Atmospheric Neutrinos with ICAL at INO**  
Anil Kumar, Sanjib Kumar Agarwalla  
[JHEP 2108 \(2021\) 139](#)  
Impact Factor: **5.0**, Number of Citations: **20**  
*e-Print: 2104.11740 [hep-ph]*

23. **A New Approach to Probe Non-Standard Interactions in Atmospheric Neutrino Experiments**

Anil Kumar, Amina Khatun, Sanjib Kumar Agarwalla, Amol Dighe

**JHEP 2104 (2021) 159**

Impact Factor: **5.0**, Number of Citations: **20**

*e-Print: 2101.02607 [hep-ph]*

24. **From oscillation dip to oscillation valley in atmospheric neutrino experiments**

Anil Kumar, Amina Khatun, Sanjib Kumar Agarwalla, Amol Dighe

**Eur. Phys. J. C (2021) 81: 190**

Impact Factor: **4.20**, Number of Citations: **13**

*e-Print: 2006.14529 [hep-ph]*

25. **Can Lorentz Invariance Violation affect the Sensitivity of Deep Underground Neutrino Experiment?**

Sanjib Kumar Agarwalla, Mehedi Masud

**Eur. Phys. J. C (2020) 80: 716**

Impact Factor: **4.20**, Number of Citations: **20**

*e-Print: 1912.13306 [hep-ph]*

26. **Enhancing Sensitivity to Non-Standard Neutrino Interactions at INO combining muon and hadron information**

Amina Khatun, Sabya Sachi Chatterjee, Tarak Thakore, Sanjib Kumar Agarwalla

**Eur. Phys. J. C (2020) 80: 533**

Impact Factor: **4.20**, Number of Citations: **15**

*e-Print: 1907.02027 [hep-ph]*

27. **Constraints on Non-Standard Neutrino Interactions from Borexino Phase-II**

S. K. Agarwalla\* *et al.*

**JHEP 2002 (2020) 038**

Impact Factor: **5.0**, Number of Citations: **45**

*e-Print: 1905.03512 [hep-ph]*

*[\* Played an important role in data analysis and in writing the draft]*

28. **Physics Potential of ESS $\nu$ SB in the presence of a Light Sterile Neutrino**  
Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Antonio Palazzo  
**JHEP 1912 (2019) 174**  
Impact Factor: **5.0**, Number of Citations: **18**  
*e-Print: 1909.13746 [hep-ph]*
29. **Universe's Worth of Electrons to Probe Long-Range Interactions of High-Energy Astrophysical Neutrinos\***  
Mauricio Bustamante, Sanjib Kumar Agarwalla  
**Phys.Rev.Lett. 122 (2019) no.6, 061103**  
Impact Factor: **8.1**, Number of Citations: **58**  
*e-Print: 1808.02042 [astro-ph.HE]*  
*[\* Selected as PRL Editors' Suggestion and featured in APS Physics]*
30. **Same-sign Multilepton Signatures of an  $SU(2)_R$  Quintuplet at the LHC**  
Sanjib Kumar Agarwalla, Kirtiman Ghosh, Nilanjana Kumar, Ayon Patra  
**JHEP 1901 (2019) 080**  
Impact Factor: **5.0**, Number of Citations: **10**  
*e-Print: 1808.02904 [hep-ph]*
31. **Active-sterile neutrino oscillations at INO-ICAL over a wide mass-squared range**  
Tarak Thakore, Moon Moon Devi, Sanjib Kumar Agarwalla, Amol Dighe  
**JHEP 1808 (2018) 022**  
Impact Factor: **5.0**, Number of Citations: **22**  
*e-Print: 1804.09613 [hep-ph]*
32. **Sub-TeV Quintuplet Minimal Dark Matter with Left-Right Symmetry**  
Sanjib Kumar Agarwalla, Kirtiman Ghosh, Ayon Patra  
**JHEP 1805 (2018) 123**  
Impact Factor: **5.0**, Number of Citations: **8**  
*e-Print: 1803.01670 [hep-ph]*

33. **Signatures of a Light Sterile Neutrino in T2HK**  
Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Antonio Palazzo  
[JHEP 1804 \(2018\) 091](#)  
Impact Factor: **5.0**, Number of Citations: **31**  
*e-Print: 1801.04855 [hep-ph]*
34. **Can INO be Sensitive to Flavor-Dependent Long-Range Forces?**  
Amina Khatun, Tarak Thakore, Sanjib Kumar Agarwalla  
[JHEP 1804 \(2018\) 023](#)  
Impact Factor: **5.0**, Number of Citations: **14**  
*e-Print: 1801.00949 [hep-ph]*
35. **Addressing Neutrino Mixing Schemes with DUNE and T2HK**  
Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, S. T. Petcov, A. V. Titov  
[Eur. Phys. J. C \(2018\) 78: 286](#)  
Impact Factor: **4.20**, Number of Citations: **29**  
*e-Print: 1711.02107 [hep-ph]*
36. **Indirect searches of Galactic diffuse dark matter in INO-MagICAL detector**  
Amina Khatun, Ranjan Laha, Sanjib Kumar Agarwalla  
[JHEP 1706 \(2017\) 057](#)  
Impact Factor: **5.0**, Number of Citations: **11**  
*e-Print: 1703.10221 [hep-ph]*
37. **A hybrid setup for fundamental unknowns in neutrino oscillations using T2HK ( $\nu$ ) and  $\mu$ -DAR ( $\bar{\nu}$ )**  
Sanjib Kumar Agarwalla, Monojit Ghosh, Sushant K. Raut  
[JHEP 1705 \(2017\) 115](#)  
Impact Factor: **5.0**, Number of Citations: **16**  
*e-Print: 1704.06116 [hep-ph]*
38. **Octant of  $\theta_{23}$  in danger with a light sterile neutrino**  
Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Antonio Palazzo

**Phys.Rev.Lett. 118 (2017) no.3, 031804**

Impact Factor: **8.1**, Number of Citations: **61**

*e-Print: 1605.04299 [hep-ph]*

39. **Degeneracy between  $\theta_{23}$  octant and neutrino non-standard interactions at DUNE**

Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Antonio Palazzo

**Phys.Lett.B 762 (2016) 64-71**

Impact Factor: **4.3**, Number of Citations: **76**

*e-Print: 1607.01745 [hep-ph]*

40. **Physics Reach of DUNE with a Light Sterile Neutrino**

Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Antonio Palazzo

**JHEP 1609 (2016) 016**

Impact Factor: **5.0**, Number of Citations: **69**

*e-Print: 1603.03759 [hep-ph]*

41. **Discovery Potential of T2K and  $\text{NO}\nu\text{A}$  in the Presence of a Light Sterile Neutrino**

Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Arnab Dasgupta, Antonio Palazzo

**JHEP 1602 (2016) 111**

Impact Factor: **5.0**, Number of Citations: **51**

*e-Print: 1601.05995 [hep-ph]*

42. **Exploring Flavor-Dependent Long-Range Forces in Long-Baseline Neutrino Oscillation Experiments**

Sabya Sachi Chatterjee, Arnab Dasgupta, Sanjib Kumar Agarwalla

**JHEP 1512 (2015) 167**

Impact Factor: **5.0**, Number of Citations: **19**

*e-Print: 1509.03517 [hep-ph]*

43. **Running of Neutrino Oscillation Parameters in Matter with Flavor-Diagonal Non-Standard Interactions of the Neutrino**

Sanjib Kumar Agarwalla, Yee Kao, Debashis Saha, Tatsu Takeuchi

**JHEP 1511 (2015) 035**

Impact Factor: **5.0**, Number of Citations: **15**

*e-Print: 1506.08464 [hep-ph]*

**44. Physics Potential of the ICAL detector at the India-based Neutrino Observatory (INO)**

A. Kumar, Sanjib Kumar Agarwalla *et al.*

**Pramana 88 (2017) no.5, 79**

Impact Factor: **1.185**, Number of Citations: **300**

*e-Print: 1505.07380 [physics.ins-det]*

**45. Probing Non-Standard Interactions at Daya Bay**

Sanjib Kumar Agarwalla, Partha Bagchi, David V. Forero, Mariam Tortola

**JHEP 1507 (2015) 060**

Impact Factor: **5.0**, Number of Citations: **40**

*e-Print: 1412.1064 [hep-ph]*

**46. Probing Neutrino Oscillation Parameters using High Power Superbeam from ESS**

Sanjib Kumar Agarwalla, Sandhya Choubey, Suprabh Prakash

**JHEP 1412 (2014) 020**

Impact Factor: **5.0**, Number of Citations: **31**

*e-Print: 1406.2219 [hep-ph]*

**47. Enhancing sensitivity to neutrino parameters at INO combining muon and hadron information**

Moon Moon Devi, Tarak Thakore, Sanjib Kumar Agarwalla, Amol Dighe

**JHEP 1410 (2014) 189**

Impact Factor: **5.0**, Number of Citations: **86**

*e-Print: 1406.3689 [hep-ph]*

**48. The mass-hierarchy and CP-violation discovery reach of the LBNO long-baseline neutrino experiment**

S.K. Agarwalla *et al.*

**JHEP 1405 (2014) 094**

Impact Factor: **5.0**, Number of Citations: **100**

*e-Print: 1312.6520 [hep-ph]*

49. **Analytical Approximation of the Neutrino Oscillation Matter Effects at large  $\theta_{13}$**

Sanjib Kumar Agarwalla, Yee Kao, Tatsu Takeuchi

[JHEP 1404 \(2014\) 047](#)

Impact Factor: **5.0**, Number of Citations: **62**

*e-Print: 1302.6773 [hep-ph]*

50. **Exploring the three flavor effects with future superbeams using liquid argon detectors**

Sanjib Kumar Agarwalla, Suprabh Prakash, S. Uma Sankar

[JHEP 1403 \(2014\) 087](#)

Impact Factor: **5.0**, Number of Citations: **45**

*e-Print: 1304.3251 [hep-ph]*

51. **Light sterile neutrino sensitivity at the nuSTORM facility**

D. Adey, S.K. Agarwalla *et al.*

[Phys.Rev. D89 \(2014\) 7, 071301](#)

Impact Factor: **4.506**, Number of Citations: **66**

*e-Print: 1402.5250 [hep-ex]*

52. **Physics Potential of Long-Baseline Experiments**

Sanjib Kumar Agarwalla

[Adv.High Energy Phys. 2014 \(2014\) 457803](#)

Impact Factor: **1.839**, Number of Citations: **26**

*e-Print: 1401.4705 [hep-ph]*

53. **Resolving the octant of  $\theta_{23}$  with T2K and NO $\nu$ A**

Sanjib Kumar Agarwalla, Suprabh Prakash, S. Uma Sankar

[JHEP 1307 \(2013\) 131](#)

Impact Factor: **5.0**, Number of Citations: **91**

*e-Print: 1301.2574 [hep-ph]*

54. **Potential of optimized  $\text{NO}\nu\text{A}$  for large  $\theta_{13}$  & combined performance with a LArTPC & T2K**  
Sanjib Kumar Agarwalla, Suprabh Prakash, Sushant K. Raut, S. Uma Sankar  
[JHEP 1212 \(2012\) 075](#)  
Impact Factor: **5.0**, Number of Citations: **79**  
*e-Print: 1208.3644 [hep-ph]*
55. **Constraining Non-Standard Interactions of the Neutrino with Borexino**  
Sanjib Kumar Agarwalla, Francesco Lombardi, Tatsu Takeuchi  
[JHEP 1212 \(2012\) 079](#)  
Impact Factor: **5.0**, Number of Citations: **37**  
*e-Print: 1207.3492 [hep-ph]*
56. **Probing the Neutrino Mass Hierarchy with Super-Kamiokande**  
Sanjib Kumar Agarwalla, Pilar Hernández  
[JHEP 1210 \(2012\) 086](#)  
Impact Factor: **5.0**, Number of Citations: **15**  
*e-Print: 1204.4217 [hep-ph]*
57. **An incremental approach to unravel the neutrino mass hierarchy and CP violation with a long-baseline Superbeam for large  $\theta_{13}$**   
Sanjib Kumar Agarwalla, Tracey Li, André Rubbia  
[JHEP 1205 \(2012\) 154](#)  
Impact Factor: **5.0**, Number of Citations: **46**  
*e-Print: 1109.6526 [hep-ph]*
58. **Short-baseline Neutrino Oscillation Waves in Ultra-large Liquid Scintillator Detectors**  
Sanjib Kumar Agarwalla, J.M. Conrad, M.H. Shaevitz  
[JHEP 1112 \(2011\) 085](#)  
Impact Factor: **5.0**, Number of Citations: **24**  
*e-Print: 1105.4984 [hep-ph]*

59. **Neutrino Probes of the Nature of Light Dark Matter**  
Sanjib Kumar Agarwalla, Mattias Blennow, Enrique Fernandez Martinez, Olga Mena  
[JCAP 1109 \(2011\) 004](#)  
Impact Factor: **5.634**, Number of Citations: **16**  
*e-Print: 1105.4077 [hep-ph]*
60. **Optimization of the Neutrino Factory, revisited**  
Sanjib Kumar Agarwalla, Patrick Huber, Jian Tang, Walter Winter  
[JHEP 1101 \(2011\) 120](#)  
Impact Factor: **5.0**, Number of Citations: **36**  
*e-Print: 1012.1872 [hep-ph]*
61. **LSND reloaded**  
Sanjib Kumar Agarwalla, Patrick Huber  
[Phys.Lett. B696 \(2011\) 359-361](#)  
Impact Factor: **4.787**, Number of Citations: **24**  
*e-Print: 1007.3228 [hep-ph]*
62. **A new approach to anti-neutrino running in long baseline neutrino oscillation experiments**  
Sanjib Kumar Agarwalla, Patrick Huber, Jonathan M. Link, Debabrata Mohapatra  
[JHEP 1104 \(2011\) 099](#)  
Impact Factor: **5.0**, Number of Citations: **15**  
*e-Print: 1005.4055 [hep-ph]*
63. **Potential measurement of the weak mixing angle with neutrino-electron scattering at low energy**  
Sanjib Kumar Agarwalla, Patrick Huber  
[JHEP 1108 \(2011\) 059](#)  
Impact Factor: **5.0**, Number of Citations: **12**  
*e-Print: 1005.1254 [hep-ph]*

64. **Exploring neutrino parameters with a beta-beam experiment from FNAL to DUSEL**  
Sanjib Kumar Agarwalla, Patrick Huber  
**Phys.Lett. B693 (2010) 114-121**  
Impact Factor: **4.787**, Number of Citations: **6**  
*e-Print: 0909.2257 [hep-ph]*
65. **Constraining sterile neutrinos with a low energy beta-beam**  
Sanjib Kumar Agarwalla, Patrick Huber, Jonathan M. Link  
**JHEP 1001 (2010) 071**  
Impact Factor: **5.0**, Number of Citations: **26**  
*e-Print: 0907.3145 [hep-ph]*
66. **Exceptional Sensitivity to Neutrino Parameters with a Two Baseline Beta-Beam Set-up**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**Nucl.Phys. B805 (2008) 305-325**  
Impact Factor: **3.735**, Number of Citations: **28**  
*e-Print: 0804.3007 [hep-ph]*
67. **Optimizing the greenfield Beta-beam**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri, Walter Winter  
**JHEP 0806 (2008) 090**  
Impact Factor: **5.0**, Number of Citations: **35**  
*e-Print: 0802.3621 [hep-ex]*
68. **Unraveling neutrino parameters with a magical beta-beam experiment at INO**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**Nucl.Phys. B798 (2008) 124-145**  
Impact Factor: **3.735**, Number of Citations: **41**  
*e-Print: 0711.1459v1 [hep-ph]*

69. **Neutrino parameters from matter effects in the  $\nu_e$  survival probability at long baselines**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Srubabati Goswami, Amitava Raychaudhuri  
**Phys.Rev. D75 (2007) 097302**  
Impact Factor: **4.506**, Number of Citations: **29**  
*e-Print: hep-ph/0611233*
70. **Neutrino Mixings and Leptonic CP Violation from CKM Matrix and Majorana Phases**  
Sanjib Kumar Agarwalla, M.K. Parida, R.N. Mohapatra, G. Rajasekaran  
**Phys.Rev. D75 (2007) 033007**  
Impact Factor: **4.506**, Number of Citations: **41**  
*e-Print: hep-ph/0611225*
71. **Neutrino mass hierarchy and  $\theta_{13}$  with a magic baseline beta-beam experiment**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**Nucl.Phys. B771 (2007) 1-27**  
Impact Factor: **3.735**, Number of Citations: **68**  
*e-Print: hep-ph/0610333*
72. **Probing Lepton Number Violating Interactions with Beta-beams**  
Sanjib Kumar Agarwalla, Subhendu Rakshit, Amitava Raychaudhuri  
**Phys.Lett. B647 (2007) 380-388**  
Impact Factor: **4.787**, Number of Citations: **16**  
*e-Print: hep-ph/0609252*
73. **Can R-parity violating supersymmetry be seen in long baseline beta-beam experiments?**  
Rathin Adhikari, Sanjib Kumar Agarwalla, Amitava Raychaudhuri  
**Phys.Lett. B642 (2006) 111-118**  
Impact Factor: **4.787**, Number of Citations: **35**  
*e-Print: hep-ph/0608034*

74. **Exploration prospects of a long baseline beta beam neutrino experiment with an iron calorimeter detector**

Sanjib Kumar Agarwalla, Amitava Raychaudhuri, Abhijit Samanta

**Phys.Lett. B629 (2005) 33-40**

Impact Factor: **4.787**, Number of Citations: **49**

*e-Print: hep-ph/0505015*

### **III. Papers communicated to peer-reviewed journals (1)**

1. **Constraining the core radius and density jumps inside Earth using atmospheric neutrino oscillations**

Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe

**Submitted in JHEP**

Impact Factor: **5.0**, Number of Citations: **5**

*e-Print: 2405.04986 [hep-ph]*

### **IV. Unpublished papers (7)**

1. **LHC diphoton excess in a left-right symmetric model with minimal dark matter**

Sanjib Kumar Agarwalla, Kirtiman Ghosh, Ayon Patra

Number of Citations: **8**

*e-Print: 1607.03878 [hep-ph]*

2. **New Power to Measure Supernova  $\nu_e$  with Large Liquid Scintillator Detectors**

Ranjan Laha, John F. Beacom, Sanjib Kumar Agarwalla

Number of Citations: **34**

*e-Print: 1412.8425 [hep-ph]*

3. **The LBNO long-baseline oscillation sensitivities with two conventional neutrino beams at different baselines**

S.K. Agarwalla *et al.*

Number of Citations: **17**

*e-Print: 1412.0804 [hep-ph]*

4. **Optimised sensitivity to leptonic CP violation from spectral information: the LBNO case at 2300 km baseline**

S.K. Agarwalla *et al.*

Number of Citations: **25**

*e-Print: 1412.0593 [hep-ph]*

5. **High-precision measurement of atmospheric mass-squared splitting with T2K and NOvA**

Sanjib Kumar Agarwalla, Suprabh Prakash, Wei Wang

Number of Citations: **15**

*e-Print: 1312.1477 [hep-ph]*

6. **Exploring the Earth matter effect with atmospheric neutrinos in ice**

Sanjib Kumar Agarwalla, Tracey Li, Olga Mena, Sergio Palomares-Ruiz

Number of Citations: **43**

*e-Print: 1212.2238 [hep-ph]*

7. **New Physics with MeV Neutrino Sources Brighter than a Thousand Suns**

Sanjib Kumar Agarwalla, R. S. Raghavan

Number of Citations: **11**

*e-Print: 1011.4509 [hep-ph]*

## V. **Working Group Reports (13)**

1. **High-energy and ultra-high-energy neutrinos: A Snowmass white paper**

Markus Ackermann, Mauricio Bustamante, Lu Lu, Nepomuk Otte, Mary Hall Reno, S. K. Agarwalla *et al.*

**JHEAp 36 (2022) 55-110**

Impact Factor: **10.2**, Number of Citations: **123**

*e-Print: 2203.08096 [hep-ph]*

*Contribution to: Snowmass 2021*

**2. nuSTORM - Neutrinos from STOREd Muons: Proposal to the Fermilab PAC**

D. Adey, S. K. Agarwalla *et al.*

Number of Citations: **97**

*e-Print: 1308.6822 [physics.acc-ph]*

*FERMILAB-PROPOSAL-1028*

**3. R&D Argon Detector at Ash River (RADAR) - Letter of Intent**

P. Adamson, S. Agarwalla *et al.*

Number of Citations: **2**

*e-Print: 1307.6507 [physics.ins-det]*

**4. High-Intensity Neutrino Oscillation Facilities in Europe**

T.R. Edgecock *et al.*

**[Phys.Rev.ST Accel.Beams 16 \(2013\) 021002](#)**

Impact Factor: **1.5**, Number of Citations: **68**

*e-Print: 1305.4067 [physics.acc-ph]*

**5. Neutrinos from Stored Muons nuSTORM: Expression of Interest**

D. Adey, S. K. Agarwalla *et al.*

Number of Citations: **32**

*e-Print: 1305.1419 [physics.acc-ph]*

*CERN-SPSC-2013-015, SPSC-EOI-009*

**6. Expression of Interest for a very long baseline neutrino oscillation experiment (LBNO)**

A. Stahl *et al.*

Number of Citations: **101**

*CERN-SPSC-2012-021, SPSC-EOI-007*

7. **EUROnu-WP6 2010 Report**  
S. K. Agarwalla *et al.*  
Number of Citations: **6**  
*e-Print: 1209.2825 [hep-ph]*
  
8. **nuSTORM - Neutrinos from STOREd Muons: Letter of Intent to the Fermilab Physics Advisory Committee**  
P. Kyberd *et al.*  
Number of Citations: **120**  
*e-Print: 1206.0294 [hep-ex]*
  
9. **Light Sterile Neutrinos: A White Paper**  
K. N. Abazajian *et al.*  
Number of Citations: **1029**  
*e-Print: 1204.5379 [hep-ph]*
  
10. **International Design Study for the Neutrino Factory, Interim Design Report**  
S. Choubey *et al.*  
Number of Citations: **276**  
*e-Print: 1112.2853 [hep-ex]*  
<https://www.ids-nf.org/wiki/FrontPage/Documentation>
  
11. **Working group report: Neutrino physics**  
S. Choubey *et al.*  
[Pramana 72, 269-275 \(2009\)](#)  
Prepared for the Workshop WHEPP-X, IMSc, Chennai, India
  
12. **Working group report: Astroparticle and neutrino physics**  
R. Gandhi *et al.*  
[Pramana 67, 735-742 \(2006\)](#)  
Prepared for the Workshop WHEPP-IX, Institute of Physics, Bhubaneswar, India

13. **India-based Neutrino Observatory: Project Report. Volume I**

M. S. Athar *et al.* [ INO Collaboration ]

<http://www.imsc.res.in/ino/OpenReports/INOReport.pdf>

**VI. Conference Proceedings (33)**

1. **A plethora of long-range neutrino interactions probed by DUNE and T2HK**

Sanjib Kumar Agarwalla, Mauricio Bustamante, Masoom Singh, Pragyanprasu Swain

**e-Print: 2501.14835 [hep-ph]**

Conference proceedings for the 25th International Workshop on Neutrinos from Accelerators (NuFact 2024)

2. **Constraints on flavor-dependent long-range interactions of high-energy astrophysical neutrinos**

Sanjib Kumar Agarwalla, Mauricio Bustamante, Sudipta Das, Ashish Narang

**e-Print: 2501.12662 [hep-ph]**

Conference proceedings for the 25th International Workshop on Neutrinos from Accelerators (NuFact 2024)

3. **Flavor-Dependent Long-Range Neutrino Interactions in DUNE and T2HK: Synergy Breeds Power**

Masoom Singh, Mauricio Bustamante, Sanjib Kumar Agarwalla

**e-Print: 2501.12171 [hep-ph]**

Conference proceedings for the 25th International Workshop on Neutrinos from Accelerators (NuFact 2024)

4. **Exploring constraints on the core radius and density jumps inside Earth using atmospheric neutrino oscillations**

Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe

**e-Print: 2501.07621 [hep-ph]**

Conference proceedings for the 25th International Workshop on Neutrinos from Accelerators (NuFact 2024)

5. **Probing non-unitary neutrino mixing using atmospheric neutrinos at INO-ICAL**  
Sadashiv Sahoo, Sudipta Das, Anil Kumar, Sanjib Kumar Agarwalla  
[Springer Proc.Phys. 304 \(2024\) 290-293](#)  
Contribution to the 25th DAE-BRNS High Energy Physics Symposium
6. **Utmost Precision on 2-3 Oscillation Parameters Using DUNE**  
Sanjib Kumar Agarwalla, Ritam Kundu, Suprabh Prakash, Masoom Singh  
[Springer Proc.Phys. 304 \(2024\) 1171-1173](#)  
Contribution to the 25th DAE-BRNS High Energy Physics Symposium
7. **Complementarity Between DUNE and T2HK: Gateway to Improved CP Coverage**  
Masoom Singh, Sudipta Das, Alessio Giarnetti, Sanjib Kumar Agarwalla, Davide Meloni  
[Springer Proc.Phys. 304 \(2024\) 806-808](#)  
Contribution to the 25th DAE-BRNS High Energy Physics Symposium
8. **Earth Tomography with Oscillating Neutrinos at ICAL**  
Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
[Springer Proc.Phys. 304 \(2024\) 294-297](#)  
Contribution to the 25th DAE-BRNS High Energy Physics Symposium
9. **Constraining Unitarity of Three-Flavor Neutrino Mixing Matrix from Next-Generation Long-Baseline Experiments**  
Sanjib Kumar Agarwalla, Sudipta Das, Alessio Giarnetti, Davide Meloni  
[Springer Proc.Phys. 304 \(2024\) 719-721](#)  
Contribution to the 25th DAE-BRNS High Energy Physics Symposium
10. **Neutrino Oscillation Parameters: Present and Future**  
Sanjib Kumar Agarwalla, Ritam Kundu, Masoom Singh  
[PoS HQL2023 \(2024\) 022](#)  
Contribution to the 16th International Conference on Heavy Quarks and Leptons (HQL 2023)

11. **Exploring Long-Range Interactions of  $L_\mu - L_\tau$  symmetry at INO-ICAL**  
Amina Khatun, Sanjib Kumar Agarwalla  
**PoS TAUP2023 (2024) 269**  
Contribution to the Conference TAUP 2023
12. **Probing the interior of Earth using oscillating neutrinos at INO-ICAL**  
Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
**PoS (EPS-HEP2023) 198**  
*e-Print: 2401.17416 [hep-ph]*  
Contribution to the Conference EPS-HEP 2023
13. **Neutrino Oscillations in the Earth: A Unique Tool to Probe Dark Matter Inside the Core**  
Anuj Kumar Upadhyay, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
**Phys.Sci.Forum 8 (2023) 1, 54**  
Contribution to the Workshop NuFact 2022
14. **Discriminating Between Lorentz Violation and Non-Standard Interactions Using Core-Passing Atmospheric Neutrinos at INO-ICAL**  
Sadashiv Sahoo, Anil Kumar, Sanjib Kumar Agarwalla, Amol Dighe  
**Book by World Scientific: CPT and Lorentz Symmetry, June 2023, 226-228**  
Contribution to the 9th Meeting on CPT and Lorentz Symmetry (CPT'22)
15. **Can Deviation from Maximal  $\theta_{23}$  be Resolved in DUNE?**  
Masoom Singh, Ritam Kundu, Sanjib Kumar Agarwalla, Suprabh Prakash  
**Phys.Sci.Forum 8 (2023) 1, 9**  
Contribution to the Workshop NuFact 2022
16. **Exploring Matter Effect and Associated Degeneracies at DUNE**  
C. Soumya, Masoom Singh, Sanjib Kumar Agarwalla  
**PoS NuFact2021 (2022) 069**  
Contribution to the Workshop NuFact 2021

17. **Exploring Earth's Matter Effect in High-Precision Long-Baseline Experiments**

Masoom Singh, Sanjib Kumar Agarwalla

**PoS EPS-HEP2021 (2022) 191**

*e-Print: 2110.11215 [hep-ph]*

Contribution to the Conference EPS-HEP 2021

18. **Probing the Earth's Core using Atmospheric Neutrinos at INO**

Anil Kumar, Sanjib Kumar Agarwalla

**PoS EPS-HEP2021 (2022) 257**

*e-Print: 2110.08333 [hep-ph]*

Contribution to the Conference EPS-HEP 2021

19. **Exploring the Violation of Lorentz Invariance using Atmospheric Neutrinos at INO-ICAL**

Sadashiv Sahoo, Anil Kumar, Sanjib Kumar Agarwalla

**J.Phys.Conf.Ser. 2156 (2021) 012238**

Contribution to the Conference TAUP 2021

20. **Probing NSI in Atmospheric Neutrino Experiments using Oscillation Dip & Valley**

Anil Kumar, Amina Khatun, Sanjib Kumar Agarwalla, Amol Dighe

**Springer Proc.Phys. 277 (2022) 525-529**

*e-Print: 2104.06955 [hep-ph]*

Contribution to proceedings of the 24th DAE-BRNS High Energy Physics Symposium

21. **Constraining Non-Standard Interactions of Neutrino Using ICAL Detector at INO**

Amina Khatun, Sabya Sachi Chatterjee, Tarak Thakore, Sanjib Kumar Agarwalla

**Springer Proc.Phys. 203 (2018) 289-292**

Contribution to proceedings of the 22nd DAE-BRNS High Energy Physics Symposium

22. **Looking for Galactic Diffuse Dark Matter in INO-MagICAL Detector**

Sanjib Kumar Agarwalla, Amina Khatun, Ranjan Laha

**PoS NuFact2017 (2018) 137**

Contribution to the Workshop NuFact 2017

*e-Print: 1803.02868 [hep-ph]*

**23. Can we measure  $\theta_{23}$  octant in 3+1 scheme?**

Sanjib Kumar Agarwalla, Sabya Sachi Chatterjee, Antonio Palazzo

**Springer Proc.Phys. 203 (2018) 235-237**

Contribution to proceedings of the 22nd DAE-BRNS High Energy Physics Symposium

*e-Print: 1704.07151 [hep-ph]*

**24. Neutrino Mass Hierarchy in Future Long-baseline Experiments**

Sanjib Kumar Agarwalla

**Nucl.Phys.Proc.Suppl. 237-238 (2013) 196-198**

Contribution to the Workshop NOW 2012

**25. Optimized Neutrino Factory for small and large  $\theta_{13}$**

Sanjib Kumar Agarwalla

**J.Phys.Conf.Ser. 408 (2013) 012022**

*e-Print: 1110.3681 [hep-ph]*

Contribution to the Workshop NuFact 2011

**26. New approach to anti-neutrino from muon decay at rest**

Sanjib Kumar Agarwalla

*e-Print: 1107.4951 [hep-ph]*

Contribution to the 46th Rencontres de Moriond on Electroweak Interactions and Unified Theories

**27. Constraining sterile neutrinos with a low energy beta-beam**

Sanjib Kumar Agarwalla

**AIP Conf. Proc. 1222 (2010) 1, 169-173**

*e-Print: 1006.1640 [hep-ph]*

Contribution to the Workshop NuFact 2009

28. **CERN-INO magical Beta-beam experiment: A high precision probe for neutrino parameters**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**PoS NUFACT08 (2008) 034**  
*e-Print: 0811.1822 [hep-ph]*  
Contribution to the Workshop NuFact 2008
29. **Probing neutrino parameters with a Two-Baseline Beta-beam set-up**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**PoS NUFACT08 (2008) 113**  
*e-Print: 0811.1828 [hep-ph]*  
Contribution to the Workshop NuFact 2008
30. **Optimizing the greenfield Beta-beam**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri, Walter Winter  
**J. Phys. Conf. Ser. 136, 042033 (2008)**
31. **Neutrino parameters with magical beta-beam at INO**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**J. Phys. Conf. Ser. 136, 042029 (2008)**
32. **Physics with Beta-Beam**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**AIP Conf. Proc. 981, 84-88 (2008)**  
*e-Print: 0712.4072 [hep-ph]*  
Contribution to the Workshop NuFact 2007
33. **Magic Baseline Beta Beam**  
Sanjib Kumar Agarwalla, Sandhya Choubey, Amitava Raychaudhuri  
**AIP Conf. Proc. 939, 265-268 (2007)**  
*e-Print: 0707.3367 [hep-ph]*  
Contribution to the Workshop IWTHEP 2007