

Publications in Symposia & Conferences and Report (2003)

1. Addendum to the technical Design Report of the Photon Multiplicity Detector (PMD). CERN/LHCC 2003-038.
2. Jan-e Alam, S. K. Ghosh, P. Roy and S. Sarkar: “*Lepton Pairs from Photon - Nucleus Collisions*”, Proc. of DAE-BRNS Symp. on Nucl. Phys. (India), 404 (2003).
3. Jan-e Alam, B. Mohanty, P. Roy, S. Sarkar and B. Sinha: “*Photon Interferometry and the Size of the Fire Ball*” Proc. of DAE Symp. on Nucl. Phys. (India), 376 (2003).
4. Jan-e Alam, P. Roy and Sourav Sarkar: “*Photons from Baryonic Matter*”, Proc. of DAE-BRNS Symp. on Nucl. Phys. (India), 380 (2003).
5. P. S. Babu and V. S. Pandit, “*Effect of beam density distribution on space charge tune shift in a cyclotron beam*”, Indian Particle Accelerator Conference, InPAC-2003
6. P. S. Babu and V. S. Pandit, “*Design of an LEBT for injection of high brightness proton beam in a compact cyclotron*”, DAE Symposium on Nuclear Physics, 452 (2003).
7. T. Bandyopadhyay, Moumita Maiti, Maitreyee Nandy, S. Bhattacharyya, and P.K. Sarkar “*Neutron Emissions from 7.25A MeV $^{20}\text{Ne} + ^{12}\text{C}$ Reaction*”, Proc. DAE-BRNS Symposium on Nuclear Physics, **46B**, 186 (2003).
8. P. Barat, P. Mukherjee, A. Sarkar, A. Ray, Arindom Banerjee, “*Analysis of Portevin-Le Chatelier effect in low carbon steel in the light of chaos*”; Sanghai International Symposium on Nonlinear Science and Applications, Sanghai, November 9-13 (2003).
9. T. Bhattacharjee, C. C. Dey, M. B. Chatterjee, S. K. Basu, “*Systematic studies on YAP(Ce) scintillator for nuclear physics applications*” — DAE-BRNS Symposium on Nuclear Physics, **46B**, 496 (2003).
10. T. Bhattacharjee, S. Chanda, S. Bhattacharyya, S. K. Basu, U. Dutta Pramanik and S. Bhattacharya, “*Band Structure in odd-odd ^{136}La* ” — DAE-BRNS Symposium on Nuclear Physics, **46B**, 40 (2003).
11. C. Bhattacharya, A. Dey, S. Bhattacharya, S. Kundu, T. Bhattacharjee, S. Mukhopadhyay, A. Mukherjee, S. R. Banerjee, K. Krishan and S. K. Basu, “*Survival of orbiting for $^{20}\text{Ne} + ^{12}\text{C}$ system at higher energy*” — DAE-BRNS Symposium on Nuclear Physics, **46B**, 198 (2003).
12. C. Bhattacharya, S. Bhattacharya, T. Bhattacharjee, A. Dey, S. Kundu, K. Krishan, S. R. Banerjee, P. Das and S. K. Basu, “*Dissipation of angular momentum in light heavy ion collision*” — DAE-BRNS Symposium on Nuclear Physics, **46B**, 258 (2003).
13. T. K. Bhattacharyya, C. Nandi, G. Pal, J. Chaudhuri and R. K. Bhandari, “*Control System for Cryogen Delivery System of the Superconducting Cyclotron Magnet*”, Proceedings of the DAE-BRNS Indian Particle Accelerator Conference-2003 (InPAC-2003), February 3-6, 2003, CAT, Indore, Page 594-595.

14. U. Bhunia, J Pradhan, A Sarkar, A. Sur, S K Thakur, S. Saha and RK Bhandari, “*Measurement and Performance of Superconducting Cable Joint Resistance and Copper RRR Value*” Proceedings InPAC-2003, February 3-6, (2003), CAT Indore.
15. A. Chakraborty, Krishichayan, N. S. Pattabiraman, S Ray, R. Goswami, S. S. Ghugre, A. K. Sinha, S. S. Sarkar, P. V. Madhusudhan Rao, U. Garg, A. Dhaal, R. Kumar, L. Chaturvedi, I. M. Govil, M. B. Chatterjee, M. Saha Sarkar, S. K. Basu, R. P. Singh, S. Muralithar, Rakesh Kumar, S. Nath, N.Madhavan, P. S. Sugathan, A. Jhingan and R.K.Bhowmik, “*Identification of micro-second isomers in nuclei in the vicinity of $N = 50$ shell closure*” — DAE-BRNS Symposium on Nuclear Physics, 46B, 48 (2003).
16. S. Chanda, A.Mukherjee, S.K.Basu, S. Bhattacharyya, T. Bhattacharjee, S. S. Ghugre, U. Dutta Pramanik, R. P. Singh, S. Muralithar, N.Madhavan, J.J.Das and R.K.Bhowmik “*Study of High Spin States in ^{138}Ce* ” — DAE-BRNS Symposium on Nuclear Physics, 46B, 114 (2003).
17. S. Chanda, S. Bhattacharyya, T. Bhattacharjee and S. K. Basu, “*High Spin Systematics of Odd-Proton Isotopes Around $A=140$* ” — DAE-BRNS Symposium on Nuclear Physics, 46B, 112 (2003).
18. D. P. Chowdhury, R. Guin, S. K. Saha, and M. Sudarsanan, “*Study on ^{16}O induced nuclear reactions on copper*”, DAE Nucl. Radiation Chem. Symp., BARC, Mumbai, (2003).
19. P. Das, A. Ray, S. R. Banerjee, S. Kailas, A. Chatterjee, S. K. Dutta, A. De, S. Saha and S. Roy: “*Existence of α -particles as independent particles inside a compound nucleus*”, DAE-BRNS Symposium on Nucl. Phys. (Mumbai) **43B**, 248 (2003).
20. S. K. Das, D. P. Chowdhury, A. Ray and S. K. Saha, “*Synthesis of Radioactive Hafnium endofullerene*”, DAE Nucl. Radiation Chem. Symp., BARC, Mumbai, (2003).
21. D. Das, M. R. DuttaMajumdar, Z. Ahammed, P. Bhaskar, S. Chattopadhyay, S. Das, M. S. Ganti, P. Ghosh, B. Mohanty, B. Nandi, S. K. Nayak, T. K. Nayak, S. K.Pal, Y. P. Viyogi, “*Testing of photon multiplicity detector for STAR experiment*”. Nuclear Physics Symp., 2003, Vol. 46B, P520.
22. D. Das, M. R. DuttaMajumdar, Z. Ahammed, P. Bhaskar, S. Chattopadhyay, S. Das, M. S. Ganti, P. Ghosh, B. Mohanty, B. Nandi, S. K. Nayak, T. K. Nayak, S. K.Pal, Y. P. Viyogi : “*Integration of Photon Multiplicity Detector in STAR experiment at RHIC*”, N. P. Symp, Vol **46B**, P486 (2003).
23. C. D. Datta and D. Sarkar: “*A monitoring and control system for vacuum subsystem of electron cyclotron resonance ion source at VECC, Kolkata*”, Proc. of the DAE-BRNS Indian Particle Accelerator Conference (InPAC-2003) (Indore), Allied Publishers Pvt. Ltd., 532 (2003).
24. Udayan De, “*An Overview of Electrical Conductivity induced in certain Electronic Ceramics & Advanced Polymers, their Characterizations & Applications*” (Invited Talk), National Symp. on Adv. Electronic Materials & Information Tech. (School of Pure and Applied Physics, GG University, Bilaspur, India) April 18-20, 2003
25. Udayan De, “*Oxygen stoichiometry and other defects in some superconductors,conducting polymers, semiconductors & insulators*”, Crystal Physics

Seminar in Winter Semester 2003 (FB Physik at Krollwitz, Univ. of Halle, Germany) October (2003).

26. Madhusudan Dey and Amitava Roy, “*Remote monitoring using hardwired TCP/IP chip*”, Proc. Indian Particle Accelerator Conference-2003, Feb. (2003).
27. A. Dey, C. Bhattacharya, S. Bhattacharya, S. Kundu, S. Mukhopadhyay, T. Bhattacharjee, A. Mukherjee, S. R. Banerjee, K. Krishan and S. K. Basu, “*Study of fragment emission in $^{20}\text{Ne} + ^{27}\text{Al}$, ^{28}Si reactions*” — DAE-BRNS Symposium on Nuclear Physics, 46B, 196 (2003).
28. Partha Dhara, Madhusudan Dey, Amitava Roy, “*Multi-threaded object-oriented VME data acquisition system on Linux*”, Poster presentation, DAE-BRNS Symposium on Nuclear Physics, December (2003).
29. M. R. DuttaMajumdar and D. Das : “*Development of an optocoupler device for large array gas detector system*”. N. P. Symp, **Vol 46B**, P522 (2003).
30. Md. Eqbal, P. Deb, A. Chakraborty : “*Preparation and optimisation of targets for the production of radioactive ions studied by heavy ion beam from VECC*”, DAE-BRNS Symp on Nucl. ph., vol 46(B), 578, (2003).
31. Nandini Garg, R Vasanthi, Udayan De and SM Sharma, “*Equation of state of CdO*”, DAE SSP Symp. (Dec.2003)
32. A. Goto, N. Sakamoto, S. Kohara, K. Takahashi, P.R. Sarma, O. Kamigaito, R. Taki, M. Kase, S. Watanabe, T. Teranishi, H. Iwasaki, Y. Yanagisawa, Y. Ohshiro, T. Katayama and Y. Yano: “*Beam test and operation of the flattop acceleration system in the RIKEN AVF cyclotron*”, RIKEN Accel. Prog. Report, **36**, 287 (2003)
33. R. Guin, D. P. Chowdhury, S. K. Saha and M. Sudarsanan, “*Compositional analysis of materials on the basis of recoil range distribution of products from heavy ion induced reactions*”, DAE Nucl. Radiation Chem. Symp., BARC, Mumbai, (2003).
34. D. P. Hazra, D. Adak, S. Singh, S. K. Das and R. K. Bhandari; “*100 Tonne Magnet of Superconducting Cyclotron*”, Indian Particle Accelerator Conference-2003, CAT, Indore.
35. D. P. Hazra; “*Welding of dissimilar metals for UHV system in high energy Accelerator*”; National Symposium on Vacuum Science & Technology and Vacuum Metallurgy; BARC; Mumbai.
36. Krishichayan, A. Chakraborty, N. S. Pattabiraman, S Ray, R. Goswami, S. S. Ghugre, A. K. Sinha, S. S. Sarkar, P. V. Madhusudhan Rao, U. Garg, B. K. Yogi, A. Dhaal, R. Kumar, L. Chaturvedi, B. K. Yogi, R. Singh, S. Saha, M. Saha Sarkar, S. K. Basu, R. P. Singh, S. Muralithar, Rakesh Kumar, S. Nath, N.Madhavan, P. S. Sugathan, A. Jhingan and R.K.Bhowmik, “*Level structure of neutron rich $N \sim 20$ nuclei produced in heavy-ion transfer reactions*” — DAE-BRNS Symposium on Nuclear Physics, **46B**, 50 (2003).
37. Krishichayan, A. Chakraborty, N. S. Pattabiraman, S Ray, R. Goswami, S. S. Ghugre, A. K. Sinha, S. S. Sarkar, P. V. Madhusudhan Rao, U. Garg, A. Dhaal, R. Kumar, L. Chaturvedi, B. K. Yogi, R. Singh, M. Saha Sarkar, S. Saha, S. K. Basu, R. P. Singh, S. Muralithar, Rakesh Kumar, S. Nath, N.Madhavan, P. S. Sugathan, A. Jhingan and

- R.K.Bhowmik, “*In-beam γ -ray spectroscopy of the odd-odd nucleus ^{146}Tb* ” — DAE-BRNS Symposium on Nuclear Physics, **46B**, 144 (2003).
38. Moumita Maiti, Maitreyee Nandy, S. N. Roy and P.K. Sarkar, “*Trends in the differential neutron emission cross sections for α -induced reactions*” Proc. DAE-BRNS Symposium on Nuclear Physics, BARC, December 8-12, 2003.
 39. Moumita Maiti, Maitreyee Nandy, S.N. Roy and P.K.Sarkar, “*Dose distribution of neutron in proton induced reaction on thick targets*” Proc. National Symposium on Radiation Physics, NSRP-15, BARC, November 12-14, (2003).
 40. Minakshi Maitra, A. J. Bhattacharyya, H.S. Leipner, T.R. Middy, S. Tarafdar and Udayan De, “*Experimental study of a prototype polymer electrolyte: $\text{PEO-NH}_4\text{ClO}_4$* ”, DAE SSP Symp. (Dec. 2003) Gwalior.
 41. B. Mohanty and Jan-e Alam: “*Velocity of Sound and the Rapidity Distribution of Produced Hadrons in Nucleus - Nucleus Collisions*”, Proc. of DAE Symp. on Nucl. Phys. (India), 374 (2003).
 42. A. K. Mohanty, D. Sengupta, S. K. Das and S. K. Saha, “*Natural radioactivity and radiation exposure studies of high background radiation areas of coastal Orissa.*”, National Conf. on “Radiation Exposure Control at Nuclear Fuel Cycle Facilities and radiation Installations”, Kalpakkam, Tamilnadu, India March, (2003).
 43. A. K. Mohanty, D. Sengupta, S. K. Das, V. Vijayan, K. V. Van and S. K. Saha, “PIXE, EDXRF, EPMA and HPGe studies of monazite sands along the southeastern coast of India.”, 16th Conference on “*Ion Beam Analysis. IBA2003*”, Sandia National Lab, Albuquerque, New Mexico, USA, June (2003).
 44. B. Mohanty, Jan-e Alam, S. Sarkar, T. K. Nayak and B. K. Nandi: “*Indication of a Mixed Phase of Quarks and Hadrons in Heavy Ion Collisions*”, Proc. of DAE Symp. on Nucl. Phys. (India), 360 (2003).
 45. P. Mukherjee, P.Barat, A. sarkar, S.K.Bandyopadhyay, Pintu Sen, P.Chatterjee and M.K.Mitra, “*Model based approaches in X-ray line Profile Analysis on deformed Zirconium base alloys*”, in 57th Annual Technical Meeting, IIM, 14-16 (Nov. 2003), Kolkata.
 46. P. Mukherjee, P.Barat, A.Sarkar, S.K.Bandyopadhyay, Pintu Sen, S.K.Chattopadhyay, S.K.Chatterjee, M.K.Mitra, “*X-ray diffraction Line Profile Analysis on Zirconium alloys*”, in National Seminar on advanced materials, Jadavpur University, 19-20th December, (2003).
 47. P. Mukherjee, P.Barat, S.K.Bandyopadhyay, Pintu Sen, S.K.Chattopadhyay, S.K.Chatterjee and M.K.Mitra, “*X-ray Diffraction Line profile analysis in Oxygen-irradiated Zirlo*”, in 57th Annual Technical Meeting, IIM, 14-16 Nov. 2003, Kolkata.
 48. P. Mukherjee, P.Barat, S.K.Bandyopadhyay, Pintu Sen, S.K.Chattopadhyay, S.K.Chatterjee and M.K.Mitra, “*Microstructural characterisation of cold deformed zirconium base alloys using X-ray Diffraction Line profile analysis*”: Symposium on Advances in Metal forming, 20-21 January, 2003, Kalpakkam.
 49. P. Mukherjee, P.Barat, S.K.Bandyopadhyay, Pintu Sen, S.K.Chattopadhyay, S.K.Chatterjee and M.K.Mitra, “*Comparison of microstructure of light and heavy ion*

- irradiated Zirlo*”, in Theme meeting on Zirconium and Titanium alloys (Zr-Ti-2003), 4-5 December, 2003, BARC.
50. S. Mukhopadhyay, M. R. DuttaMajumdar, H. Mondal, A. Roy and S. R. Banerjee. A. Fission fragment detector system using solar cells for use with large BaF₂ array at VECC. DAE Nuclear Physics Symp. Vol. 46B, P 528
 51. B. K. Nandi, RHIC experimental overview, Invited talk in N. P. Symp, 2003, Vol 46A, 126.
 52. C. Nandi, T. K. Bhattacharyya, D. K. Bandopadhyay, G. Pal, J. Chaudhuri and R. K. Bhandari, “*Development of a Reciprocating Liquid Nitrogen Pump*”, Proceedings of the DAE-BRNS Indian Particle Accelerator Conference-2003 (InPAC-2003), February 3-6, 2003, CAT, Indore, Page 620-621.
 53. Maitreyee Nandy and P. K. Sarkar, “*Shielding design for a 30 MeV proton accelerator*” National Symposium on Radiation Physics, NSRP-15, BARC, November 12-14, 2003.
 54. V. S. Pandit, “*Conceptual design of a high current injector cyclotron for ADSS*”, Indian Particle Accelerator Conference, InPAC-2003
 55. J. Pradhan, U. Bhunia, A. Sarkar, A. Sur and R. K. Bhandari, “*Heat Load Estimation of Cryo-Pump For VECC Superconducting Cyclotron*” Proceedings InPAC-2003, February 3-6, (2003), CAT Indore
 56. M. H. Rashid and R. K. Bhandari, “*Construction and Measurement of the Prototype Cusp Magnet*”, DAE-BRNS Symp. on Nucl. Phys., Vol. **46B**, (2003).
 57. M. H. Rashid and R. K. Bhandari, ‘*Electron simulation in Room Temperature 14.4 GHz Cusp ECRIS*’, DAE-BRNS Symp. on Nucl. Phys., Vol. **46B**, (2003).
 58. M. H. Rashid and R. K. Bhandari, ‘*Remarkable Developments and Applications of ECRIS*’, DAE-BRNS Indian Particle Accel. Conf, **InPAC-2003**, 171 (2003).
 59. M. H. Rashid and R. K. Bhandari, ‘*Sufficient Cusp Magnetic Field for High Frequency ECR Ion Source*’, DAE-BRNS Indian Particle Accel. Conf, **InPAC-2003**, 173 (2003).
 60. M. H. Rashid, A summary on ‘*Thesis Title: Studies on the Electric and Magnetic Field Configuration and Plasma in Electron Cyclotron Resonance Ion Devices*’, DAE-BRNS Symp. on Nucl. Phys., Vol. **46B**, (2003).
 61. M. H. Rashid, C. Mallik and R. K. Bhandari, ‘*Advantages of Novel Field Design of 14.4 GHz Cusp ECR Ion Sources for Superconducting Cyclotron*’, DAE-BRNS Symp. on Nucl. Phys., Vol. **46B**, (2003).
 62. R. Ravishankar, Tapas Bandyopadhyay, Sarmishtha Bhattacharyya and P.K. Sarkar “*Evaluation of reduction in neutron dose through special hydrous aggregate concrete using the spectrometric detector NE-213*”, National Symposium on Radiation Physics, NSRP-15, BARC, November 12-14, 2003.
 63. A. Ray, P. Das, S. R. Banerjee, S. Santra, S. Kailas, A. De, S. Saha and S. Roy: “*Orbiting in ¹⁶O + ⁹³Nb reaction*”, DAE-BRNS Symposium on Nucl. Phys. (Mumbai) **43B**, 252 (2003).

64. A. Ray, S. K. Saha, P. Das, S. K. Das, “*Change of ${}^7\text{Be}$ decay in C_{60} fullerene: A new tool for studying atomic cluster*”, Int. Conf. on Nano Science and Technology, SINP, Calcutta, India, Dec (2003).
65. Amitava Roy, “*Advanced computing*”, Invited talk at DAE Vision for Information Exchange (DAEVIE) 2003, January, (2003).
66. Amitava Roy, “*Advances in Computing Technology*”, Invited talk at C-DAC, Kolkata, April, 2003.
67. Amitava Roy, S. Dasgupta, M. S. Dey, P. Dhara, T. K. Bhattacharjee and D. Sarkar: “*Computerised control of superconducting cyclotron*”, Proc. of the DAE-BRNS Indian Particle Accelerator Conference (InPAC-2003) (Indore), Allied Publishers Pvt. Ltd., 518 (2003).
68. S. K. Saha, “*Changing the clock of radioactive decay*”, Invited talk, DAE Nucl. Radiation Chem. Symp., BARC, Mumbai, Feb. 2003.
69. Biswajit Sarkar, C. D. Datta, Debranjana Sarkar and Subimal Saha, “*Software for operation and on-line parameter logging of main magnet power supplies of superconducting cyclotron*”, Proc. of the DAE-BRNS Symposium on Nuclear Physics, Vol. **46B** (Mumbai), 532 (2003).
70. Amit Sarkar, Uttam Bhunia, J Pradhan, A Sur, R. Ranganthan and R. K. Bhandari, “*Cryogenic Test Facility at VECC, Kolkata*” Proceedings InPAC-2003, February 3-6, 2003, CAT Indore.
71. Debranjana Sarkar: “*History of Computers in the Department of Atomic Energy*”, Technical Report, DAE Vision of Information Exchange (DAEVIE-2003) held in Kolkata during January 30-31, 2003, 236 (2003).
72. B. Sarkar: “*Perspectives in Data Mining*”, DAE Vision of Information Exchange (Kolkata), p.92 (2003).
73. Debranjana Sarkar: “*Soft computing and its applications*”, Invited Talk in the DAE Vision of Information Exchange (DAEVIE-2003) held in Kolkata during January 30-31, 2003, 66 (2003).
74. P. R. Sarma and R. K. Bhandari: “*Coil optimization in superconducting cyclotrons*”, DAE-BRNS Nucl. Phys. Symp. (Mumbai) **46B**, 494 (2003).
75. P. R. Sarma, A. Goto and Y. Yano: “*Improvement of momentum resolution: conventional method and a new scheme*”, RIKEN Accel. Prog. Report, **36**, 289 (2003).
76. P.R. Sarma, N. Ibomcha, M.K. Dey and R.K. Bhandari: “*Design of superconducting dipoles with highly uniform field*”, Proc. Indian Particle Accelerator Conf. InPAC-2003 (Indore) p.337 (2003).
77. D. Sengupta, A. K. Mohanty, S. K. Das, K. V. Van, and S. K. Saha, “*Exposure in the High Background Area at Chhatrapur Beach Sand Deposit of Orissa.*”, Int. Conf. on “*Isotopic and Nuclear Analytical Techniques for Health and Environment*”, IAEA, Vienna, Austria, June 2003.

78. G.S. Taki, P.R. Sarma, D.K. Chakraborty and R.K. Bhandari: “*Magnetic field scaling law for ECR ion source*”, DAE-BRNS Nucl. Phys. Symp. (Mumbai) **46B**, 518 (2003)
79. G. S. Taki, D. K. Chakraborty and R. K. Bhandari, “*An Experimental Study of Argon Plasma in Aluminum coated Plasma Chamber of 6.4 GHz ECR Ion Source at VECC-*” Proc. Indian Particle Acc. Conf.- Indore, 175 (2003).
80. G. S. Taki, D. K. Chakraborty and R. K. Bhandari, 6.4 GHz VEC-ECR Ion Source and its Vacuum Aspects, Proc. National Symp. on Vacuum. Sc. & Tech. and Vacuum. Metallurgy, IVSNS, Mumbai, 209 (2003).
81. G. S. Taki, P. R. sarma, D. K. Chakraborty and R. K. Bhandari. Magnetic Field Scaling Law for ECR Ion Souce. DAE-BRNS Symp. on Nucl. Phys. Mumbai, 518 (2003).
82. S. K. Thakur, K.V. Purushotham, B. Sarkar, S. Saha, T.P. Tiwari and S.S. Pal: “*Highly Stable, 30V/350Amp, DC Power Supply for Trim Coil of K-500 Superconducting Cyclotron with Computer Control*”, DAE-BRNS Indian Particle Accelerator Conference (Indore) p.429 (2003).
83. K. C. Verma, A. Das, A. Sarkar and Udayan De, “*Resistivity peculiarities in cadmium oxide material at low temperatures*”, DAE SSP Symp. (Dec.2003).