

## Publications in Journals – 2020

1. S. Saini, N. Gayathri, S.K. Sharma, Aruna Devi, A.P. Srivastava, S. Neogy, P. Mukherjee, P. K. Pujari, “Microstructural investigation of irradiation damage behavior of proton irradiated Zr-1 wt.% Nb fuel cladding alloy”, Journal of Nuclear Materials 528 (2020) 151894
2. A.P. Srivastava, N. Gayathri, S. Saini, Priya Maheshwari, S. Neogy, S.K. Sharma, P.S. Ghosh, P. Mukherjee, P.K. Pujari, “Proton irradiation of Ni–Cr alloy: Understanding the evolution of the damage microstructure”, Journal of Alloys and Compounds 815 (2020) 152408
3. R. Banik, S. Bhattacharyya, Soumik Bhattacharya, G. Mukherjee, R. Goswami, D. Choudhury, S. Das, S. Samanta, S. S. Ghugre, R. Raut, and A. Goswami, “Observation of signature partner bands in  $^{117}\text{Sb}$ ”, Physical Review C101(2020) 014322
4. Suman Deb, Golam Sarwar, Dhananjaya Thakur, Pavish S., Raghunath Sahoo, Jan-e Alam, “Glauber model for a small system using the anisotropic and inhomogeneous density profile of a proton”, Physical Review C101(2020) 014004
5. M. Bhattacharjee, H.K. Pandey, V. Naik and A. Chakrabarti, “Design of a gas-jet coupled ECR ion-source for ISOL type RIB facility”, Nuclear Instruments and Methods in Physics Research A (2020)
6. K. Bukharia, P. Karmakar, D. Kumar, V. R. Reddy and A. Gupta, “Evolution of magnetic anisotropy in cobalt film on nanopatterned silicon substrate studied in situ using MOKE”, Journal of Magnetism and Magnetic Materials 497 (2020) 165934
7. S. Sil, H. Luitel, J. Dhar, M. Chakrabarti, P. P. Ray, B. Bandyopadhyay and D. Sanyal, “Defect induced room temperature ferromagnetism in methylammonium lead iodide perovskite”, Physics Letters A (2020) 126278

8. A. K. Nayek, H. Luitel, B. Haldar, D. Sanyal, M. Chakrabarti, “Ferromagnetic property of copper doped ZnO: a first-principles study”, Computational Condensed Matter 23 (2020) e00455
9. H. Luitel, S. Roy, M. Chakrabarti, P. Chettri, A. Tiwari, V. Naik, D. Sanyal, “Room temperature ferromagnetism in boron-doped oxides: A combined first principle and experimental study”, Philosophical Magazine Letters (2020)
10. A. R. Abraham, B. Raneesh, D. Sanyal, S. Thomas, N. Kalarikkal and P. M. G. Nambissan, “Defects-focused analysis of calcium-substitution-induced structural transformation of magnesium ferrite nanocrystals”, New Journal of Chemistry 44 (2020) 1556
11. H. Luitel, S. Moshat and D. Sanyal, “Ferromagnetic ordering in cobalt doped methylammonium lead bromide: An ab-initio study”, Computational Condensed Matter 22 (2020) e00444
12. Sudipta Mandal, S. K. Sharma, N. Gayathri, K. Sudarshan, P. Mukherjee, P. K. Pujari, Ranjini Menon, P. Y. Nabhiraj, Archna Sagdeode, “Synchrotron GIXRD and slow positron beam characterization of Ar ion irradiated pure V and V-4Cr-4Ti alloy: Candidate structural material for fusion reactor application”, Fusion Engineering and Design 154 (2020) 111518
13. ALICE Collaboration, “Multiplicity dependence of (multi-)strange hadron production in proton-proton collisions at  $\sqrt{s} = 13$  TeV”, The European Physical Journal C 80 (2020) 167
14. ALICE Collaboration, “Studies of  $J/\psi$  production at forward rapidity in Pb–Pb collisions at  $\sqrt{s_{NN}}= 5.02$  TeV”, JHEP 02 (2020) 041
15. ALICE Collaboration, “Evidence of rescattering effect in Pb–Pb collisions at the LHC through production of  $K^*(892)0$  and  $\phi(1020)$  mesons”, Physics Letters B 802 (2020) 135225
16. ALICE Collaboration, “Measurement of strange baryon–antibaryon interactions with femtoscopic correlations”, Physics Letters B 802 (2020) 135223

17. STAR Collaboration, “Bulk Properties of the System Formed in Au + Au Collisions at  $\sqrt{s_{\text{NN}}} = 14.5 \text{ GeV}$ ”, Physical Review C101 (2020) 024905
18. STAR Collaboration, “Beam-energy dependence of identified two-particle angular correlations in root  $s_{\text{NN}} = 7.7\text{--}200 \text{ GeV}$  Au + Au collisions at RHIC”, Physical Review C101 (2020) 014916
19. Chiranjib Das, Siddhartha Dechoudhury, Tapan Mandi, Suvadeep Roy, Hemendra Pandey, Vaishali Naik and Alok Chakrabarti, “Measurement of quadrupolar asymmetry in prototype rod-type radio frequency quadrupole linac for protons”, Review of Scientific Instruments 91 (2020) 33306
20. Sujan Kumar Roy, Somnath Mukhopadhyay, Joydev Lahiri, Debasis Atta, Partha Roy Chowdhury, D.N. Basu, “Gravitational waves from non-radial perturbations in neutron stars”, Annals of Physics 415 (2020) 168121
21. A. Chakrabarti and A. Ray, “Exploring hyperfine levels of non-Rydberg excited states in a  $\Xi$  system by using Autler Townes Splitting”, Applied Optics 59 (2020) 735-741
22. D. Mukhopadhyay, R. Kumar, Jan-e Alam and S. K. Singh, “Hard thermal loop effective action of topologically massive gluons in 3+1 dimension”, Physical Review D 101 (2020) 074039
23. Pintu Sen, Subhashis Rana and Amitabha De, “Hierarchical designed of rGO-PEDOT-d-MnO<sub>2</sub> nanocomposite for supercapacitor”, Journal of Electronic materials 49 (2020) 763-772
24. Kalipada Das, Pintu Sen, “Magnetic and magnetocaloric properties of polycrystalline Pr<sub>0.55</sub>(Ca 0.75Sr 0.25)0.45MnO<sub>3</sub> compound: Observation of large inverse magnetocaloric effect”, Journal of Magnetism and Magnetic Materials 485 (2020) 224-227
25. S. Dey, A. Dutta, P. Mukherjee, N. Gayathri, A. Dutta Gupta and T. Kundu Roy, “Characterization of ion induced damage as a function of depth in proton irradiated pure Ti and Ti-6Al-4V”, Journal of Alloys and Compounds 821 (2020) 153441

26. D. Bhowmik and P. Karmakar, “Tuning wettability of Si surface by ion beam induced silicon nitride formation and nanopatterning”, *Surface and Coatings Technology* 385 (2020) 125369
27. S. Ghosal, H. Luitel, S. K. Mandal, D. Sanyal and D Jana, “Half metallic ferromagnetic and optical properties of ruthenium-doped zinc blende ZnS: A first principles study”, *Journal of Physics and Chemistry of Solids* 136 (2020) 109175
28. S. Roy, H. Luitel and D. Sanyal, “First-principles analysis of ferromagnetic properties of molybdenum-doped wide-band-gap oxides”, *Philosophical Magazine Letters* 99 (2020) 326
29. Snigdha Ghosh, Nilanjan Chaudhuri, Sourav Sarkar, and Pradip Roy, “Effects of the anomalous magnetic moment of quarks on the dilepton production from hot and dense magnetized quark matter using the NJL model”, *Physical Review D* 101 (2020) 096002
30. Snigdha Ghosh, Arghya Mukherjee, Nilanjan Chaudhuri, Pradip Roy and Sourav Sarka, “Thermo-magnetic spectral properties of neutral mesons in vector and axial-vector channels using NJL model”, *Physical Review D* 101 (2020) 056023
31. S. Pathak, P. Das, A. K. Sikdar, J. Nandi, S. Bhattacharyya, T. Bhattacharjee, Soumik Bhattacharya, S. S. Alam & A. Ray, “Single crystal HPGe (80%) versus BGO shielded CLOVER detector for high precision decay rate measurements: a comparative study”, *Journal of Radioanalytical and Nuclear Chemistry* 323 (2020) 1353
32. A. Ray, A. K. Sikdar, P. Das, S. Pathak and J. Datta, “Unexpected increase of  $^{7}\text{Be}$  decay rate under compression”, *Physical Review C* 101 (2020) 035801
33. S. Dey Chaudhuri, D. Banerjee, T. Bhattacharjee, SkWasim Raja, R. Acharya and P. K. Pujari, “Performance study of LaBr<sub>3</sub>:Ce detectors coupled to R2083 PM tube for energy and timing characteristics”, *Journal of Radioanalytical and Nuclear Chemistry* 324 (2020) 829

34. Pallavi Kalikotay, Nilanjan Chaudhuri, Snigdha Ghosh, Utsab Gangopadhyaya, Sourav Sarkar, “Viscous coefficients and thermal conductivity of a  $\pi$  N gas mixture in the medium”, The European Physical Journal A 56 (2020) 79
35. J. J. Pulikkottil, A. Lakshminarayan, S. C. L. Srivastava, A. Bäcker, and S. Tomsovic, “Entanglement production by interaction quenches of quantum chaotic subsystems”, Physical Review E , 101 (2020) 032212
36. S. Muhuri et al, “Fabrication and beam test of a silicon-tungsten electromagnetic calorimeter”, Journal of Instrumentation 15 (2020) P03015
37. V. Singhal, S. Chattopadhyay, V. Friese, “Investigation of heterogeneous computing platforms for real-time data analysis in the CBM experiment”, Computer Physics Communications 253 (2020) 107190
38. Vivek K. Singh, D. K. Mishra and Zubayer Ahammed, “Calculation of particle species dependence of net charge fluctuation”, Physical Review C101 (2020) 014903
39. Ajit Kumar, A.K.Dubey, J. Saini, V. Negi and S. Chattopadhyay, “Operating large size GEM detectors using a novel optocoupler based biasing scheme for the Muon Chamber system of CBM experiment”, Nucl. Inst. and Meth. Phys. Res. A 958 (2020) 162905
40. ALICE Collaboration, “Measurement of electrons from semileptonic heavy-flavour hadron decays at midrapidity in pp and Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”, Physics Letters B 804 (2020) 135377
41. ALICE Collaboration, “Longitudinal and azimuthal evolution of two-particle transverse momentum correlations in Pb-Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV”, Physics Letters B 804 (2020) 135375
42. ALICE Collaboration, “Measurements of inclusive jet spectra in pp and central Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”, Physical Review C101 (2020) 034911

43. ALICE Collaboration, “Scattering studies with low-energy kaon-proton femtoscopy in proton-proton collisions at the LHC”, Physical Review Letters 124 (2020) 092301
44. ALICE Collaboration, “Measurement of electrons from heavy-flavour hadron decays as a function of multiplicity in p-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$ ”, JHEP 2 (2020) 77
45. ALICE Collaboration, “Exploration of jet substructure using iterative declustering in pp and Pb-Pb collisions at LHC energies”, Physics Letters B 802 (2020) 135227
46. ALICE Collaboration, “Multiplicity dependence of light (anti-) nuclei production in p-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$ ”, Physics Letters B 800 (2020) 135043
47. ALICE Collaboration, “Investigation of the p- $\Sigma$  interaction via femtoscopy in pp collisions”, Physics Letters B 805 (2020) 135419
48. STAR Collaboration, “The STAR Event Plane Detector”, Nucl. Inst. and Meth. Phys. Res. A 968 (2020) 163970
49. STAR Collaboration, “Underlying event measurements in p+p collisions at  $\sqrt{s}=200 \text{ GeV}$  at RHIC”, Physical Review D 101 (2020) 052004
50. STAR Collaboration, “First measurement of Lambda\_c baryon production in Au+Au collisions at  $\sqrt{s_{\text{NN}}} = 200 \text{ GeV}$ ”, Physical Review Letters 124 (2020) 172301
51. STAR Collaboration, “Precise measurement of the mass difference and the binding energy of hypertriton and antihypertriton”, Nature Physics 16 (2020) 409
52. ALICE Collaboration, “Global polarization of  $\Lambda$  and  $\Lambda$  bar hyperons in Pb-Pb collisions at the LHC”, Physical Review C101 (2020) 044611
53. ALICE Collaboration, “Measurement of the (anti-)3 He elliptic flow in Pb-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$ ”, Physics Letters B 805 (2020) 135414

54. ALICE Collaboration, “Production of (anti-)3 He and (anti-)3 H in p-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”, Physical Review C101 (2020) 044906
55. ALICE Collaboration, “Underlying Event properties in pp collisions at  $\sqrt{s} = 13$  TeV”, JHEP 4 (2020) 192
56. ALICE Collaboration, “Centrality and transverse momentum dependence of inclusive  $J/\psi$  production at midrapidity in Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”, Physics Letters B 805 (2020) 135434
57. ALICE Collaboration, “Higher harmonic non-linear flow modes of charged hadrons in Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”, JHEP 5 (2020) 85
58. ALICE Collaboration, “Jet-hadron correlations measured relative to the second order event plane in Pb-Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV”, Physical Review C101 (2020) 064901
59. ALICE Collaboration, “Coherent photoproduction of  $\rho 0$  vector mesons in ultra-peripheral Pb-Pb collisions at  $\sqrt{s_{NN}}=5.02$  TeV”, JHEP 6 (2020) 35
60. A. K. Sikdar, J. Nandi, P. Das and A. Ray, “Fabrication of non-magnetic multi-pin coaxial vacuum feed through system for cryogenic applications”, Review of Scientific Instruments 91 (2020) 074707
61. ALICE Collaboration, “Global baryon number conservation encoded in net-proton fluctuations measured in Pb-Pb collisions at  $\sqrt{s_{NN}}= 2.76$  TeV”, Physics Letters B 807 (2020) 135564
62. ALICE Collaboration, “Probing the effects of strong electromagnetic fields with charge-dependent directed flow in Pb - Pb collisions at the LHC”, Physical Review Letters 125 (2020) 022301
63. ALICE Collaboration, “Multiplicity dependence of  $K^*(892)0$  and  $\phi(1020)$  production in pp collisions at  $\sqrt{s} = 13$  TeV”, Physics Letters B 807 (2020) 135501
64. Nilanjan Chaudhuri, Snigdha Ghosh, Sourav Sarkar, Pradip Roy, “Effects of quark anomalous magnetic moment on the thermodynamical properties and mesonic excitations of magnetized hot and dense matter in PNJL model”, The European Physical Journal A 56 (2020) 213

65. Sk Wasim Raja, R. Acharya, P. K. Pujari, "Application of PIGE method for quantification of total boron in neutron absorbers and shielding materials and isotopic composition in in-house prepared enriched boron carbide samples", *Journal of Radioanalytical and Nuclear Chemistry* 323 (2020) 1359
66. Arpit Mitra, Sankha Chattopadhyay, Ashok Chandak, Sangita Lad, Luna Barua, Anirban De, Umesh Kumar, Rajesh Chinagandham, Trupti Upadhye, Kamaldeep Koundal, Sharmila Banerjee, Ramakrishna, "Clinical Efficacy of Sodium [99mTc] Perotechnetate from Low Specific Activity 99Mo/99mTc Autosolex Generator in Hospital Radiopharmacy Centre", *Nucl. Med. Rev.* 23 (2020) 1-14
67. J. Pradhan, J. Debnath, A. Dutta, S. Paul, U. Bhunia, M. Kanti Dey, A. Dutta Gupta, A. Bandyopadhyaya, "Characteristics of beam loss in compact superconducting cyclotron", *JINST* 15 (2020) T08006
68. ALICE Collaboration, "Measurement of nuclear effects on  $\psi(2S)$  production in p-Pb collisions at  $\sqrt{s_{NN}} = 8.16$  TeV", *Journal of High Energy Physics* 7 (2020) 237
69. ALICE Collaboration, "Multiplicity dependence of  $\pi$ , K, and p production in pp collisions at  $\sqrt{s}=13$  TeV", *The European Physical Journal C* 80 (2020) 693
70. Ashik Ikbal Sheikh & Zubayer Ahammed, "Heavy flavour Langevin diffusion with the chromo-electromagnetic field fluctuations in the quark–gluon plasma", *The European Physical Journal A* 56 (2020) 217
71. U. S. Ghosh, S. Rai,, B. Mukherjee, A. Biswas, A. K. Mondal, K. Mandal, A. Chakraborty, S. Chakraborty, G. Mukherjee, A. Sharma, I. Bala, S. Muralithar, and R. P. Singh, "Spectroscopic investigation of complex nuclear excitations in 66Ga", *Physical Review C* 102 (2020) 024328
72. T. Banerjee, D. J. Hinde, D. Y. Jeung, K. Banerjee, M. Dasgupta, A. C. Berrian, L. T. Bezzina, H. M. Albers, Ch. E. Düllmann, J. Khuyagbaatar, B. Kindler, B. Lommel, E. C. Simpson, C. Sengupta, B. M. A. Swinton-Bland, T. Tanaka, A. Yakushev, K. Eberhardt, C. Mokry, J. Runke, P.

Thörle-Pospiech, and N. Trautmann, “Systematic evidence for quasifission in  $^{9}\text{Be}$ -, $^{12}\text{C}$ -, and  $^{16}\text{O}$ -induced reactions forming  $^{258}, 260 \text{ No}$ ”, Physical Review C102 (2020) 024603

73. T. K. Eriksen, T. Kibédi, M. W. Reed, A. E. Stuchbery, K. J. Cook, A. Akber, B. Alshahrani, A. A. Avaa, K. Banerjee, A. C. Berriman, L. T. Bezzina, L. Bignell, J. Buete, I. P. Carter, B. J. Coombes, J. T. H. Dowie, M. Dasgupta, L. J. Evitts, A. B. Garnsworthy, M. S. M. Gerathy, T. J. Gray, D. J. Hinde, T. H. Hoang, S. S. Hota, E. Ideguchi, P. Jones, G. J. Lane, B. P. McCormick, A. J. Mitchell, N. Palalani, T. Palazzo, M. Ripper, E. C. Simpson, J. Smallcombe, B. M. A. Swinton-Bland, T. Tanaka, T. G. Tornyi, and M. O. de Vries, “Improved precision on the experimental E0 decay branching ratio of the Hoyle state”, Physical Review C102 (2020) 024320
74. Md. Hasanujjaman, M. Rahaman, A. Bhattacharyya and Jane Alam, “Dispersion and suppression of sound near QCD critical point”, Physical Review C102 (2020) 034910
75. S. K. Das, Jane Alam, S. Plumari and V. Greco, “Transmission of airborne virus through sneezed and coughed droplets”, Phys. Fluid. 32 (2020) 97102
76. ALICE Collaboration, “ $\text{J}/\Psi$  production as a function of charged-particle multiplicity in p-Pb collisions at  $\sqrt{s_{\text{NN}}} = 8.16 \text{ TeV}$ ”, JHEP 2009 (2020) 162
77. V. K. Singh, D. K. Mishra and Z. Ahammed, “Study of diffusion coefficients of identified particles at energies available at BNL Relativistic Heavy Ion Collider”, The European Physical Journal A 56, (2020) 230
78. STAR Collaboration, “Beam-energy dependence of the directed flow of deuterons in Au + Au collisions”, Physical Review C102 (2020) 044906
79. Pallavi Kalikotay, Snigdha Ghosh, Nilanjan Chaudhuri, Pradip Roy and Sourav Sarkar, “Medium effects on the electrical and Hall conductivities of a hot and magnetized pion gas”, Physical Review D 102 (2020) 076007
80. D. Paul, A. Sen, T. K. Ghosh, Md. Moin Shaikh, K. Atreya, S. Kundu, K. Banerjee, C. Bhattacharya, S. Bhattacharya, J. K. Meena, D. C. Biswas, B. N. Joshi, N. Kumar, G. K. Prajapati, Y. K. Gupta, K. Mahata, K. Ramachandran, and S. Pal, “Measurement of fragment-mass distributions

from fission of  $^{214}\text{At}$  following the  $^{9}\text{Be} + ^{205}\text{Tl}$  reaction”, Physical Review C102 (2020) 054604

81. STAR Collaboration, “Measurement of inclusive  $\text{J}/\Psi$  polarization in  $p + p$  collisions at  $\sqrt{s} = 200 \text{ GeV}$  by the STAR experiment”, Physical Review D 102 (2020) 0 92009
82. Surajit Ghosh, Aditya Mandal, Sudeshna Seth, S.K. Manna, U.S. Panda, Sumit Som, “Design and Development of High Power RF Amplifier for 88 inch Room Temperature Cyclotron at Variable Energy Cyclotron Centre (VECC), Kolkata”, Review of Scientific Instruments 91 (2020) 124703
83. S. Dechoudhury, P. Sing Babu and V. Naik, “Efficacy of radial matching section in enhancing RFQ cooler acceptance and optimization of its injection optics”, Journal of Instrumentation 15 (2020) P11022
84. ALICE Collaboration, “Dielectron production in proton-proton and proton-lead collisions at  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$ ”, Phys. Rev. C102 (2020) 055204
85. ALICE Collaboration, “ $\text{J}/\Psi$  elliptic and triangular flow in Pb-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$ ”, Journal of High Energy Physics 2020 (2020) 141
86. ALICE Collaboration, “Azimuthal correlations of prompt D mesons with charged particles in pp and p-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$ ”, The European Physical Journal C 80 (2020) 979
87. ALICE Collaboration, “Search for a common baryon source in high-multiplicity pp collisions at the LHC”, Physics Letters B 811 (2020) 135849
88. ALICE Collaboration, “Measurement of isolated photon-hadron correlations in  $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$  pp and p-Pb collisions”, Physical Review C102 (2020) 044908
89. ALICE Collaboration, “Measurement of the Low-Energy Antideuteron Inelastic Cross Section”, Physical Review Letters 125 (2020) 162001
90. ALICE Collaboration, “Constraining the Chiral Magnetic Effect with charge-dependent azimuthal correlations in Pb-Pb collisions at  $\sqrt{s_{\text{NN}}} = 2.76$  and  $5.02 \text{ TeV}$ ”, Journal of High Energy Physics 2020 (2020) 160

91. Pankaj Kumar, Chinmay Nandi, Javed Akhter, Sanjay Bajirao, Anjan Dutta Gupta, “Quench characteristics of superconducting magnets of low energy beam line for FAIR facility”, Indian Journal of Cryogenics 45 (2020)
92. Javed Akhter, Pankaj Kumar, Chinmay Nandi, “Numerical Analysis of Cooldown of Large Magnets for Low Energy Beam Line for FAIR”, Indian Journal of Cryogenics 45 (2020)
93. Sumit Som & VECC Team, “30 MeV Medical Cyclotron Facility at VECC, Kolkata”, Physics News 50 (2020) 42
94. ALICE Collaboration, “Pion–kaon femtoscopy and the lifetime of the hadronic phase in Pb–Pb collisions at  $\sqrt{s_{\text{NN}}} = 2.76 \text{ TeV}$ ”, Physics Letters B 813 (2020) 136030
95. ALICE Collaboration, “Unveiling the strong interaction among hadrons at the LHC”, Nature 588 (2020) 232-238
96. ALICE Collaboration, “Production of  $\omega$  mesons in pp collisions at  $\sqrt{s} = 7 \text{ TeV}$ ”, The European Physical Journal C 80 (2020) 1130
97. N. Alam, G. Chaudhuri and F. Gulminelli, “Isospin properties of the pasta phase with an extended Statistical Model from microscopic energy functional”, Physical Review C 102 (2020) 064620
98. Jhilam Sadhukhan, “Microscopic Theory for Spontaneous Fission”, Frontiers in Physics 8 (2020) 567171
99. Michael Bender, Rémi Bernard, George Bertsch, Satoshi Chiba, Jacek Dobaczewski, Noël Dubray, Samuel A Giuliani, Kouichi Hagino, Denis Lacroix, Zhipan Li, Piotr Magierski, Joachim Maruhn, Witold Nazarewicz, Junchen Pei, Sophie Peru, Nathalie Pillet, Jørgen Randrup, David Regnier, Paul-Gerhard Reinhard, Luis M Robledo, Wouter Ryssens, Jhilam Sadhukhan, Guillaume Scamps, Nicolas Schunck, Cedric Simenel, Janusz Skalski, Ionel Stetcu, Paul Stevenson, Sait Umar, Marc Verriere, Dario Vretenar, Michał Warda, Sven Åberg, “Future of nuclear fission theory”, Journal of Physics G 47 (2020) 113002
100. Jhilam Sadhukhan, Samuel A. Giuliani, Zachary Matheson, and Witold Nazarewicz, “Efficient method for estimation of fission fragment yields of r-process nuclei”, Physical Review C 101 (2020) 65803

101. Pratap Roy, K Banerjee, T K Rana, S Kundu, S Manna, A Sen, D Mondal, J Sadhukhan, M T Senthil Kannan, T K Ghosh, S Mukhopadhyay, Deepak Pandit, G Mukherjee, S Pal, D Paul, K Atreya, C Bhattacharya, “Evidence for the reduction of nuclear level density away from the beta-stability line”, Physical Review C102 (2020) 61601
102. Pingal Dasgupta, Rupa Chatterjee and Dinesh K Srivastava, “Directed flow of photons in Cu + Au collisions at RHIC”, Journal of Physics G 47 (2020) 85101
103. S. Deb, S. Tripathy, G. Sarwar, R. Sahoo, Jan-e Alam, “Deciphering QCD dynamics in small collision systems using event shape and final state multiplicity at the Large Hadron Collider”, The European Physical Journal A 56 (2020) 252
104. T. K. Eriksen, T. Kibédi, M. W. Reed, A. E. Stuchbery, K. J. Cook, A. Akber, B. Alshahrani, A. A. Avaa, K. Banerjee, A. C. Berriman, L. T. Bezzina, L. Bignell, J. Buete, I. P. Carter, B. J. Coombes, J. T. H. Dowie, M. Dasgupta, L. J. Evitts, A. B. Garnsworthy, M. S. M. Gerathy, T. J. Gray, D. J. Hinde, T. H. Hoang, S. S. Hota, E. Ideguchi, P. Jones, G. J. Lane, B. P. McCormick, A. J. Mitchell, N. Palalani, T. Palazzo, M. Ripper, E. C. Simpson, J. Smallcombe, B. M. A. Swinton-Bland, T. Tanaka, T. G. Tornyai, M. O. de Vries, “Improved precision on the experimental E0 decay branching ratio of the Hoyle state”, Physical Review C 102 (2020) 24320
105. J. Liang, B. Singh, E.A. McCutchan, I. Dillmann, M. Birch, A.A. Sonzogni, X. Huang, M. Kang, J. Wang, G. Mukherjee, K. Banerjee, D. Abriola, A. Algora, A.A. Chen, T.D. Johnson, K. Miernik, “Compilation and Evaluation of Beta-Delayed Neutron Emission Probabilities and Half-Lives for Z > 28 Precursors”, Nuclear Data Sheets 168 (2020) 1-116
106. R. Banik, S. Bhattacharyya, M. Rejmund, A. Lemasson, S. Biswas, A. Navin, Y. H. Kim, C. Michelagnoli, I. Stefan, P. Bednarczyk, Soumik Bhattacharya, E. Clément, H. L. Crawford, G. de France, P. Fallon, G. Frémont, J. Goupil, B. Jacquot, H. J. Li, J. Ljungvall, A. Maj, L. Ménager, V. Morel, G. Mukherjee, R. Palit, R. M. Pérez-Vidal, J. Ropert, and C. Schmitt, “High-spin states above the isomers in neutron-rich iodine nuclei near N = 82”, Physical Review C 102 (2020) 44329
107. S. S. Alam, D. Banerjee, T. Bhattacharjee, P. Blaha, D. Kumar, A. Saha, M. Saha Sarkar, S. Sarkar, S. K. Das, “Measurement of electric quadrupole

moment in neutron rich  $^{131,132}\text{I}$ ”, The European Physical Journal A 56 (2020) 269

108. Debasish Mondal, Deepak Pandit, S. Mukhopadhyay, Surajit Pal, Pratap Roy, VitishaSuman, BalaramDey, Srijit Bhattacharya, A. De, C. Bhattacharya, and S.R. Banerjee, “Probing the Jacobi shape transition in hot and rotating  $^{43}\text{Sc}$ ”, Physical Review C 102 (2020) 51302
109. B. M. A. Swinton-Bland, M. A. Stoyer, A. C. Berriman, D. J. Hinde, C. Simenel, J. Buete, T. Tanaka, K. Banerjee, L. T. Bezzina, I. P. Carter, K. J. Cook, M. Dasgupta, D. Y. Jeung, C. Sengupta, E. C. Simpson, and K. Vo-Phuoc, “Mass-asymmetric fission of  $^{205,207,209}\text{Bi}$  at energies close to the fission barrier using proton bombardment of  $^{204,206,208}\text{Pb}$ ”, Physical Review C 102 (2020) 54611
110. A. K. Mondal, A. Chakraborty , K. Mandal, U. S. Ghosh, AniruddhaDey, Saumyajit Biswas, B. Mukherjee, S. Rai, Krishichayan, S. Rajbanshi, S. Chatterjee, S. K. Das, S. Samanta, R. Raut, S. S. Ghugre, R. Banik, S. Bhattacharyya, S. Nandi, S. Bhattacharya, G. Mukherjee, S. Ali, A. Goswami, R. Chakrabarti, S. Mukhopadhyay, A. K. Sinha, V. Kumar, A. Kumar., “Investigation of different possible excitation modes in neutron-rich  $^{78}\text{As}$ ”, Physical Review C 102 (2020) 64311
111. S. Roy, H. Luitel and D. Sanyal, “Enhanced stability and ferromagnetic property in transition metals co-doped rutile  $\text{TiO}_2$ ”, Journal of Physics and Chemistry of Solids 146 (2020) 109582
112. D. Banerjee, T. N. Nag, R. Tripathi, S. K. Wasim Raja, S. Sodaye, P. K. Pujari, A. Chakrabarti, M. Bhattacharjee, L. K. Doddi and V. Naik, “Mass distribution in 36.2 MeV alpha induced fission of  $^{232}\text{Th}$ ”, The European Physical Journal A 56 (2020) 201
113. D. Sarkar, T. Ghosh, A. Banik, S. Roychowdhury, D. Sanyal and K. Biswas, “Highly Converged Valence Bands and Ultralow Lattice Thermal Conductivity for High Performance SnTe Thermoelectrics”, Angewandte Chemie International Edition 59 (2020) 11115
114. A. Basu, P. Karmakar and S. Karmakar, “Supported Planar Single and Multiple Bilayer Formation by DOPC Vesicle Rupture on Mica Substrate: A Mechanism as Revealed by Atomic Force Microscopy Study”, The Journal of Membrane Biology 253 (2020) 205

115. S. Sil, R. Jana, A. Biswas, D. Das, A. Dey, J. Datta, D. Sanyal and P. P. Ray, “Elucidation of Inhomogeneous Heterojunction Performance of Al/Cu<sub>5</sub>FeS<sub>4</sub> Schottky Diode With a Gaussian Distribution of Barrier Heights”, IEEE Transactions on Electron Devices 67 (2020) 2082
116. P. Acharyya, T. Ghosh, S. Mattepanavar, R. K. Biswas, P. Yanda, S. R. Varanasi, D. Sanyal, A. Sundaresan, S. K. Pati and K. Biswas, “Broadband Colossal Dielectric Constant in the Superionic Halide RbAg<sub>4</sub>I<sub>5</sub>: Role of Intercluster Ag<sup>+</sup> Diffusion”, The Journal of Physical Chemistry C 124 (2020) 9802
117. J. Mukherjee, D. Bhowmik, M. Mukherjee, B. Satpati, and P. Karmakar, “Alternating silicon oxy-nitride and silicon oxide stripe formation by nitric oxide (NO<sup>+</sup>) ion implantation”, Journal of Applied Physics 127 (2020) 145302
118. Sudhir P. Rode, Partha Pratim Bhaduri, Amaresh Jaiswal and Ankhi Roy, “Hierarchy of kinetic freeze-out parameters in low energy heavy-ion collisions”, Physical Review C 102 (2020) 54912
119. Mitali Mondal , Joyati Mondal, Somnath Kar , Argha Deb, and Premomoy Ghosh, “Forward-backward multiplicity and momentum correlations in pp collisions at LHC energies”, Physical Review D 102 (2020) 14033
120. J. Debnath, U. Bhunia, M.K. Dey, J. Pradhan, A. Dutta, S. Paul, A. Duttagupta, A. Bandyopadhyay and S. Som, “Optimisation of compensation of magnetic field imperfection in K500 superconducting cyclotron”, Journal of Instrumentation 15-09 (2020) T09004
121. STAR Collaboration, “Investigation of the linear and mode-coupled flow harmonics in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV”, Physics Letters B 809 (2020) 135728
122. STAR Collaboration, “Measurement of inclusive charged-particle jet production in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV”, Physical Review C 102 (2020) 54913
123. STAR Collaboration, “Measurement of the central exclusive production of charged particle pairs in proton-proton collisions at  $\sqrt{s} = 200$  GeV with the STAR detector at RHIC”, JHEP 7 (2020) 178
124. STAR Collaboration, “Results on Total and Elastic Cross Sections in Proton-Proton Collisions at  $\sqrt{s} = 200$  GeV”, Physics Letters B 808 (2020) 135663

125. STAR Collaboration, “Measurement of Groomed Jet Substructure Observables in pp Collisions at  $\sqrt{s} = 200$  GeV with STAR”, Physics Letters B 811 (2020) 135846
126. STAR Collaboration, “Beam energy dependence of net-Lambda fluctuations measured by the STAR experiment at the BNL Relativistic Heavy Ion Collider”, Physical Review C 102 (2020) 24903
127. STAR Collaboration, “Measurement of D0-meson + hadron two-dimensional angular correlations in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV”, Physical Review C 102 (2020) 14905
128. STAR Collaboration, “Measurement of away-side broadening with self-subtraction of flow in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV”, Chinese Physic C 44 (2020) 104001
129. STAR Collaboration, “Strange hadron production in Au+Au collisions at  $\sqrt{s_{NN}} = 7.7, 11.5, 19.6, 27,$  and  $39$  GeV”, Physical Review C 102 (2020) 34909
130. A. Saha, T. Bhattacharjee, D. Banerjee, Deepak Pandit, P. Das, Soumik Bhattacharya, R. Guin, S. K. Das, S. R. Banerjee, “ $\beta$  -Decay endpoint energy measurement in  $^{150}\text{Pm} \rightarrow ^{150}\text{Sm}$  using  $\beta-\gamma$  coincidence”, The European Physical Journal A 56 (2020) 189
131. S. Pathak, G. Mandal, P. Das, A.B. Dey, “Structural Characteristics of HfO<sub>2</sub> under extreme conditions”, Materials Chemistry and Physics 255 (2020) 123633
132. S. Pathak, P. Das, M. Sahu, K. L. Pandey, G. Mandal & G. R. Patkare, “Tantalum doping in HfO<sub>2</sub>: orthorhombic phase formation at ambient conditions and change in path of pressure-induced structural evolution”, High Pressure Research 40 (2020) 434
133. Joydip Nandi, A.K. Sikdar, Ashif Reza, Anuraag Misra , Parnika Das , A. Ray, “Studies and development of a helical resonator for Penning trap application”, Nucl. Inst. Meth. A 980 (2020) 164465
134. Balaram Dey, Shan-Shan Wang, Deepak Pandit, Srijiit Bhattacharya, Xi-Guang Cao, Wan-Bing He, Yu-Gang Ma, N. Quang Hung, and N. Dinh Dang, “Exotic nuclear shape due to cluster formation at high angular momentum”, Physical Review C 102 (2020) 31301

135. S. Nandi , G. Mukherjee , Q. B. Chen ,S. Frauendorf , R. Banik , Soumik Bhattacharya, Shabir Dar , S. Bhattacharyya, C. Bhattacharya, S. Chatterjee, S. Das, S. Samanta, R. Raut, S. S. Ghugre, S. Rajbanshi et al, “First observation of multiple transverse wobbling bands of different kinds in  $^{183}\text{Au}$ ”, Physical Review Letters 125 (2020) 132501
136. R. Banik, S. Bhattacharyya, S. Biswas, Soumik Bhattacharya, G. Mukherjee, S. Rajbanshi, Shabir Dar, S. Nandi, Sajad Ali, S. Chatterjee, S. Das, S. Das Gupta, S. S. Ghugre, A. Goswami, A. Lemasson, D. Mondal, S. Mukhopadhyay, H. Pai, S. Pal et al, “Revealing multiple band structures in  $^{131}\text{Xe}$  from  $\alpha$ -induced reactions”, Physical Review C 101 (2020) 44306
137. S. Mallik, and G. Chaudhuri, “Isospin dependent hybrid model for studying isoscaling in heavy ion collisions around the Fermi energy domain”, Nuclear Physics A 1002 (2020) 121948
138. S. Pathak, P. Das, T. Das, G. Mandal, B. Joseph, M. Sahu, S.D. Kaushik, V. Siruguri, “Crystal structure of monoclinic hafnia ( $\text{HfO}_2$ ) revisited with synchrotron X-ray, neutron diffraction and first-principles calculations”, Acta Crystallographica Section C 76 (2020) 1034
139. S. Biswas, A. Lemasson, M. Rejmund, A. Navin, Y. H. Kim, C. Michelagnoli, I. Stefan, R. Banik, P. Bednarczyk, S. Bhattacharya, S. Bhattacharyya, E. Clement, H. L. Crawford, G. de France, P. Fallon, G. Fremont, J. Goupil, B. Jacquot, H. J. Li, J. Ljungvall, A. Maj, L. Menager, V. Morel, R. Palit, R. M. Perez-Vidal, J. Ropert, “Prompt-delayed  $\gamma$ -ray spectroscopy of neutron-rich  $^{119,121}\text{In}$  isotopes”, Physical Review C 102 (2020) 14326
140. Prithwijita Ray, H. Pai , Sajad Ali, Anjali Mukherjee, A. Goswami, S. Rajbanshi, Soumik Bhattacharya, R. Banik, S. Nandi, S. Bhattacharyya, G. Mukherjee, and C. Bhattacharya et al., “Quasi- $\gamma$  band in  $^{114}\text{Te}$ ”, Physical Review C 101(2020) 64313
141. S. Nair, S. Bhandary, D. Chopra, D. Sanyal, B. Pathak and S. Mandal, “Defects Engineering on Ceria and C–C Coupling Reactions Using [ $\text{Au}_{11}(\text{PPh}_3)_7\text{I}_3$ ] Nanocluster: A Combined Experimental and Theoretical Study”, ACS Nano 14 (2020) 16681
142. Sumit Basu, Sanchari Thakur, Tapan K. Nayak and Claude A. Pruneau, “Multiplicity and pseudo-rapidity density distributions of charged particles produced in pp, pA and AA collisions at RHIC & LHC energies”, Journal of Physics G 48 (2020) 25103