

LIST OF PUBLICATIONS: 2015-16

NUCLEAR PHYSICS

1. **Interplay of fission modes in mass distribution of light actinide nuclei 225,227Pa**, R. Dubey, P. Sugathan, A. Jhingan, Gurpreet Kaur, Ish Mukul, G. Mohanto, D. Siwal, N. Saneesh, T. Banerjee, Meenu Thakur, Ruchi Mahajan, N. Kumar, M.B. Chatterjee, *Physics Letters B* Volume 752 Pages 338-343
2. **A new high-spin isomer in 195Bi**, T. Roy, G. Mukherjee, N. Madhavan, T. K. Rana, Soumik Bhattacharya, Md. A. Asgar, I. Bala, K. Basu, S. S. Bhattacharjee, C. Bhattacharya, S. Bhattacharya, S. Bhattacharyya, J. Gehlot, S. S. Ghugre, R. K. Gurjar, A. Jhingan, R. Kumar, S. Muralithar, S. Nath, H. Pai, R. Palit, R. Raut, R. P. Singh, A. K. Sinha, and T. Varughese, *Eur. Phys. J. A* **51**, 153 (2015)
3. **Fusion probability in heavy nuclei**, Tathagata Banerjee, S. Nath and Santanu Pal, *Phys. Rev. C* **91**, 034619 (2015) **Erratum: Fusion probability in heavy nuclei [Phys. Rev. C 91, 034619(2015)]**, Tathagata Banerjee, S. Nath, and Santanu Pal, *Phys. Rev. C* **91**, 069901 (2015) - Published 30 June 2015
4. **Fission fragment mass distribution studies in 30Si + 180Hf reaction**, A. Shamlath, M. Shareef, E. Prasad, P. Sugathan, R.G. Thomas, A. Jhingan, S. Appannababu, A.K. Nasirov, A.M. Vinodkumar, K.M. Varier, C. Yadav, B.R.S. Babu, S. Nath, G. Mohanto, Ish Mukul, D. Singh, S. Kailas, *Nuclear Physics A*, Volume 945, January 2016, Pages 67-79
5. **Influence of vibrational excitation on surface diffuseness of the internuclear potential: Study through heavy-ion quasielastic scattering at deep sub-barrier energies**, Kaur, Gurpreet, Behera, B. R., Jhingan, A., et al. *Phys. Rev. C*, Volume 92 (2015) 044609
6. **Probing nuclear dissipation via evaporation residue functions for the 16,18O+198Pt reactions**, Rohit Sandal, B. R. Behera, Varinderjit Singh, Maninder Kaur, A. Kumar, Gurpreet Kaur, P. Sharma, N. Madhavan, S. Nath, J. Gehlot, A. Jhingan, K. S. Golda, Hardev Singh, S. Mandal, S. Verma, E. Prasad, K. M. Varier, A. M. Vinodkumar, A. Saxena, Jhilmam Sadhukhan, and Santanu Pal, *Phys. Rev. C* **91**, 044621 (2015)
7. **Probing fusion-fission dynamics in 203Bi**, Ish Mukul, S. Nath, K. S. Golda, A. Jhingan, J. Gehlot, E. Prasad, Sunil Kalkal, M. B. Naik, Tathagata Banerjee, T. Varughese, P. Sugathan, N. Madhavan, and Santanu Pal, *Phys. Rev. C* **92**, 054606 (2015)
8. **Fusion measurements for the 18O+194Pt reaction and search for neutron shell closure effects**, P. V. Laveen, E. Prasad, N. Madhavan, S. Pal, J. Sadhukhan, S. Nath, J. Gehlot, A. Jhingan, K. M. Varier, R. G. Thomas, A. M. Vinodkumar, A. Shamlath, T. Varughese, P. Sugathan, B. R. S. Babu, S. Appannababu, K. S. Golda, B. R. Behera, Varinderjit Singh, Rohit Sandal, A. Saxena, B. V. John, S. Kailas, *J. Phys. G: Nucl. Part. Phys.* **42**, 095105 (2015)
9. **Experimental study of cross sections in the 12C+ 27Al system at \approx 3-7 MeV/nucleon relevant to the incomplete fusion process**, M. K. Sharma, A. Yadav, V. R. Sharma, D. P.

- Singh, P. P. Singh, Unnati, I. Bala, R. Kumar, B. P. Singh and R. Prasad, Phys. Rev. C 91, 024608 (2015)
10. **Systematic study of pre-equilibrium emission at low energies in ^{12}C and ^{16}O -induced reactions**, M. K. Sharma, P. P. Singh, D. P. Singh, A. Yadav, V. R. Sharma, I. Bala, R. Kumar, Unnati, B. P. Singh and R. Prasad, Phys. Rev. C 91, 014603 (2015)
 11. **Incomplete fusion in $^{16}\text{O} + ^{159}\text{Tb}$** , Vijay R. Sharma, Pushpendra P. Singh, M. Shuaib, A. Yadav, I. Bala, Manoj K. Sharma, S. Gupta, D. P. Singh, R. Kumar, S. Muralithar, R. P. Singh, B. P. Singh, R. Prasad, R. K. Bhowmik, Nucl. Phys. A 946, 182 (2016)
 12. **Low energy incomplete fusion and the role of input angular momenta**, R. Kumar, V. R. Sharma, A. Yadav, P. P. Singh, S. Appanababu, A. Aggarwal, B. P. Singh, S. Mukherjee, S. Muralithar, R. Ali and R. K. Bhowmik, Acta Phys. Pol. B 46, 453 (2015)
 13. **VI International Conference FUSION14 , New Delhi, India, February 24-28, 2014**, C. Simenel, P. R. S. Gomes, D. J. Hinde, N. Madhavan, A. Navin and K. E. Rehm (Eds.), EPJ Web of Conferences, Vol. 86 (2015)
 14. **Recent results of measurements of evaporation residue excitation functions for $^{19}\text{F} + ^{194,196,198}\text{Pt}$ and $^{16,18}\text{O} + ^{198}\text{Pt}$ systems with HYRA spectrometer at IUAC**, B. R. Behera, EPJ Web of Conferences 86, 00003 (2015)
 15. **Spin distribution as a probe to investigate the dynamical effects in fusion reactions**, Maninder Kaur, B. R. Behera, Gulzar Singh, Varinderjit Singh, N. Madhavan, S. Muralithar, S. Nath, J. Gehlot, G. Mohanto, Ish Mukul, Davinder Siwal, Meenu Thakur, Kushal Kapoor, Priya Sharma, Akhil Jhingan, T. Varughese, Indu Bala, M. B. Chatterjee, B. K. Nayak and A. Saxena, EPJ Web Conf. 86, 00026 (2015)
 16. **Fission excitation function for $^{19}\text{F} + ^{194,196,198}\text{Pt}$ at near and above barrier energies**, Varinderjit Singh, B. R. Behera, Maninder Kaur, A. Jhingan, P. Sugathan, Santanu Pal, Davinder Siwal, M. Oswal, K. P. Singh, S. Goyal, A. Saxena and S. Kailas, EPJ Web Conf. 86, 00052 (2015)
 17. **The study of $^{12}\text{C}(\alpha, n)^{13}\text{C}$ astrophysical reaction using $^{12}\text{C}(^6\text{Li}, d)$ and $^{12}\text{C}(^7\text{Li}, t)$ reaction at 20 MeV and in the framework of the potential model**, S. Adhikari, C. Basu, P. Sugathan, A. Jhingan, B. R. Behera, N. Saneesh, G. Kaur, M. Thakur, R. Mahajan, R. Dubey and A. K. Mitra, EPJ Web Conf. 86, 00001 (2015)
 18. **Effect of shell structure on neutron multiplicity of fissioning systems $^{220,222,224}\text{Th}$ nuclei**, Savi Goyal, S. Mandal, Akhil Jhingan, P. Sugathan, Santanu Pal, B. R. Behera, K. S. Golda, Hardev Singh, Sunil Kalkal, Varinderjit Singh, Ritika Garg, Davinder Siwal, Maninder Kaur, Mansi Saxena, Suresh Kumar, S. Verma, M. Gupta, Subinit Roy and R. Singh, EPJ Web Conf. 86, 00013 (2015)
 19. **Study of nuclear structure effect on fusion through barrier distribution for the system, $^{28}\text{Si} + ^{154}\text{Sm}$** , Gurpreet Kaur, B. R. Behera, A. Jhingan, P. Sugathan and N. Rowley, EPJ Web Conf. 86, 00018 (2015)

20. **Statistical model calculations for evaporation residue and fission cross-section for $^{48}\text{Ti}+^{122}\text{Sn}$ system**, Priya Sharma, B. R. Behera, Santanu Pal and N. Madhavan, EPJ Web Conf. 86, 00045 (2015)
21. **Statistical model calculations of pre-scission neutron multiplicity for the heavy ion induced fusion-fission reactions with actinide target ^{232}Th** , Meenu Thakur, B. R. Behera, Maninder Kaur, Santanu Pal, P. Sugathan and Akhil Jhingan, EPJ Web Conf. 86, 00060 (2015)
22. **Spin gated GDR widths at moderate temperatures**, Ish Mukul, P. Sugathan, J. Gehlot, G. Mohanto, A. K. Rhine Kumar, I. Mazumdar, Maninder Kaur, N. Madhavan, S. Nath, R. Dubey, T. Banerjee, N. Saneesh, D. A. Gothe, P. Arumugam, A. Roy, EPJ Web of Conferences, Volume 86, 00029 (2015)
23. **High spin spectroscopy and shape evolution in ^{105}Cd** , M. K. Raju, D. Negi, S. Muralithar, R. P. Singh, J. A. Sheikh, G. H. Bhat, R. Kumar, I. Bala, T. Trivedi, A. Dhal, K. Rani, R. Gurjar, D. Singh, R. Palit, B. S. Naidu, S. Saha, J. Sethi, R. Donthi and S. Jadhav, Phys.Rev. C 91, 024319 (2015)
24. **$T_z = -1 \rightarrow 0$ β decays of ^{54}Ni , ^{50}Fe , ^{46}Cr , and ^{42}Ti and comparison with mirror ($^3\text{He}, t$) measurements**, F. Molina, B. Rubio, Y. Fujita, W. Gelletly, J. Agramunt, A. Algora, J. Benlliure, P. Boutachkov, L. Caceres, R. B. Cakirli, E. Casarejos, C. Domingo-Pardo, P. Doornenbal, A. Gadea, E. Ganioglu, M. Gascon, H. Geissel, J. Gerl, M. Gorska, J. Grebosz, R. Hoischen, R. Kumar, N. Kurz, I. Kojouharov, L. Amon Susam, H. Matsubara, A. I. Morales, Y. Oktem, D. Pauwels, D. Perez-Loureiro, S. Pietri, Zs. Podolyak, W. Prokopowicz, D. Rudolph, H. Schaffner, S. J. Steer, J. L. Tain, A. Tamii, S. Tashenov, J. J. Valiente- Dobon, S. Verma and H. -J. Wollersheim, Phys. Rev. C 91, 014301 (2015)
25. **Role of neutrons in the coexistence of magnetic and antimagnetic rotation bands in ^{107}Cd** , D. Choudhury, R. Palit, P. Singh, J. Sethi, S. Saha, S. Biswas, H. C. Jain, V. Nanal, R. G. Pillay, R. Donthi, S. K. Jadhav, B. S. Naidu, B. Maheshwari, A. K. Jain, S. C. Pancholi, R. P. Singh, S. Mukhopadhyay, D. C. Biswas, L. S. Danu, S. K. Tandel, L. Chaturvedi, K. R. Devi and S. Singh, Phys. Rev. C 91, 014318 (2015)
26. **Spectroscopy and shell model calculations in Si isotopes**, S.S.Bhattacharjee, R.Bhattacharjee, R.Raut, S.S.Ghugre, A.K.Sinha, L.Chaturvedi, T.Trivedi, U.Garg, S.Ray, B.K.Yogi, M.K.Raju, R.Chakrabarti, S.Mukhopadhyay, A.Dhal, R.P.Singh, N.Madhavan, S.Muralithar, S.Saha, J.Sethi, R.Palit Phys.Rev. C 91, 044306 (2015)
27. **Negative-parity high-spin states and a possible magnetic rotation band in ^{135}Pr** , R.Garg, S.Kumar, M.Saxena, S.Goyal, D.Siwal, S.Kalkal, S.Verma, R.Singh, S.C.Pancholi, R.Palit, D.Choudhury, S.S.Ghugre, G.Mukherjee, R.Kumar, R.P.Singh, S.Muralithar, R.K.Bhowmik, S.Mandal, Phys.Rev. C 92, 054325 (2015)
28. **High spin spectroscopy and shape coexistence in ^{73}As** , M.K.Raju, P.V.Madhusudhana Rao, S.K.Tandel, P.Sugathan, R.P.Singh, S.Muralithar, T.Seshi Reddy, B.V.Thirumala Rao, J.Meng, S.Zhang, J.Li, Q.B.Chen, B.Qi, R.K.Bhowmik, Phys.Rev. C 92, 064324 (2015)

29. **Evidence for octupole correlation and chiral symmetry breaking in ^{124}Cs** , K.Selvakumar, A.K.Singh, C.Ghosh, P.Singh, A.Goswami, R.Raut, A.Mukherjee, U.Datta, P.Datta, S.Roy, G.Gangopadhyay, S.Bhowal, S.Muralithar, R.Kumar, R.P.Singh, M.K.Raju, Phys.Rev. C 92, 064307 (2015)
30. **First experimental tests of the kinematic separator SHELS (Separator for Heavy Element Spectroscopy)**, A. Yeremin, O. Malyshev, A. Popeko, V. Chepigin, A. Svirikhin, A. Lopez-Martens, K. Hauschild, O. Dorvaux, B. Gall and J. Gehlot, EPJ Web Conf. 86, 00065 (2015)
31. **Front-end electronics for CsI based charged particle array for the study of reaction dynamics**, Akhil Jhingan, P. Sugathan, Gurpreet Kaur, K. Kapoor, N. Saneesh, T. Banerjee, Hardev Singh, A. Kumar, B.R. Behera, B.K. Nayak, Nucl. Instr. and Meth. A Volume 786 Pages 51-58
32. **Detector instrumentation for nuclear fission studies**, Akhil Jhingan, Pramana Journal of Physics, Vol. 85, No. 3, September 2015, pp. 483–495
33. **Fabrication of ^{94}Zr thin target for recoil distance doppler shift method of lifetime measurement**, C.K. Gupta, Aman Rohilla, S.R. Abhilash, D. Kabiraj, R.P. Singh, D. Mehta, S.K. Chamoli, Nucl. Instr. and Meth. A Volume 764, 11 November 2014, Pages 273-276
34. **Fabrication of enriched $^{174}\text{Yb}_2\text{O}_3$ thin targets on carbon and tantalum backings**, Aman Rohilla, C.K. Gupta, Tapan Rajbongshi, R.P. Singh, Sunil Ojha, Heena Duggal, D. Mehta, S.K. Chamoli, Nucl. Instr. and Meth. A: Volume 797, 11 October 2015, Pages 230-233

MATERIALS SCIENCE

1. **A comparative investigation of γ -ray and C^{5+} ion beam impact on thermoluminescence response of $\text{Mg}^{2+}\text{BO}^{3-}\text{F:Dy}$ phosphor**, Kore, B.P., Dhoble, N.S., Kadam, R.M., Lochab, S.P., Dhoble, S.J., 2015 Materials Chemistry and Physics 16, 196
2. **A poly (vinylidene fluoride-co-hexafluoro propylene) nanohybrid membrane using swift heavy ion irradiation for fuel cell applications."** Jana, Karun Kumar, Amit K. Thakur, Vinod K. Shahi, Devesh K. Avasthi, Dipak Rana, and Pralay Maiti. *Journal of Materials Chemistry A* 3, no. 19 (2015): 10413-10424.
3. **Anomalous behavior of B1g mode in highly transparent anatase nano-crystalline Nb-doped Titanium Dioxide (NTO) thin films."** Gautam, Subodh K., Naina Gautam, R. G. Singh, S. Ojha, D. K. Shukla, and Fouran Singh. *AIP Advances* 5, no. 12 (2015): 127212.
4. **Antibacterial properties of Au doped polycarbonate synthesized by gamma radiation assisted diffusion method**, Hareesh, K., Deore, A.V., Dahiwal, S.S., Sanjeev, G., Kanjilal, D., Ojha, S., Dhole, N.A., Kodam, K.M., Bhoraskar, V.N., Dhole, S.D., 2015, Radiation Physics and Chemistry, 112, 97

5. **Carbon ion irradiation damage effects on electrical characteristics of silicon PNP power BJTs**, Krishnakumar, K.S., Dinesh, C.M., Madhu, K.V., Ramani, Damle, R., Radhakrishna, M.C., Khan, S.A., Kanjilal, D, 2015, IEEE Transactions on Device and Materials Reliability, 15, 101
6. **Characterization of Neutron Transmutation Doped (NTD) Ge for low temperature sensor development**, Mathimalar, S., Singh, V., Dokania, N., Nanal, V., Pillay, R.G., Pal, S., Ramakrishnan, S., Shrivastava, A., Maheshwari, P., Pujari, P.K., Ojha, S., Kanjilal, D., Jagadeesan, K.C., Thakare, S.V. 2015 NIMB 345, 33
7. **Consequences of electronic excitations in CoFe_{1.90}Dy_{0.10}O₄**, Kumar, H., Singh, J.P., Srivastava, R.C., Negi, P., Agrawal, H.M., Asokan, K., Won, S.O., Chae, K.H. 2015 Current Applied Physics, 15, 1650
8. **Crystallite size induced crossover from paramagnetism to superparamagnetism in zinc ferrite nanoparticles**, Singh, J.P., Gautam, S., Srivastava, R.C., Asokan, K., Kanjilal, D., Chae, K.H., 2015, Superlattices and Microstructures 86, 390
9. **Defect controlled ferromagnetism in xenon ion irradiated zinc oxide.**"Satyarthi, P., S. Ghosh, P. Mishra, B. R. Sekhar, F. Singh, P. Kumar, D. Kanjilal, R. S. Dhaka, and P. Srivastava. *Journal of Magnetism and Magnetic Materials* 385 (2015): 318-325.
10. **Defect driven ferromagnetism in SnO₂: a combined study using density functional theory and positron annihilation spectroscopy.**" Sarkar, A., D. Sanyal, Palash Nath, Mahuya Chakrabarti, S. Pal, S. Chattopadhyay, D. Jana, and K. Asokan. *RSC Advances* 5, no. 2 (2015): 1148-1152.
11. **Defect induced enhancement of exchange bias by swift heavy ion irradiation in zinc ferrite-FeNiMoB alloy based bilayer films**, Lisha, R., Hysen, T., Geetha, P., Aravind, P.B., Shareef, M., Shamlath, A., Ojha, S., Ramanujan, R.V., Anantharaman, M.R. 2015 NIMB, 360, 68
12. **Diffuse phase ferroelectric vs. Polomska transition in (1-x)BiFeO₃-(x)BaZr_{0.025}Ti_{0.975}O₃ (0.1 ≤ x ≤ 0.3) solid solutions**, Jha, P.K., Jha, P.A., Singh, V., Kumar, P., Asokan, K., Dwivedi, R.K. 2015 Journal of Applied Physics 117 24102
13. **Dynamic scaling of swift heavy ion induced surface restructuring of BaF₂ thin film.**"Pandey, Ratnesh K., Manvendra Kumar, Tanuj Kumar, Avinash C. Yadav, Udai B. Singh, Saif A. Khan, Ambuj Tripathi, D. K. Avasthi, and Avinash C. Pandey. *Materials Letters* 143 (2015): 309-311.
14. **Effect of 50MeV Li³⁺ ion irradiation on structural, optical and electrical properties of amorphous Se₉₅Zn₅ thin films**, Ahmad, Shabir, Riti Sethi, Mohd Nasir, K. Asokan, and M. Zulfequar. In *ADVANCED MATERIALS AND RADIATION PHYSICS (AMRP-2015): 4th National Conference on Advanced Materials and Radiation Physics*, vol. 1675, p. 030027. AIP Publishing, 2015.
15. **Effect of 60Co γ -irradiation on structural and optical properties of thin films of Ga₁₀Se₈₀Hg₁₀**, Ahmad, Shabir, K. Asokan, Mohd Shahid Khan, and M. Zulfequar. *Philosophical Magazine* 95, no. 22 (2015): 2385-2402.

16. **Effect of defects and film thickness on the optical properties of ZnO–Au hybrid films.**" Saravanan, K., R. Krishnan, S. H. Hsieh, H. T. Wang, Y. F. Wang, W. F. Pong, K. Asokan, D. K. Avasthi, and D. Kanjilal. *RSC Advances* 5, no. 51 (2015): 40813-40819.
17. **Effect of Gamma Irradiation on Structural and optical properties of Thin Films of a-Cd₅Se₉₅-xZnx,** Ahmad, Shabir, K. Asokan, and M. Zulfequar. *Int. J. Thin. Fil. Sci. Tec* 4, no. 2 (2015): 103-109.
18. **Effect of gamma irradiation on the structural and optical properties of thin films of a-CdSe,** Ahmad, Shabir, Mohd Shahid Khan, K. Asokan, and M. Zulfequar. *Optik-International Journal for Light and Electron Optics* 126, no. 23 (2015): 3501-3505.
19. **Effect of gamma ray irradiation on sodium borate single crystals.**"Kalidasan, M., K. Asokan, K. Baskar, and R. Dhanasekaran. *Radiation Physics and Chemistry* 117 (2015): 70-77.
20. **Effect of laser irradiation on structural and optical properties of thermally evaporated thin films of amorphous Cd₅Se₉₅-xZnx,** Ahmad, S., Ganaie, M., Khan, M.S., Asokan, K., Zulfequar, M. 2015 *Radiation Effects and Defects in Solids* 170 30
21. **Effect of Mn doping on structural, morphological and dielectric properties of EuFeO₃ ceramics,** Sultan, K., Ikram, M., Asokan, K. 2015 *RSC Advances* 5 93867
22. **Effect of swift heavy ion (SHI) irradiation on the structural and optical properties of N implanted CVT grown ZnSe single crystals.**" Kannappan, P., K. Baskar, J. B. M. Krishna, K. Asokan, C. L. Dong, C. L. Chen, Y. R. Lu, and R. Dhanasekaran. *Materials Science in Semiconductor Processing* 36 (2015): 140-148.
23. **Effect of swift heavy ion (SHI) irradiation on transparent conducting oxide electrodes for dye-sensitized solar cell applications.**"Singh, Hemant Kr, D. K. Avasthi, and Shruti Aggarwal. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 353 (2015): 35-41.
24. **Effect of swift heavy ion irradiation on structural and opto-electrical properties of bi-layer CdS–Bi₂S₃ thin films prepared by solution growth technique at room temperature.**" Shaikh, Shaheed U., Farha Y. Siddiqui, Deepali J. Desale, Anil V. Ghule, Fouran Singh, Pawan K. Kulriya, and Ramphal Sharma. *Radiation Physics and Chemistry* 106 (2015): 193-198.
25. **Effect of swift heavy ion on structural and optical properties of highly transparent zinc oxide films.**" Negi, Sandhya, M. P. S. Rana, Fouran Singh, and R. C. Ramola. *Journal of Sol-Gel Science and Technology* 76, no. 3 (2015): 608-613.
26. **Effects of O⁷⁺ and Ni⁹⁺ swift heavy ions irradiation on polyacrylamide grafted Gum acacia thin film and sorption of methylene blue.** Kaith, B.S., Sharma, R., Sharma, K., Choudhary, S., Kumar, V., Lochab, S.P. 2015 *Vacuum* 111 73
27. **Effects of passage of 200 MeV Ag⁹⁺ ions in indium phosphide at different depths.**" Kirkire, M. D., S. K. Dubey, Vidya Jadhav, A. D. Yadav, F. Singh, and D. Kanjilal. *Radiation Effects and Defects in Solids* 170, no. 7-8 (2015): 690-695.

28. **Effects of swift heavy ion irradiation on structural, optical and photocatalytic properties of ZnO–CuO nanocomposites prepared by carbothermal evaporation method.**"Kuriakose, Sini, D. K. Avasthi, and Satyabrata Mohapatra. *Beilstein journal of nanotechnology* 6, no. 1 (2015): 928-937.
29. **Electrical and magnetic properties of the pulsed laser deposited Ca doped LaMnO₃ thin films on Si (100) and their electronic structures,** Sultan, K., Ikram, M., Gautam, S., Lee, H.-K., Chae, K.H., Asokan, K. 2015, RSC Advances5 69075
30. **Electronic excitation induced structural, optical and electrical properties of Se₈₅S₁₀Zn₅ thin films and applicability of a single oscillator model,** Ahmad, S., Nasir, M., Asokan, K., Khan, M.S., Zulfequar, M., 2015 RSC Advances 5, 69400
31. **Embedded Ge nanocrystals in SiO₂ synthesized by ion implantation.**" Baranwal, V., J. Gerlach, A. Lotnyk, B. Rauschenbach, H. Karl, S. Ojha, D. K. Avasthi, D. Kanjilal, and Avinash C. Pandey. *Journal of Applied Physics* 118, no. 13 (2015): 134303.
32. **Energy-separated sequential irradiation for ripple pattern tailoring on silicon surfaces** Kumar, T., Kumar, M., Panchal, V., Sahoo, P.K., Kanjilal, D. 2015 Applied Surface Science 357 184
33. **Enhanced Hydrogenation Properties of Size Selected Pd–C Core–Shell Nanoparticles; Effect of Carbon Shell Thickness.**" Singh, Vinod, Bodh R. Mehta, Saurabh K. Sengar, Pawan K. Kulriya, Saif A. Khan, and Sonnada M. Shivaprasad. *The Journal of Physical Chemistry C* 119, no. 25 (2015): 14455-14460.
34. **Enhancement of thermoelectric power of PbTe: Ag nanocomposite thin films,** Bala Manju, Srashti Gupta, Tripurari S. Tripathi, Shikha Varma, Surya K. Tripathi, K. Asokan, and Devesh K. Avasthi. " *RSC Advances*5, no. 33 (2015): 25887-25895.
35. **Exchange bias and anisotropy analysis of nano-composite Co₈₄Zr₁₆N thin films.**" Singh, Jitendra, William Ringal Taube, Akhtar Saleem Ansari, Sanjeev Kumar Gupta, Pawan Kumar Kulriya, and Jamil Akhtar. *Journal of Magnetism and Magnetic Materials* 378 (2015): 164-169.
36. **Ferromagnetism in Ni doped ZnS thin films: Effects of Ni concentration and swift heavy ion irradiation,** Patel, S.P., Pivin, J.C., Chandra, R., Kanjilal, D., Kumar, L.2015 Vacuum111, 150
37. **Gamma ray induced thermoluminescence properties of Eu³⁺ doped SnO₂ phosphor,** Chowdhury, M., Sharma, S.K., Lochab, S.P. 2015 Materials Research Bulletin 70, 584
38. **Giant enhancement of the n-type conductivity in single phase p-type ZnO: N thin films by intentionally created defect clusters and pairs.**" Gautam, Subodh K., R. G. Singh, VV Siva Kumar, and Fouran Singh. *Solid State Communications* 218 (2015): 20-24.
39. **Graphene scavenges free radicals to synergistically enhance structural properties in a gamma-irradiated polyethylene composite through enhanced interfacial interactions.**"Kolanthai, Elayaraja, Suryasarathi Bose, K. S. Bhagyashree, S. V. Bhat,

- Kandasami Asokan, Dinakar Kanjilal, and Kaushik Chatterjee. *Physical Chemistry Chemical Physics* 17, no. 35 (2015): 22900-22910.
40. **Growth and magnetic properties of RF sputtered Fe-Ga thin films**, Nivedita, L.R., Kumar, V.V.S., Asokan, K., Rajendrakumar, R.T. 2015, *Materials Research* 18 946
 41. **Growth and various characterizations of LiHSO₄ single crystals**, Najjar, F.A., Vakil, G.B., Wani, F.A., Mir, F.A., Asokan, K. 2015 *Journal of Materials Science* 26 1455
 42. **Growth of highly transparent Cd x Zn 1- x O (CZO) thin films: Structural and optical studies."** Gautam, Naina, Fouran Singh, Subodh K. Gautam, R. G. Singh, S. Ojha, and A. Kapoor. *Journal of Alloys and Compounds* 650 (2015): 311-317.
 43. **Impact of 100 MeV Ag⁷⁺ SHI irradiation fluence and N incorporation on structural, optical, electrical and gas sensing properties of ZnO thin films.** Balakrishnan, L., S. Gokul Raj, S. R. Meher, K. Asokan, and Z. C. Alex. *Applied Physics A* 119, no. 4 (2015): 1541-1553.
 44. **Impact of sintering temperature on structural, optical and ferroelectric properties of V-doped ZnO**, Kumar, P., Joshi, R., Gaur, A., Kumar, L., Asokan, K. 2015 *Materials Research Express* 2, 45901
 45. **In situ x-ray reflectivity study of swift heavy ion induced interface modification in a W/Si multilayer x-ray mirror."** Potdar, Satish, Ranjeeta Gupta, Ajay Gupta, Pawan Kumar Kulriya, and D. K. Avasthi. *Journal of Physics D: Applied Physics* 48, no. 1 (2015): 015305.
 46. **Influence of substrate temperature on properties of nc ZnO-SiO_x thin films grown by rf co-sputter deposition**, Siva Kumar, V.V., Kanjilal, D. 2015 *Journal of Alloys and Compounds* 639 511
 47. **In-situ high temperature irradiation setup for temperature dependent structural studies of materials under swift heavy ion irradiation."** Kulriya, P. K., Renu Kumari, Rajesh Kumar, V. Grover, R. Shukla, A. K. Tyagi, and D. K. Avasthi. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 342 (2015): 98-103.
 48. **In-situ x-ray reflectivity study of swift heavy ion induced interface modification in a W/Si multilayer x-ray mirror**, S Potdar, R Gupta, A Gupta, P K Kulriya, D K Avasthi, J. Phys. D: Appl. Phys. 48(2015) 015305.
 49. **Investigating spin reversal and other anomalies in magnetic, transport and specific heat measurements of NdFeO₃ and NdFe_{0.5}Ni_{0.5}O₃ ortho-perovskites**, Mir, S.A., Ikram, M., Asokan, K. 2015 *RSC Advances* 5 85082
 50. **Investigation of structural and optical properties of 100 MeV F⁷⁺ ion irradiated Ga₁₀Se_{90-x} Al_x thin films**, Ahmad, Shabir, K. Asokan, and M. Zulfequar. *Philosophical Magazine* 95, no. 12 (2015): 1309-1320.
 51. **Investigation on the dielectric response of NdMnO₃/LSAT thin films: Effect of 200MeV Ag⁺ 15 ion irradiation."** Udeshi, Malay, Brinda Vyas, Priyanka Trivedi, Savan Katba, Ashish Ravalia, P. S. Solanki, N. A. Shah, K. Asokan, S. Ojha, and D. G.

Kuberkar *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 365 (2015): 560-563.

52. **Investigation on the dielectric response of NdMnO₃/LSAT thin films: Effect of 200 MeV Ag⁺¹⁵ ion irradiation**, Udeshi, M., Vyas, B., Trivedi, P., Katba, S., Ravalia, A., Solanki, P.S., Shah, N.A., Asokan, K., Ojha, S., Kuberkar, D.G. 2015 NIMB 365 560
53. **Investigations of ripple pattern formation on Germanium surfaces using 100-keV Ar⁺ ions.**" Sulania, Indra, Dinesh Agarwal, Mushahid Husain, and Devesh Kumar Avasthi. *Nanoscale research letters* 10, no. 1 (2015): 1-8.
54. **Ion-irradiation-induced relaxation of tensile strain and change in directionality of magnetic domains in BaFeO_{3-δ} thin films**, Aziz, Fozia, Mahesh Chandra, Sarmistha Das, Manoj Prajapat, K. Asokan, and K. R. Mavani. *EPL (Europhysics Letters)* 110, no. 4 (2015): 47011.
55. **Luminescence characteristics of C⁵⁺ ions and 60Co irradiated Li₂BaP₂O₇:Dy³⁺ phosphor**, Wani, J.A., Dhoble, N.S., Lochab, S.P., Dhoble, S.J., 2015, NIMB 349, 56
56. **Luminescence properties of 100 MeV swift Si⁷⁺ ions irradiated nanocrystalline zirconium oxide.**" Loksha, H. S., K. R. Nagabhushana, and Fouran Singh. *Journal of Alloys and Compounds* 647 (2015): 921-926.
57. **Luminescence Properties of CaF₂ Nanostructure Activated by Different Elements**, Salah, N., Alharbi, N.D., Habib, S.S., Lochab, S.P. 2015 Journal of Nanomaterials 2015 136402
58. **Luminescence studies of 100 MeV Si⁸⁺ ion irradiated nanocrystalline Y₂O₃**, Shivaramu, N.J., Lakshminarasappa, B.N., Nagabhushana, K.R., Singh, F. 2015, Radiation Measurements 71, 518
59. **Luminescence study of Dy or Ce activated LiCaBO₃ phosphor for γ-ray and C⁵⁺ ion beam irradiation**, Oza, A.H., Dhoble, N.S., Lochab, S.P., Dhoble, S.J. 2015, Luminescence 30, 967
60. **Luminescence study of γ-ray and C⁵⁺ ion beam-irradiated LiCaBO₃:Cu phosphor**, Oza, A.H., Dhoble, N.S., Lochab, S.P., Dhoble, S.J. 2015, Radiation Effects and Defects in Solids 170, 659
61. **Modification of magnetic anisotropy induced by swift heavy ion irradiation in cobalt ferrite thin films.**" Nongjai, Razia, Shakeel Khan, Hilal Ahmed, Imran Khan, S. Annapoorni, Sanjeev Gautam, Hong-Ji Lin, Fan-Hsiu Chang, Keun Hwa Chae, and K. Asokan. *Journal of Magnetism and Magnetic Materials* 394 (2015): 432-438.
62. **Modification of photosensing property of CdS–Bi₂S₃ bi-layer by thermal annealing and swift heavy ion irradiation**, Shaheed U. Shaikh, Farha Y. Siddiqui, Fouran Singh, Pawan K. Kulriya, D.M. Phase, Ramphal Sharma, *Materials Chemistry and Physics*, 169 (2016) 6–12.
63. **Modification of the microstructure and electronic properties of rutile TiO₂ thin films with 79 MeV Br ion irradiation**, Rath, H., Dash, P., Singh, U.P., Avasthi, D.K., Kanjilal, D., Mishra, N.C. 2015 NIMB 365 553

64. **Modifications in device characteristics of La_{0.6}Pr_{0.2}Sr_{0.2}MnO₃/SrNb_{0.002}Ti_{0.998}O₃ manganites by swift heavy ion irradiation.** Ravalia, A. B., M. V. Vagadia, P. G. Trivedi, P. S. Solanki, P. S. Vachhani, R. J. Choudhary, D. M. Phase, K. Asokan, N. A. Shah, and D. G. Kuberkar *Indian Journal of Physics* 89, no. 2 (2015): 137-142.
65. **Modifications in the electronic structure of Rare-Earth doped BiFeO₃ multiferroic,** Trivedi, P., Katba, S., Jethva, S., Udeshi, M., Vyas, B., Vagadia, M., Gautam, S., Chae, K.H., Asokan, K., Kuberkar, D.G. 2015 *Solid State Communications* 222, 5
66. **Onset of size independent cationic exchange in nano-sized CoFe₂O₄ induced by electronic excitation,** Kumar, H., Singh, J.P., Srivastava, R.C., Negi, P., Agrawal, H.M., Asokan, K., Won, S.O., Chae, K.H. 2015, *Journal of Alloys and Compounds*, 645, 274
67. **Phase evolution and electrical properties of Co–Sb alloys fabricated from Co/Sb bilayers by thermal annealing and ion beam mixing,** Bala Manju, Srashti Gupta, Tripurari S. Tripathi, Surya K. Tripathi, K. Asokan, and Devesh K. Avasthi. *Physical Chemistry Chemical Physics* 17, no. 37 (2015): 24427-24437.
68. **Physical and biological properties of the ion beam irradiated PMMA-based composite films.** Shanthini, G. M., Catherine Ann Martin, N. Sakthivel, Sarath Chandra Veerla, K. Elayaraja, B. S. Lakshmi, K. Asokan, D. Kanjilal, and S. Narayana Kalkura. *Applied Surface Science* 329 (2015): 116-126.
69. **Positron annihilation lifetime measurement and X-ray analysis on 120 MeV Au⁺ 7 irradiated polycrystalline tungsten.** Dube, Charu Lata, Pawan Kumar Kulriya, Dhanadeep Dutta, Pradeep K. Pujari, Yashashri Patil, Mayur Mehta, Priyanka Patel, and Samir S. Khirwadkar. *Journal of Nuclear Materials* 467 (2015): 406-412.
70. **Preparation and characterizations of cadmium sulfide nanoparticles,** Mir, F.A., Chattarjee, I., Dar, A.A., Asokan, K., Bhat, G.M. 2015 *Optik* 126 1240
71. **Probing defect driven tunable spontaneous magnetization in paramagnetic Zn_{0.95}Co_{0.05}O epitaxial films by X-ray absorption investigations,** Satyarthi, P., Ghosh, S., Wang, Y.T., Zhou, S., Kumar, P., Kanjilal, D., Olivi, L., Bürger, D., Skorupa, I., Schmidt, H., Srivastava, P. 2015 *Journal of Alloys and Compounds* 649, 891
72. **Prototype electrochromic device and dye sensitized solar cell using spray deposited undoped and ‘Li’ doped V₂O₅ thin film electrodes.** Kovendhan, M., D. Paul Joseph, P. Manimuthu, A. Sendilkumar, S. N. Karthick, S. Sambasivam, K. Vijayarangamuthu et al. *Current Applied Physics* 15, no. 5 (2015): 622-631.
73. **Radiation stability of Gd₂Zr₂O₇: Effect of stoichiometry and structure,** Renu Kumari, P. K Kulriya, V. Grover, R. Shukla, K. Saravanan, S. Mohapatra, A. K Tyagi, D. K. Avasthi, *Ceramics International* 42 (2016) 103-109.
74. **Reduction of graphene oxide by 100 MeV Au ion irradiation and its application as H₂O₂ sensor.** Hareesh, K., R. P. Joshi, B. Shateesh, K. Asokan, D. Kanjilal, D. J. Late, S.

- S. Dahiwale, V. N. Bhoraskar, S. K. Haram, and S. D. Dhole. *Journal of Physics D: Applied Physics* 48, no. 36 (2015): 365105.
75. **Role of growth temperature on the structural, optical and electrical properties of ZnO thin films**, Kumar, A., Kumar, P., Kumar, K., Singh, T., Singh, R., Asokan, K., Kanjilal, D. 2015 *Journal of Alloys and Compounds* 649 1205
 76. **Role of ion beam excitations on quasi one-dimensional magnetic system of Mn-doped LiCuVO₄**, Kumar, A., Dwivedi, G.D., Kumar, S., Shahi, P., Shukla, K.K., Ghosh, A.K., Asokan, K., Kanjilal, D., Singh, R.K., Nigam, A.K., Chatterjee, S. 2015 *Materials Chemistry and Physics* 161, 19
 77. **Role of strain and nanoscale defects in modifying the multiferroicity in nanostructured BiFeO₃ films**, Ravalia, A., Vagadia, M., Solanki, P.S., Asokan, K., Kuberkar, D.G. 2015 *Journal of Experimental Nanoscience* 10 1057
 78. **Role of substrate effects on the morphological, structural, electrical and thermoelectrical properties of V₂O₅ thin films**, Ahmad Bhat, B., Khan, G.R., Asokan, K. 2015 *RSC Advances* 5 52602
 79. **Role of surface and subsurface defects in MgO thin film: XANES and magnetic investigations**, Singh, J.P., Chen, C.L., Dong, C.L., Prakash, J., Kabiraj, D., Kanjilal, D., Pong, W.F., Asokan, K. 2015 *Superlattices and Microstructures* 77 313
 80. **Room temperature ferrimagnetism and low temperature disorder effects in zinc ferrite thin films.** Raghavan, Lisha, Geetha Pookat, Hysen Thomas, Sunil Ojha, D. K. Avasthi, and M. R. Anantharaman. *Journal of Magnetism and Magnetic Materials* 385 (2015): 265-271.
 81. **Room temperature superparamagnetism in rutile TiO₂ quantum dots produced via ECR sputtering**, Solanki, V., Mishra, I., Joshi, S.R., Mishra, P., Dash, P., Mishra, N.C., Kanjilal, D., Varma, S. 2015 *NIMB* 365 82
 82. **Self-organized titanium oxide nano-channels for resistive memory application**, Barman, A., Saini, C.P., Sarkar, P., Satpati, B., Bhattacharyya, S.R., Kabiraj, D., Kanjilal, D., Dhar, S., Kanjilal, A. 2015 *Journal of Applied Physics* 118 224903
 83. **Spontaneous formation of superconducting NiBi₃ phase in Ni-Bi bilayer films.** Siva, Vantari, Kartik Senapati, Biswarup Satpati, Sudakshina Prusty, D. K. Avasthi, D. Kanjilal, and Pratap K. Sahoo. *Journal of Applied Physics* 117, no. 8 (2015): 083902.
 84. **Structural and electrochemical characterization of carbon ion beam irradiated reduced graphene oxide and its application in voltammetric determination of norepinephrine.** Singh, Fouran, and Rajendra N. Goyal. *RSC Advances* 5, no. 106 (2015): 87504-87511.
 85. **Structural and morphological properties of Ag ion irradiated SnO₂ thin films**, Abhirami, K. M., P. Matheswaran, B. Gokul, R. Sathyamoorthy, and K. Asokan, *IOP Conference Series: Materials Science and Engineering*, vol. 73, no. 1, p. 012113. IOP Publishing, 2015.

86. **Structural manipulation in Ge by swift heavy ions governed by electron-phonon coupling strength**, Hooda, S., Satpati, B., Ojha, S., Kumar, T., Kanjilal, D., Kabiraj, D. 2015 *Materials Research Express* 2 45903
87. **Structural, magnetic and electronic structure studies of PrFe_{1-x}MnxO₃ (x = 0, 0.1, 0.3, 0.5) thin films grown on Si (1 0 0)**, Sultan, K., Ikram, M., Gautam, S., Lee, H.-K., Chae, K.H., Asokan, K., 2015 *Journal of Alloys and Compounds* 628 151
88. **Structural, transport and ferroelectric properties of Zn_{1-x}MgxO samples and their local electronic structure**, Kumar, P., Singh, J.P., Malik, H.K., Gautam, S., Chae, K.H., Asokan, K. 2015, *Superlattices and Microstructures* 78 183
89. **Studies of dense electronic excitation-induced modification in crystalline Fe-doped SnO₂ thin films**, Jaiswal, M.K., Kumar, R., Kanjilal, D., Dong, C.L., Chen, C.L., Asokan, K., Ojha, S. 2015 *Applied Surface Science* 332 726
90. **Study of thermal annealing induced plasmonic bleaching in Ag: TiO₂ nanocomposite thin films.**" Kumar, Manish, Tanuj Kumar, and Devesh Kumar Avasthi. *Scripta Materialia* (2015).
91. **Swift heavy ion induced capacitance and dielectric properties of Ni/n-GaAs Schottky diode"** Bobby, A., N. Shiwakoti, P. M. Sarun, S. Verma, K. Asokan, and B. K. Antony. *Current Applied Physics* 15, no. 11 (2015): 1500-1505.
92. **Swift heavy ion induced crystallographic tilt and site-disorder in epitaxial magneto-electric GaFeO₃ thin films.**"Reddy, V. Raghavendra, Kavita Sharma, Ajay Gupta, Tapas Ganguli, D. K. Avasthi, Pawan Kumar Kulriya, A. Banerjee, and V. Ganesan. *Journal of Physics D: Applied Physics* 48, no. 37 (2015): 375001.
93. **Swift Heavy Ion Induced Optical and Electronic Modifications of Graphene-TiO₂ Nanocomposites**, Mishra, M., Meinerzhagen, F., Schleberger, M., Kanjilal, D., Mohanty, T. 2015 *Journal of Physical Chemistry C* 119 21270
94. **Swift heavy ion irradiation induced microstructural modification and evolution of photoluminescence from Si rich a-SiNx:H**, Bommali, R.K., Ghosh, S., Vijaya Prakash, G., Kanjilal, D., Mondal, P., Srivastava, A.K., Srivastava, P. 2015 *Materials Research Express* 2, 46204
95. **Synthesis and characterization of Au-Fe alloy nanoparticles embedded in a silica matrix by atom beam sputtering.**"Pannu, Compesh, Manju Bala, S. A. Khan, S. K. Srivastava, D. Kabiraj, and D. K. Avasthi. *RSC Advances* 5, no. 112 (2015): 92080-92088.
96. **The influence of Ag⁹⁺ ion irradiation on the structural, optical and luminescence properties of Sm³⁺ doped NaSrBO₃: Stability of color emission**, Bedyal, A.K., Kumar, V., Singh, V.K., Singh, F., Lochab, S.P., Ntwaeaborwa, O.M., Swart, H.C. 2015 *NIMB* 351, 27
97. **Thermoluminescence of sol-gel derived Y₂O₃: Nd³⁺ nanophosphor exposed to 100MeV Si⁸⁺ ions and gamma rays.**" Shivaramu, N. J., B. N. Lakshminarasappa, K. R. Nagabhushana, and Fouran Singh. *Journal of Alloys and Compounds* 637 (2015): 564-573.

98. **Thermoluminescence properties of Al₂O₃:Tb nanoparticles irradiated by gamma rays and 85 MeV C⁶⁺ ion beam**, Salah, N., Alharbi, N.D., Habib, S.S., Lochab, S.P. 2015 Journal of Luminescence 167 59
99. **TL response of Eu activated LiF nanocubes irradiated by 85 MeV carbon ions**, Salah, N., Alharbi, N.D., Habib, S.S., Lochab, S.P. 2015 NIMB 358 201
100. **Tuning of optical bandgap and magnetization of C-implanted ZnO thin films** Kumar, P., Malik, H.K., Asokan, K. 2015 EPL 110 67006
101. **XAS and XMCD investigation of zinc ferrite nanoparticles irradiated with 100 MeV O beam.** Singh, Jitendra Pal, Sanjeev Gautam, Ramesh Chandra Srivastava, K. Asokan, and K. H. Chae. In *Magnetics Conference (INTERMAG), 2015 IEEE*, pp. 1-1. IEEE, 2015.

ATOMIC AND MOLECULAR PHYSICS

1. **Low energy highly charged ion beam facility at Inter University Accelerator Centre: Measurement of the plasma potential and ion energy distributions**, T. Sairam¹, Pragma Bhatt, Ajit Kumar, Herendra Kumar and C. P. Safvan, *Physics of Plasmas* 22, 113503 (2015) doi: 10.1063/1.4934970
2. **Can substitution accomplish intact polycationic stability in polyatomic molecules? Illustration with acetylene molecule**, T. Sairam, Ajit Kumar, C.P. Safvan, *Journal of Molecular Structure* 1099, 348 (2015) DOI:10.1016/j.molstruc.2015.05.059
3. **Design of mechanically compensated Penning trap for the study of ions in extreme laser field**, Sugam Kumar, M Vogel, W Quint, S Ringleb, Th Stöhlker and C P Safvan *Journal of Physics: Conference Series* 635(9): 092070 (2015), doi: 10.1088/1742-6596/635/9/092070
4. **Molecular orbital perspective for inner shell couplings: Level diagrams**, Punita Verma, C.P. Safvan, A. Jhingan, T. Nandi, A. Mandal, *Journal of Physics: Conference Series* 635 (2015) 022074, <http://dx.doi.org/10.1088/1742-6596/635/2/022074>
5. **Monte Carlo simulation for ion-molecule collisions at intermediate velocity**, U R Kadhane, P M Mishra, J Rajput, C P Safvan, and S Vig, *Journal of Physics: Conference Series* 635 (2015) 032075, doi:10.1088/1742-6596/635/3/032075
6. **Orientation and alignment effects in ion-induced fragmentation of isolated water molecules**, C P Safvan, Jyoti Rajput *Journal of Physics: Conference Series* 635 (2015) 032041, doi:10.1088/1742-6596/635/3/032041.
7. **Coupling of collective excitation in proton and photon interaction with PAHs**, P M Mishra, L Avaldi, P Bolognesi, K C Prince, J Rajput, R Richter, C P Safvan, S Vig, and U RKadhane *Journal of Physics: Conference Series* 635 (2015) 112059, doi:10.1088/1742-6596/635/11/112059
8. **Do linear molecules always dissociate along their axis? Intra-molecular scattering within Diiodoacetylene**, Sankar De, H. Tezuka, P. Bhatt, G. Vesapidze, C. P. Safvan, J.

Matsumoto and H. Shiromaru Journal of Physics: Conference Series 635 (2015) 032061
doi:10.1088/1742-6596/635/3/032061

9. **Angular distributions of multiply charged fragments from dissociation of Nitrogen molecules by Xe⁹⁺ impact**, Ajit Kumar, T.Sairam, Jyoti Rajput, Lekha Nair and C. P. Safvan Journal of Physics: Conference Series 635 (2015) 032103, doi:10.1088/1742-6596/635/3/032103
10. **Measurement of Plasma Potential using Deceleration technique**, T. Sairam, Pragya Bhatt, Ajit Kumar, Herendra Kumar, J. Rajput, and C. P. Safvan, Journal of Physics: Conference Series 635 (2015) 022047 doi:10.1088/1742-6596/635/2/022047
11. **Ionization and electron capture in 240 keV Kr₈₊ collisions with CO₂**, Pragya Bhatt, T. Sairam, A. Kumar, H. Kumar and C. P. Safvan Journal of Physics: Conference Series 635 (2015) 032058, doi:10.1088/1742-6596/635/3/032058

ACCELERATOR MASS SPECTROMETRY

1. **A new AMS facility at Inter-University Accelerator Centre, New Delhi**, Pankaj Kumar, J.K Pattanaik, S. Ojha, S. Gargari, R. Joshi, S. Chopra and D. Kanjilal, (2015). *Nucl. Instr. Meth. B*, 361, 115-119
2. **Study of climatic history of Cauvery catchment using ¹⁰Be/⁹Be ratios on sediment cores**, Soumya Prakash Dhal,.....Pankaj Kumar.....in National seminars on “Recent Developments and Challenges in Geochemistry” on 26th-27th March, 2015 at Annamalai University, Tamilnadu, Page 81.
3. **Estimation of present and paleo-denudation rates in Cauvery catchment using ¹⁰Be/⁹Be ratio from sediment cores**, Soumya Prakash Dhal, S. Balakrishnan, Pankaj Kumar, Pramod Singh, Sundeep Chopra, Presented in National workshop on “Continental crust and cover sequences in the Evolution of the Indian sub-continent” organized by National centre for Earth Science Studies on 20-21st January, 2015 at Thiruvananthapuram, Page 82.
4. **Radiocarbon dating of charcoal samples from Rakhigarhi using AMS**, M.N. Vahia, Pankaj Kumar, Abhijeet Bhogale, D C Kothari, Sundeep Chopra, Vasant Shinde, Nilesh Jadhav and Ranvir Shastri (2015) Accepted in *Current Science*.

LINEAR ACCELERATOR

1. **Piezoelectric actuator based phase locking system to improve the dynamics of the control scheme for a heavy ion superconducting linac**, B.K.Sahu, R.Ahuja, R.Kumar, S.K.Suman, D.S.Mathuria, A.Rai, P.Patra, A.Pandey, J.Karmakar, G.K.Chowdhury,

R.N.Dutt, G.Joshi, S.Ghosh, D.Kanjilal and A.Roy, Nuclear Instruments and Methods in Physics Research A 777 (2015) 123-130.

RADIATION BIOLOGY

1. **Carbon ion beam triggers both caspase-dependent and caspase-independent pathway of apoptosis in HeLa and status of PARP-1 controls intensity of apoptosis.** Ghorai A, Sarma A, Bhattacharyya NP, Ghosh U. Apoptosis. 2015 Apr;20(4):562-80. doi: 10.1007/s10495-015-1107-3.
2. **ASPIRE: An automated sample positioning and irradiation system for radiation biology experiments at Inter University Accelerator Centre, New Delhi,** Ashok Kothari, P. Barua, M. Archunan, Kusum Rani, E.T. Subramanian, Geetanjali Pujari, Harminder Kaur, V.V.V. Satyanarayanan, Asitikantha Sarma, D.K. Avasthi, Radiation Measurements, May 2015, Pages 17–22