

9. Structural, morphological properties and phase stabilization criteria of the calcia-zirconia system, Ankit Kumar, Pravin Kumar, A S Dhaliwal, *Advances in Applied Ceramics: Structural, Functional and Bioceramics*, 120 (2021) 307; <https://doi.org/10.1080/17436753.2021.1978266>
10. Phase transformation behavior of Ca-doped zirconia sintered at different temperatures, Ankit Kumar, Pravin Kumar, A S Dhaliwal, *Journal of the Korean Ceramic Society* (<https://doi.org/10.1007/s43207-021-00183-9>).
11. Thickness and ion irradiation induced structural phase changes in the thin films of titanium dioxide P. Devaraj, R. Meena, P. Sivakumar, P. Peranantham, V.V. Siva Kumar, K. Asokan, Y. L. Jeyachandran, *Thin Solid Films* 736 (2021) 138917.
12. Structural and optical modifications of RF-sputtered ZnO thin films using low energy Ar ion irradiation, S. K. Singh, V. V. Siva Kumar, Pravin Kumar, *Applied Physics A* (2021) 127:524.
13. Tuning the optical and electrical properties of magnetron-sputtered Cu–ZnO thin films using low energy Ar ion irradiation S.K. Singh, Puneeta Tripathi, I. Sulania, V.V. Siva Kumar, Pravin Kumar, *Optical Materials* 114 (2021) 110985.
14. Effect of gamma ray irradiation on structural and surface properties of c-axis oriented ZnO thin films V.V. Siva Kumar, *Radiation Physics and Chemistry* 189 (2021) 109750.
15. Structure, composition and photoconductivity analysis of zinc tin phosphide ternary compound nanoparticles synthesized by chemical method, P. Sivakumar, P. Peranantham, V.V. Siva Kumar, K. Asokan, Y. L. Jeyachandran, *Journal of Materials Science: Materials in Electronics*, 32(7) (2021), pp. 8767–8777.
16. Recovery of ion-damaged 4H-SiC under thermal and ion beam-induced ultrafast thermal spike-assisted annealing'. Anusmita Chakravorty, Ch Dufour, Budhi Singh, Hemant Jatav, G. R. Umapathy, D. Kanjilal, D. Kabiraj. *J. Appl. Phys.* 130, 165901 (2021); <https://doi.org/10.1063/5.0063726>.
17. Localized thermal spike driven morphology and electronic structure transformation in swift heavy ion irradiated TiO₂ nanorods. Sutapa Dey, Anusmita Chakravorty, Shashi Bhusan Mishra, Nasima Khatun, Arnab Hazra, Birabar Ranjit Kumar Nanda, Chandran Sudakar, Debdulal Kabiraj, Somnath C. Roy. *Nanoscale Adv.* 4, 241 (2022). DOI: 10.1039/d1na00666e.
18. Luminescence from color centres induced by oxidation and ion irradiation in 4H–SiC. Anusmita Chakravorty, D. Kabiraj. *Journal of Luminescence* 244 (2022) 118713. <https://doi.org/10.1016/j.jlumin.2021.118713>.
19. 200 MeV Ag ion irradiation mediated green synthesis and self assembly of silver nanoparticles into dendrites for enhanced SERS applications, L. Sherpa, N. Arun, S.V.S. Nageswara Rao, S.A. Khan, A.P. Pathak, A. Tripathi, A. Tiwari, *Radiat. Phys. Chem.*, 193 (2022) 109966.
20. Zr–W Co-doping in BiVO₄—Synergistic effect in photoelectrochemical water splitting, S. Saxena, A. Verma, N.K. Biswas, S.A. Khan, V.R. Satsangi, R. Shrivastav, S. Dass, *Mater. Chem. Phys.*, 267 (2021) 124675.
21. Thermal evolution of morphological, optical, and photocatalytic properties of Au–Cu₂O–CuO nanocomposite thin film, K. Sahu, S.A. Khan, A. Pandey, S. Mohapatra, *Journal of Materials Science: Materials in Electronics*, 32 (2021) 24058–24068.
22. Interface modification of Fe/Cr/Al magnetic multilayer by swift heavy ion irradiation, P. Rajput, M. Kumar, U.B. Singh, S. Potdar, A. Gome, V.R. Reddy, D. Bhattacharyya, S.N. Jha, S.A. Khan, F. Singh, *Surfaces and Interfaces*, 26 (2021) 101431.
23. Surface erosion of BaF₂ thin films under SHI irradiation: Angular distribution and role of different substrates, R.K. Pandey, S. Pathak, M. Kumar, U.B. Singh, S.A. Khan, T. Kumar, S. Awasthi, D.K. Avasthi, A.C. Pandey, *Appl. Surf. Sci.*, 551 (2021) 149343.
24. Annealing temperature-driven near-surface crystallization with improved luminescence in self-patterned alumina films, S. Pal, S. Bhowmick, S.A. Khan, A. Claverie, D. Kanjilal, A.K. Bakshi, A. Kanjilal *Journal of Materials Science: Materials in Electronics*, 32 (2021) 11709–11718.
25. Perpendicularly magnetized ferromagnetism in Mn/Al bilayer thin films on Si substrates induced by temperature dependent ion beam mixing, H. Khanduri, S.A. Khan, M.C. Dimri, J. Link, R. Stern, I. Sulania, D.K. Avasthi, *Phys. Scr.*, 96 (2021) 105806.
26. Semiconductor-to-metal transition in nanocomposites of wide bandgap oxide semiconductors" H Gupta, N Gautam, SK Gautam, RG Singh, F Singh, *Journal of Alloys and Compounds* 894, 162392, 2022.
27. Synthesis of bimetallic AuAg nanoparticles by sequential ion implantation for modifying surface-plasmon-resonance properties" KD Devi, A Sharma, S Ojha, J Parkash, A Vij, RK Sharma, F Singh, *Materials Letters* 308, 131283, 2022.
28. Signature of strong localization and crossover conduction processes in doped ZnO thin films: synergistic effect of doping fraction and dense electronic excitations. H Gupta, J Singh, GR Umapathy, V Soni, S Ojha, S Kar, F Singh, *Journal of Physics: Condensed Matter* 33 (31), 315701, 2021.

29. Tuning of defects induced visible photoluminescence by swift heavy ion irradiation and thermal annealing in zinc oxide films. RG Singh, H Gupta, RM Mehra, F Singh, Radiation Physics and Chemistry 183, 109400, 2021.
30. High energy (MeV) ion beam induced modifications in Al₂O₃-ZnO multilayers thin films grown by ALD and enhancement in photoluminescence, optical and structural properties. D Gupta, V Chauhan, N Koratkar, F Singh, A Kumar, S Kumar, R Kumar, Vacuum 192, 110435, 2021.
31. Unraveling the Charge State of Oxygen Vacancies in Monoclinic ZrO₂ and Spectroscopic Properties of ZrO₂:Sm³⁺ Phosphor. HS Lokesha, KR Nagabhushana, F Singh, SH Tatumi, ARE Prinsloo, ... The Journal of Physical Chemistry C 125 (49), 27106-27117, 2021.
32. Tuning of Fermi level in antimony telluride thin films by low-energy Fe--ion implantation. J Yadav, R Singh, MD Anoop, N Yadav, NS Rao, F Singh, I Sulania, ... Applied Physics A 127 (12), 1-7, 2021.
33. Probing the defects and trap distribution in MgAl₂O₄ nanocrystals through electron spin resonance and thermoluminescence" S Dani, S Kumar, F Singh, A Vij, A Thakur, Journal of Physics D: Applied Physics 54 (33), 335303, 2021.
34. Modulation of radiative defects in MgAl₂O₄ nanocrystals probed using NMR, ESR, and PL spectroscopies. Savita, M Jain, Manju, A Kumar Sinha, F Singh, A Vij, A Thakur, Journal of Applied Physics 129 (12), 125111, 2021.
35. Annealing Effects on Gas Sensing Response of Ga-Doped ZnO Thin Films. RC Ramola, S Negi, M Rawat, RC Singh, ACS omega 6 (17), 11660-11668, 2021.
36. Influence of swift heavy ion irradiations on temperature-dependent phononic behavior of epitaxial LaNiO₃ thin film" Sunidhi, V Sharma, SK Arora, F Sánchez, F Singh, V Sathe, Journal of Applied Physics 130 (1), 015301, 2021.
37. Suppression of the superconducting proximity effect in ferromagnetic-superconducting oxide heterostructures with ion-irradiation. Y Kumar, H Bhatt, CL Prajapat, AP Singh, F Singh, CJ Kinane, ... Journal of Applied Physics 129 (16), 163902, 2021.
38. Interface modification of Fe/Cr/Al magnetic multilayer by swift heavy ion irradiation. P Rajput, M Kumar, UB Singh, S Potdar, A Gome, VR Reddy, ... Surfaces and Interfaces 26, 101431, 2021.
39. Influence of swift heavy ion irradiation on sensing properties of nickel-(NRs-Ni₃HHTP2) metal-organic framework. NN Ingle, S Shirsat, P Sayyad, G Bodkhe, H Patil, M Deshmukh, ... Journal of Materials Science: Materials in Electronics 32 (14), 18657-18668, 2021.
40. Effect of swift heavy ions irradiation on physicochemical and dielectric properties of chitosan and chitosan-Ag nanocomposites. GB Patel, N. L. Singh, F Singh, PK Kulriya, Radiation Physics and Chemistry 181, 109288, 2021.
41. Growth of low resistive nickel mono-silicide phase under low energy Si ion irradiation at room temperature, G. Maity, S. Ojha, G.R. Umapathy, Shiv P. Patel, Anter El Azab, Kailash Pandey, Santosh Dubey, Thin Solid Films 733 (2021) 138826.
42. Structural and weak antilocalization analysis of topological single-crystal SnSb₂Te₄, Ankush Saxena, M.M. Sharma, Prince Sharma, Yogesh Kumar, Poonam Rani, M. Singh, S. Patnaik, V.P.S. Awana, Journal of Alloys and Compounds 895 (2021) 162553 2022.
43. High-Performance Supercapacitor Electrode Material Based on the Two-Dimensional /Three-Dimensional Architecture of MoS₂-PbS Hybrid Material, Nahid Chaudhary, Manika Khanuja, Energy Fuels 36, 2 (2022) 1034–1042.
44. Cost-effective synthesis of 2D molybdenum disulfide (MoS₂) nanocrystals: An exploration of the influence on cellular uptake, cytotoxicity, and bio-imaging, Dhirendra Sahoo, Sushreesangita P. Behera, Jyoti Shakya, Bhaskar Kaviraj, PLoS ONE 17(1) (2022) e0260955.
45. Study of structural and electronic properties of few-layer MoS₂ film, Mayur Khan, Sunil Kumar, Ambuj Mishra, Indra Sulania, Madhvendra Nath Tripathi, Ambuj Tripathi, Materials Today: Proceedings 57 (2022) 100–10.5
46. The effects of metal concentration and annealing temperature on the optical properties of silver nanocomposite", Hemant Jatav, Ambuj Mishra, D Kabiraj, Materials Today: Proceedings 57 (2022) 234–238.
47. Role of deposition temperature and Sn content on structural, optical & electrical properties of In₂O₃ thin films, Afroz Khan, F. Rahman, Razia Nongjai, K. Asokan, Current Applied Physics 38 (2022) 49–58.
48. Mitigation of Surface Oxidation in Sb₂Se₃ Thin Films Via Te Doping: An Effective Strategy Towards Realization of Efficient Electronic Devices, Raja Saifu Rahman, Kandasami Asokan, Mohd Zulfequar, J. Phys. Chem. C, 126, 13, 6065–6074, 2022.

49. Enhancement of spin Hall effect in O-implanted Pt by side jump scattering, Utkarsh Shashank, Rohit Medwal, Yoji Nakamura, John Mohan, Razia Nongjai, Asokan Kandasami, Rajdeep Rawat, Hironori Asada, Surbhi Gupta, Yasuhiro Fukuma, Bulletin of the American Physical Society.
50. Effect of 150 keV Ti ion implantation on the structural, optical, and electrical properties of nonstoichiometric WO₂ thin films, Kriti, Puneet Kaur, Surbhi Chalotra, Razia Nongjai, Indra Sulania, Asokan Kandasami, DP Singh, Materials Research Bulletin 145, 111566 (2022).
51. Insights into recombination channels in a CVT grown ZnSe single crystal, P. Kannappan · B. P. Falcão K. Asokan, J. P. Leitão, R. Dhanasekaran, Applied Physics A 128:114 (2022).
52. Unravelling impacts of C ion implantations at polar angles in the physical properties of ZnO nanostructured thin films, Rajesh V Hariwal, Hitendra K Malik, Ambika Negi, K Asokan, Materials Letters 308 131200 (2022).
53. Favourable tuning of optical absorbance, bandgap and surface roughness of ZnO thin films by C ion implantation at the critical angle, Rajesh V Hariwal, Hitendra K Malik, Ambika Negi, K Asokan, Applied Surface Science Advances, 7, 100189 (2022).
54. Modification of structural, topographical and magnetic properties induced by Ag ion irradiations in pure and divalent metal (Zn²⁺ and Co²⁺)-doped iron oxide thin films, Mubashir Qayoom, Khurshed A Shah, K Asokan, Indra Sulania, Ghulam Nabi Dar, Journal of Materials Science: Materials in Electronics volume 33, pages5661–5677 (2022).
55. Origin of magnetism in low energy Ni ion implanted ZnO thin films, Richa Bhardwaj, Amardeep Bharti, Baljeet Kaur, Manish Kumar, Asokan Kandasami, Keun Hwa Chae, Navdeep Goyal, Materials Letters 307, 130983 (2022).
56. Low-energy Ar⁺-ion beam induced endotaxial plasmonic Ag nanoparticles in PEDOT: PSS thin-films, Amardeep Bharti, Richa Bhardwaj, Kanika Upadhyay, Harkawal Singh, Asokan Kandasami, Navdeep Goyal, Materials Letters 307, 130984 (2022).
57. Effect of swift heavy silicon ion irradiation on TiO₂ thin film prepared by micro arc oxidized technique, Elayaraja Kolanthai, MI Ahymah Joshy, K Thanigai Arul, P Manojkumar, N Rameshbabu, M Ashok, GR Sivakumar, K Asokan, S Narayana Kalkura, Materials Today: Proceedings 58,3,932 (2022).
58. Tuning the optical properties of porous silicon-based microcavities by energetic oxygen ion beams for optoelectronic applications, Chandra Prakash Verma, K Asokan, D Kanjilal, G Vijaya Prakash, Materials Letters 306, 130914 (2022).
59. Visible light-assisted degradation of 4-nitrophenol and methylene blue using low energy carbon ion-implanted ZnO nanorod arrays: Effect on mechanistic insights and stability, Dharman Ranjith Kumar, Kugalur Shanmugam Ranjith, Yuvaraj Haldorai, Asokan Kandasami, Ramasamy Thangavelu Rajendra Kumar, Chemosphere, 287,3, 132283 (2022).
60. Synthesis of metal-PolyAniline composites by ion implantation, Swatilekha Roy, K Asokan, PV Rajesh, JBM Krishna, Indian Journal of Physics (2021).
61. Thickness and ion irradiation induced structural phase changes in the thin films of titanium dioxide, P Devaraj, R Meena, P Sivakumar, P Peranantham, VV Siva Kumar, K Asokan, YL Jeyachandran, Thin Solid Films 736, 138917 (2021).
62. Tunable characteristics of porous silicon optical microcavities by energetic N ion beam interactions, Chandra Prakash Verma, Mohammad Adnan, P Srivastava, K Asokan, D Kanjilal, G Vijaya Prakash, Journal of Physics D: Applied Physics, 55, 015104 (2021).
63. Correlation between reduced dielectric loss and charge migration kinetics in NdFeO₃-modified Ba_{0.7}Sr_{0.3}TiO₃ ceramics, Anumeet Kaur, Deobrat Singh, Arkaprava Das, Surinder Singh, K Asokan, Lakhwant Singh, Indu B Mishra, Rajeev Ahuja, Journal of Materials Science: Materials in Electronics 32,24910–24929 (2021).
64. Transport properties of perovskite-based stannate thin films of La-doped SrSnO₃, Y Kumar, R Kumar, K Asokan, R Meena, RJ Choudhary, AP Singh, Superlattices and Microstructures, 158, 107028 (2021).
65. Role of ion irradiation induced defects in thermoelectric transport properties of Bi₂Te₃ thin films, M Sinduja, S Amirthapandian, P Magudapathy, Anha Masarat, R Krishnan, SK Srivastava, K Asokan, Thin Solid Films, 734, 138830 (2021).
66. Investigations on the effect of swift heavy silicon ion irradiation on hydroxyapatite, MI Ahymah Joshy, Elayaraja Kolanthai, V Suresh Kumar, P Abinaya Sindu, K Asokan, S Narayana Kalkura, Materials Today: Proceedings 58,3,802 (2022).
67. Characterizing the defects and ferromagnetism in metal oxides: The case of magnesium oxide, Shaffy Garg, Sanjeev Gautam, Jitendra Pal Singh, Asokan Kandasami, Navdeep Goyal, Materials Characterization 179, 11366 (2021).

68. Role of Bound Magnetic Polaron Model in Sm Doped ZnO: Evidence from Magnetic and Electronic Structures, Puneet Kaur, Surbhi Chalotra, Harjeet Kaur, Asokan Kandasami, Davinder Paul Singh, *Applied Surface Science Advances*, 5,100100 (2021).
69. Probing charge transport in manganite film through switching parameters, KN Rathod, Hetal Boricha, Khushal Sagapariya, Bharavi Hirpara, Davit Dhruv, AD Joshi, DD Pandya, JP Singh, KH Chae, K Asokan, PS Solanki, NA Shah, *Current Applied Physics*, 28,98 (2021).
70. Current-voltage characteristics of manganite based p-n interfaces: Role of swift heavy ion irradiation and defect annihilation, Alpa Zankat, Keval Gadani, Bhargav Rajyaguru, Khushal Sagapariya, Vivek Pachchigar, M Ranjan, K Asokan, PS Solanki, NA Shah, DD Pandya, *Physica B: Condensed Matter* 614,413013 (2021).
71. Sequential tunability of red and white light emissions in Sm-activated ZnO phosphors by up-and downconversion mechanisms, Puneet Kaur, Kriti, Simranpreet Kaur, Rahul, Pargam Vashishtha, Govind Gupta, Chung-Li Dong, Chi-Liang Chen, Asokan Kandasami, Davinder Paul Singh, *Journal of Applied Physics* 129, 243106 (2021).
72. Highly dose dependent damping-like spin-orbit torque efficiency in O-implanted Pt, Utkarsh Shashank, Rohit Medwal, Yoji Nakamura, John Rex Mohan, Razia Nongjai, Asokan Kandasami, Rajdeep Singh Rawat, Hironori Asada, Surbhi Gupta, Yasuhiro Fukuma, *Appl. Phys. Lett.* 118, 252406 (2021).
73. Nitrogen-Ion Implantation Induced Bandgap Tailoring in Multifunctional Brownmillerite KBiFe₂O₅, Durga Sankar Vavilapalli, Soma Banik, Asokan Kandasami, MS Ramachandra Rao, Shubra Singh, *Journal of Solid State Science and Technology*, 10,6,061010 (2021).
74. Magnetic and electronic structures of N implanted iron oxide thin films, Razia Nongjai, Rubiya Samad, VR Singh, VK Verma, Asokan Kandasami, *Journal of Magnetism and Magnetic Materials*, 527,167703 (2021).
75. Photo generated charge transport studies of defects-induced shuttlecock-shaped ZnO/Ag hybrid nanostructures, Siddharth Choudhary, Garima Vashisht, Rakesh Malik, Chung-Li Dong, Chi-Liang Chen, Asokan Kandasami, S Annapoorni, *Nanotechnology*, 32 305708 (2021).
76. Optical transmittance and electrical transport investigations of Fe-doped In₂O₃ thin films, Afroz Khan, F Rahman, Razia Nongjai, K Asokan, *Applied Physics A*, *Applied Physics A* 127, 339 (2021).
77. High mobility transparent and conducting oxide films of La-doped SrSnO₃, Yogesh Kumar, Ravi Kumar, K Asokan, RJ Choudhary, DM Phase, Abhinav Pratap Singh, *Journal of Materials Science: Materials in Electronics* 32, 11835 (2021).
78. Study on excess conductivity in YBCO+ xAg composites, Bilal A Malik, Gowher H Rather, K Asokan, Manzoor A Malik, *Applied Physics A* 127, 294 (2021).
79. Bandgap engineering in SrTiO₃ thin films by electronic excitations: A synchrotron-based spectroscopic study, Vishnu Kumar, Anuradha Bhogra, Manju Bala, Hung-Wei Kuo, Chi-Liang Chen, Chung-Li Dong, Asokan Kandasami, Annapoorni Subramanian, *Scripta Materialia*, 195, 113725 (2021).
80. Structural assessment and irradiation response of La₂Zr₂O₇ pyrochlore: impact of radiation temperature and ion fluence. Asha Panghal, Y. Kumar, P.K. Kulriya, P.M. Shirage, N.L. Singh *Journal of Alloys and Compounds* 862, 158556(2021).
81. Atomic order-disorder engineering in the La₂Zr₂O₇ pyrochlore under low energy ion. Asha,Panghal, Y.Kumar,P.K.Kulriya, P.M.Shirage, N.L.Singh *Ceramics Internationl*,47,20248(2021).
82. A comparative study on gamma and carbon ion irradiation induced modification in structural and electrical properties of PVA/H₃PO₄/SiO₂ nanoparticle polymer electrolyte. Shilpa Bhavsar,G.B.Patel,Birendra Singh, Fouran Singh and N.L.Singh *Radiation Physics and Chemistry* 192,109916 (2022).
83. Enhanced photosensing by Mg-doped ZnO hexagonal rods via a feasible chemical route, Vishnu V Kutwade, Ketan P Gattu, Avinash S Dive, Makrand E Sonawane, Dipak A Tonpe, Ramphal Sharma, *Journal of Materials Science: Materials in Electronics*, 32, (2021) (<https://doi.org/10.1007/s10854-021-05364-0>).

C. AMS AND GEOCHRONOLOGY

1. Climate-induced denudational changes during the Little Ice Age inferred from ¹⁰Be (meteoric)⁹Be ratio: A case study from the core monsoon zone of India, C. Dash, S.P. Dhal, P. Kumar, P. Pati and S. Chopra, *Quaternary International* 599 (2021).
2. Testing the reliable proxies to understand the mid-Holocene climate variability records from Chandratal lake, Western Himalayas, M.S. Shamurailatpam, O. Kumar and A.L. Ramanathan, *Quaternary International* 599 (2021).
3. Geochemistry of Holocene sediments from Chilika Lagoon, India: inferences on the sources of organic matter and variability of the Indian summer monsoon, M. Amir, D. Paul and J.N. Malik, *Quaternary International* 599 (2021).

4. Climate change and the migration of a pastoralist people c. 3500 cal. years BP inferred from palaeofire and lipid biomarker records in the montane Western Ghats, India, S.P. Kavil, P.R. Bala, D. Ghosh, P. Kumar and R. Sukumar, *Environmental Archaeology*, **1-15** (2021).
5. Optimisation of CO₂ absorption and liquid scintillation counting method for carbon-14 specific activity measurement in atmospheric air, S. Bharath, K.A. Krishnan, R.S. D'Souza, S.R. Nayak, P.M. Ravi, R. Sharma, P. Kumar, S. Chopra and N. Karunakara, *Applied Radiation and Isotopes*, **172**, 109685. (2021).
6. New evidence of mid-to late-Holocene vegetation and climate change from a Neolithic settlement in western fringe of Central Ganga Plain: Implications for Neolithic to Historic phases, D. Tripathi, B.S. Kotlia, M. Tiwari, A.K. Pokharia, S. Agrawal, P. Kumar, T. Long, M. Paulramasamy, B. Thakur, J. Pal and K. Singh Mahar, *The Holocene* **31**(3), 392-408 (2021).
7. Paleomonsoonal shifts during~ 13700 to 3100 yr BP in the central Ganga Basin, India with a severe arid phase at~ 4.2 ka, S. Singh, A.K. Gupta, S. Rawat, A.K. Bhaumik, P. Kumar and S.K. Rai, *Quaternary International* (2021).
8. Strong solar influence on multi-decadal periodic productivity changes in the central-western Bay of Bengal, T. Suokhrie, R. Saraswat, and S. Saju, *Quaternary International*, In Press, <https://doi.org/10.1016/j.quaint.2021.04.015> (2021).
9. Paleoproductionity shifts since the last 130 ka off Lakshadweep, Southeastern Arabian Sea, K. Neelavannan, S.M. Hussain, N.M. Nishath, H. Achyuthan, S. Veerasingam, M. Prakasam, P. Kumar, P. Singh and P.J. Kurian, *Regional Studies in Marine Science* **44**, 101776 (2021).
10. Palaeoclimatic and sea-level fluctuations from the last deglaciation to late Holocene from western India: Evidence from multiproxy studies, R. Raj, J.K. Tripathi, P. Kumar, S.K. Singh, B. Phartiyal, A. Sharma, A. Sridhar, and L. S. Chamyal, *Journal of Asian Earth Sciences* **214** (2021).
11. Saraswati River in northern India (Haryana) and its role in populating the Harappan civilization sites—A study based on remote sensing, sedimentology, and strata chronology, A. R. Chaudhri, S. Chopra, P. Kumar, R. ranga, Y. Singh, S. Rajput, V. Sharma, V.K. Verma, & R. Sharma, *Archaeological Prospection* **1-18** (2021).
12. Neolithic cultural sites and extreme climate related channel avulsion: Evidence from the Vaigai River Basin, southern India, Mu. Ramkumar, K. Kumaraswamy, K. Balasubramani, R. Nagarajand, M. Santosh, S. Abdul Rahman, Kumar Arun Prasad, K.J. Juni, AL. Fathima, N.A. Siddiqui, M. J. Mathew, D. Menier, B. Sautter, R. Sharma, P. Kumar, S. Chopra and R. Jegankumar, *Journal of Archaeological Science: Reports* **40** 103204 (2021).
13. Organic geochemical and palaeobotanical reconstruction of a late-Holocene archaeological settlement in coastal eastern India, S. Kumar Das, K. Gangopadhyay, A. Ghosh, O. Biswas, S. Bera, P. Ghosh, D.K. Paruya, N. Naskar, D. Mani, K. MS and K. Yoshida, *The Holocene* **31**(10), 1511-1524 (2021).
14. Episodic habitation and abandonment of Neolithic civilization sites in the Vaigai River Basin Southern India, M. Ramkumar, K. Balasubramani, K. Kumaraswamy, M. Santosh, P.D. Roy, A. Manobalaji, K.J. Juni, R. Nagarajan, R. Sharma, P. Kumar and S. Chopra, *Geosystems and Geoenvironment* **1**(1), 100007 (2022).
15. Inter University Accelerator Centre, New Delhi (IUACD) Radiocarbon date list II, R. Sharma, P. Kumar, S. Ojha, S. Gargari and S. Chopra, *Radiocarbon* **63**(6), 1737-1767 (2021).
16. New AMS 14C dates of a multicultural archaeological sites from the paleo-deltiac region of west Bengal, India: Cultural and geo archaeological implications, N. Naskar, K. Gangopadhyay, S. Lahiri, P. Chaudhuri, R. Sharma, P. Kumar, S. Ojha, S. Chopra and A. Ghosh, *Radiocarbon*, 1-11 (2021).
17. Reconstruction of the Late Holocene climate variability from the Summer Monsoon dominant Bhagirathi valley, western Himalaya, I. Roy, P.S. Ranhotra, N. Tomar, M. Shekhar, S. Agrawal, A. Bhattacharyya, P. Kumar, S.K. Patil and R. Sharma, *Journal of Asian Earth Sciences*, 105080 (2022).
18. 51 ka sedimentary sequence in a seamount basin, Eastern Arabian Sea: records for paleoceanographic and paleoclimate conditions. K. Neelavannan, S.M. Hussain, S.J. Sangode, M. Prakasam, I.S. Sen, A. Veerasingam, A. Tyagi, P. Kumar, and P. Singh, *Journal of Asian Earth Sciences*, 105086 (2022).
19. Geomorphological and sedimentological evidences of palaeo-outburst flood events from Tanglang-La-Gya catchment of River Indus, Ladakh, India, D. Nag, B. Phartiyal, P. Kumar, P. Joshi, and R. Singh, *Physical Geography*, 1-23 (2022).
20. Spatial distribution of fossil fuel derived CO₂ over India using radiocarbon measurements in crop plants. R. Sharma, R. K. Kunchala, S. Ojha, P. Kumar, S. Gargari, and S. Chopra, *Journal of Environmental Sciences* **124**, 19-30 (2023).
21. The late Holocene hydroclimate variability in the Northwest Himalaya: Sedimentary clues from the

- Wular Lake, Kashmir Valley**, A. M. Lone, S. P. Singh, R. A. Shah, H. Achyuthan, N. Ahmed, A. Quasim, G. R. Tripathy, A. Samanta, P. Kumar, *Journal of Asian Earth Science*, 105184 (2022).
22. **An environmental magnetic record of Holocene climatic variability from the Chilika Lagoon, Southern Mahanadi Delta, east coast of India**, C. Das, R. Shankar, P. Pati, J. Jose, Y. B. Seonge, S. P. Dhal, B. R. Manjunatha, K. Sandeep, *Journal of Asian Earth Science*, 105184 (2022).
 23. **Warm northern tropical Indian Ocean strengthened the ocean circulation prior to the last glacial termination**, D.P. Singh, R. Sarswat, M. Mohtadi, P. Kumar, *Global and Planetary Change*, 103733 (2022).
 24. **Thermoluminescence in Eu doped NaLi₂PO₄TLD nanophosphor: Effect of particle size on TL characteristics**, M. Saran, P.D. Sahare, V. Chauhan, R. Kumar, and N.T. Mandlik, *Journal of Luminescence* **238**, 118207 (2021).
 25. **Fabrication and characterization of thin 64Zn and 68Zn targets for nuclear reaction measurements**, S. Noor, S.R. Abhilash, D. Kabiraj and S. Kalkal, *Vacuum* **193**, 110508 (2021).
 26. **Mg-doped tailoring of Zinc oxide for UV-photodetection application**, R. Sharma, N. Saxena, N. Pandey, A. Dawar, S. Ojha, V. Chawla, R. Laishram, R. Krishna and O.P. Sinha, *Optical Materials* **125**, 112056 (2022).
 27. **Metal contamination of groundwater in the mica mining areas of Jharkhand: assessing seasonal variation, sources and human health risk**, S. Giri, A.P. Bharat and A.K. Singh, *International Journal of Environmental Analytical Chemistry*, 1-14 (2021).
 28. **Hydrogeochemical Processes Governing Uranium Mobility: Inferences from the Anthropogenically Disturbed, Semi-arid Region of India**, A. Punia, R. Bharti and P. Kumar, *Archives of environmental contamination and toxicology* **81**(3), 386-396 (2021).
 29. **Observation of chemical speciation on L X-ray emission spectra for gadolinium (III) materials**, N. Rani, H.S. Kainth, D. Khandelwal, K. Singh, R. Singh and G. Singh, *Journal of Alloys and Compounds*, 163783 (2022).
 30. **Fabrication and Characterization of the self-support enriched 107, 109Ag thin targets for heavy ion induced transfer reaction**, A. Vinayak, S.R. Abhilash, M.M. Hosamani, G.B. Hiremath, G.R. Umapathy, D. Khandelwal, N. Madhavan, D. Kabiraj, and N.M. Badiger, *Journal of Instrumentation* **17**(02), T02006 (2022).
 31. **Fabrication of superhydrophobic polyurethane sponge coated with oil sorbent derived from textile sludge for oily wastewater remediation**, R. Sarup, M. Sharma, K. Behl, D.K. Avasthi, P. Kumar, S. Ojha, S. Nigam and M. Joshi, *Environmental Nanotechnology, Monitoring & Management* **18**, 100675 (2022).
 32. **Fabrication and characterization of 169Tm target for Nuclear Lifetime Measurements**, A. Sharma, S.K. Dhiman, S. Muralithar, R.P. Singh, S. Chakraborty, K. Katre, S.R. Abhilash, D. Kabiraj and G.R. Umapathy, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* **511**, 1-5 (2022).

D. ATOMIC AND MOLECULAR PHYSICS

1. **Hydrogen migration in triply charged acetylene**, Jatin Yadav, C.P. Safvan, Pragya Bhatt, Pooja Kumari, Aditya Kumar, Jyoti Rajput, *Journal of Chemical Physics* **156**, 141101, (2022)
2. **Unexplained dissociation pathways of two-body fragmentation of methane dication** Jyoti Rajput, Diksha Garg, Amine Cassimi, Alain Mery, Xavier Flechard, Jimmy Rangama, Stéphane Guilloux, Wael Iskandar, Aditya Narayan Agnihotri, J. Matsumoto, Rajeev Ahuja, and C. P. Safvan, *Journal of Chemical Physics* **156**, 054301 (2022)
3. **Dissociation dynamics in chloroform molecule induced by ion impact**, Nirmallya Das, Pragya Bhatt, Sankar De, C.P.Safvan, Abhijit Majumdar, *International Journal of Mass Spectrometry* **469**, 116684, (2021)

E. RBS AND CHANNELING

1. **A facile liquid-phase, solvent-dependent exfoliation of large scale MoS₂ nanosheets and study of their photoconductive behaviour for UV-photodetector application**, Rohit Sharma, Ashish Kumar, Reena Kumari, Preeti Garg, G. Umapathy, Radhapiyari Laisharm, Sunil Ojha, Ritu Srivastava and Om Prakash Sinha, *ChemistrySelect* **6**, 11285 (2021).