

CONTENTS

- | S. No. | Title |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | 22.8% efficient ion implanted PERC solar cell with a roadmap to achieve 23.5% efficiency: A process and device simulation study
Savita Kashya, Jaya Madan, Rahul Pandey, Jeyakumar Ramanujam
<i>Optical Materials</i> 128 (2022) 112399 https://doi.org/10.1016/j.optmat.2022.112399 |
| 2. | A Case Study on the Interaction Between MSTIDs' Fronts, Their Dissipation, and a Curious Case of MSTID's Rotation Over Geomagnetic Low-Mid Latitude Transition Region
R. Rathi, V. Yadav, S. Mondal, S. Sarkhel, M. V. Sunil Krishna, A. K. Upadhayaya , S. Kannaujiya, and P. Chauhan
<i>Journal of Geophysical Research: Space Physics</i> 127, 4, 2022, e2021JA029872 https://doi.org/10.1029/2021JA029872 |
| 3. | A Comparative Study of Superconductivity and Thermally Activated Flux Flow of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ and $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}/\text{La}_{1-x}\text{Pr}_x\text{Ca}_y\text{MnO}_3$ Bilayers
Suman Kumari , Mohd. Anas, D. S. Raghav, Shital Chauhan , P. K. Siwach , V. K. Malik, H. K. Singh
<i>Journal of Superconductivity and Novel Magnetism</i> (2022) 35:3225–3240 https://doi.org/10.1007/s10948-022-06381-8 |
| 4. | A contemporary investigation of metal additive manufacturing techniques
Meena Pant, Leeladhar Nagdeve, Harish Kumar, and Girija Moona
<i>Sādhanā</i> (2022) 47:18 https://doi.org/10.1007/s12046-021-01770-6 |
| 5. | A decadal climatology of cloud vertical structure over the Indo-Gangetic Plain using radiosonde and radar observations
Saloni Sharma, Avinash Dass, Amit Kumar Mishra, Sachchidanand Singh , Krishan Kumar
<i>Atmospheric Research</i> 266 (2022) 105949 https://doi.org/10.1016/j.atmosres.2021.105949 |
| 6. | A laconic capitulation of high pressure metrology
Shanay Rab , Sanjay Yadav , Abid Haleem
<i>Measurement</i> 187 (2022) 110226 https://doi.org/10.1016/j.measurement.2021.110226 |
| 7. | A machine learning-based approach to determine infection status in recipients of BBV152 (Covaxin) whole-virion inactivated SARS-CoV-2 vaccine for serological surveys
Prateek Singh, Rajat Ujjainiya, Satyartha Prakash, Salwa Naushin, Viren Sardana, Nitin Bhatheja, Ajay Pratap Singh, Joydeb Barman, Kartik Kumar, Saurabh Gayali, Raju Khan, Birendra Singh Rawat, Karthik Bharadwaj Tallapaka, Mahesh Anumalla, Amit Lahiri, Susanta Kar, Vivek Bhosale, Mrigank Srivastava, Madhav Nilakanth Mugale, C.P. Pandey, Shaziya Khan, Shivani Katiyar, Desh Raj, Sharmeen Ishteyaque, Sonu Khanka, Ankita Rani, Promila, Jyotsna Sharma, Anuradha Seth, Mukul Dutta, Nishant Saurabh, Murugan Veerapandian, Ganesh Venkatachalam, Deepak Bansal, Dinesh Gupta, Prakash M. Halami, Muthukumar Serva Peddha, Ravindra P. Veeranna, Anirban Pal, Ranvijay Kumar Singh, Suresh Kumar Anandasadagopan, Parimala Karuppanan, Syed Nasar Rahman, Gopika Selvakumar, Subramanian Venkatesan, Malay Kumar Karmakar, Harish Kumar Sardana, Anamika Kothari, Devendra Singh Parihar, Anupma Thakur, Anas Saifi, Naman Gupta, Yogita Singh, Ritu Reddu, Rizul Gautam, Anuj Mishra, Avinash Mishra, Iranna Gogeri, Geethavani Rayasam, Yogendra Padwad, Vikram Patial, Vipin Hallan, Damanpreet Singh, Narendra Tirpude, Partha |

CONTENTS

- Chakrabarti, Sujay Krishna Maity, Dipyaman Ganguly, Ramakrishna Sistla, Narender Kumar Balthu, Kiran Kumar A, Siva Ranjith, B. Vijay Kumar, Piyush Singh Jamwal, Anshu Wali, Sajad Ahmed, Rekha Chouhan, Sumit G. Gandhi, Nancy Sharma, Garima Rai, Faisal Irshad, Vijay Lakshmi Jamwal, Masroor Ahmad Paddar, Sameer Ullah Khan, Fayaz Malik, Debashish Ghosh, Ghanshyam Thakkar, S.K. Barik, Prabhanshu Tripathi, Yatendra Kumar Satija, Sneha Mohanty, Md. Tauseef Khan, Umakanta Subudhi, Pradip Sen, Rashmi Kumar, Anshu Bhardwaj, Pawan Gupta, Deepak Sharma, Amit Tuli, Saumya Ray Chaudhuri, Srinivasan Krishnamurthi, L. Prakash, Ch V. Rao, B.N. Singh, Arvindkumar Chaurasiya, Meera Chaurasiyar, Mayuri Bhadange, Bhagyashree Likhitkar, Sharada Mohite, Yogita Patil, Mahesh Kulkarni, Rakesh Joshi, Vaibhav Pandya, Sachin Mahajan, Amita Patil, Rachel Samson, Tejas Vare, Mahesh Dharme, Ashok Giri, Sachin Mahajan, Shilpa Paranjape, G. Narahari Sastry, Jatin Kalita, Tridip Phukan, Prasenjit Manna, Wahengbam Romi, Pankaj Bharali, Dibyajyoti Ozah, Ravi Kumar Sahu, Prachurjya Dutta, Moirangthem Goutam Singh, Gayatri Gogoi, Yasmin Begam Tapadar, Elapavalooru VSSK. Babu, Rajeev K. Sukumaran, Aishwarya R. Nair, Anoop Puthiyamadam, Prajeesh Kooloth Valappil, Adrash Velayudhan Pillai Prasannakumari, Kalpana Chodankar, Samir Damare, **Ved Varun Agrawal**, Kumardeep Chaudhary, Anurag Agrawal, Shantanu Sengupta, Debasis Dash
Computers in Biology and Medicine 146 (2022) 105419|
<https://doi.org/10.1016/j.combiomed.2022.105419>
8. A Method for Characterization and Performance Evaluation of Differential Pressure Transducer by Using Twin-Piston Pressure Balance
Chanchal, **A. Zafer**, R. Singh, A. Kumar, **R. K. Sharma**, **L. Kumar** and **S. Yadav**
MAPAN-Journal of Metrology Society of India (June 2022) 37(2):379–386|
<https://doi.org/10.1007/s12647-021-00529-y>
9. A Practical Approach of Measurement Uncertainty Evaluation for Gravimetrically Prepared Binary Component Calibration Gas Mixture
Komal, D.Soni, P. Kumari, Gazal, K. Singh and S. G. Aggarwal
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):653–664|
<https://doi.org/10.1007/s12647-022-00600-2>
10. A process for developing spherical graphite from coal tar as high performing carbon anode for Li-ion batteries
Shiv Prakash, Ravi Kumar, Ashish Gupta, Anisha Chaudhary, Vimal Kumar Chandaliya, Pratik Swarup Dash, P. Gurunathan, K. Ramesha, **Saroj Kumari, Sanjay R. Dhakate**
Materials Chemistry and Physics 281 (2022) 125836| [/10.1016/j.matchemphys.2022.125836](https://doi.org/10.1016/j.matchemphys.2022.125836)
11. A review on advancements in carbon quantum dots and their application in photovoltaics
Pawan Kumar, Shweta Dua, Ravinder Kaur, **Mahesh Kumar** and Geeta Bhatt
RSC Adv., 2022, 12, 4714| DOI: 10.1039/d1ra08452f
12. A review on advancements in carbon quantum dots and their application in photovoltaics
[Correction]
Pawan Kumar, Shweta Dua, Ravinder Kaur, **Mahesh Kumar** and Geeta Bhatt
RSC Adv., 2022, 12, 6432| DOI: 10.1039/d2ra90018a

CONTENTS

13. A review on current status and mechanisms of room-temperature magnetoelectric coupling in multiferroics for device applications
Rekha Gupta and R. K. Kotnala
J Mater Sci (2022) 57:12710–12737 | <https://doi.org/10.1007/s10853-022-07377-4>
14. A Review on Polymeric Photoluminescent Nanofibers: Inorganic, Organic and Perovskites Additives for Solid-State Lighting Application
Sanjeev Kumara, Garima Jain, Kuldeep Kumar, B.P.Singh, and S. R. Dhakate
Polymer Science, Series A, 2022,64,5, pp. 367–392 | DOI: 10.1134/S0965545X22700213
15. A Simulation Study for Optimizing Grain Size in Poly-Crystalline Silicon Material Using Impedance Spectroscopy
Umakanth V., Ajit Singh & Sanjai Kumar, Neeraj Tyagi , V. K. Kaul & P. K. Singh
Silicon (2022) 14:955–963 | <https://doi.org/10.1007/s12633-020-00837-z>
16. A solution-route processed multicomponent $\text{Cu}_2\text{ZnSn}(\text{S}_{1-x}\text{Se}_x)_4$ nanocrystals: A potential low-cost photocatalyst
Pooja Semalti, Vikash Sharma, Shailesh Narain Sharma
Journal of Cleaner Production 365 (2022) 132750 | /10.1016/j.jclepro.2022.132750
17. A Study of Internet Time Dissemination Services and Their Capabilities: NTP as a Special Case in Time Metrology
G. Kumar, P.Thorat, R. Agarwal and D. K. Aswal
MAPAN-Journal of Metrology Society of India (June 2022) 37(2):421–434 | <https://doi.org/10.1007/s12647-022-00564-3>
18. A study on structural, optical, and electrical characteristics of perovskite CsPbBr_3 QD/2D- TiSe_2 nanosheet based nanocomposites for optoelectronic applications
Ashish Kumar, Sanjay Kumar Swami, Rohit Sharma, Sandeep Yadav, V. N. Singh, Joerg J. Schneider, O. P. Sinha and Ritu Srivastava
Dalton Trans., 2022, 51,4104 | DOI: 10.1039/d1dt03423e
19. A Technical Overview on Beta-Attenuation Method for the Monitoring of Particulate Matter in Ambient Air
Kritika Shukla, Shankar G. Aggarwal
Aerosol and Air Quality Research 22,12,220195 | <https://doi.org/10.4209/aaqr.220195>
20. A True Science Leader and Metrologists, an Obituary of Dr. Kamal Hossain [Obituary]
S. Yadav and N. Garg
MAPAN-Journal of Metrology Society of India (March 2022) 37(1):1–2 | <https://doi.org/10.1007/s12647-022-00549-2>
21. Activated green carbon-based 2-D nanofabric mats for ultra-flexible all-solid-state supercapacitor
Mandeep Singh, Ashish Gupta, Shashank Sundriyal, Prashant Dubey, Karishma Jain, S.R. Dhakate
Journal of Energy Storage 49 (2022) 104193 | <https://doi.org/10.1016/j.est.2022.104193>

CONTENTS

22. Aerosol based synthesis of highly conducting carbon nanotube macro assemblies by novel mist assisted precursor purging system
Pallvi Dariyal, Bhanu Pratap Singh, Gaurav Singh Chauhan, Manoj Sehrawat, Sushant Sharma, Ashok Kumar, Sanjay Ranganth Dhakate
Journal of Alloys and Compounds 925 (2022) 166634 | /10.1016/j.jallcom.2022.166634
23. Ag coated CuS core/shell nanoparticles to harness the full Vis-NIR spectrum for photocatalysis
Varun Kumar, Himanshu Sharma, Vishrut Chaudhary, M.K. Yadav, **Vidya Nand Singh, Surbhi**
Chemical Physics Letters 807 (2022) 140117 | <https://doi.org/10.1016/j.cplett.2022.140117>
24. Amalgamation of high- κ dielectrics with graphene: A catalyst in the orbit of nanoelectronics and material sciences
Sadhak Khanna
Frontiers in Physics | DOI 10.3389/fphy.2022.1064929
25. An auto-encoder based LSTM model for prediction of ambient noise levels
S.K. Tiwari, L.A. Kumaraswamidhas, **C. Gautam, N. Garg**
Applied Acoustics 195 (2022) 108849 | <https://doi.org/10.1016/j.apacoust.2022.108849>
26. An efficient electron transport properties of fullerene functionalized with tricyanovinylidihydrofuran (TCF)
Shailesh S. Birajdar, **Komal Bhardwaj, Rachana Kumar**, Mohammad Al Kobaisi, Sidhanath V. Bhosale, Sheshanath V. Bhosale
Materials Research Bulletin 147 (2022) 111644 | /10.1016/j.materresbull.2021.111644
27. An improvement in un-Encapsulated perovskite solar cell's environmental stability via introduction of an electrode interface layer
Abhishek K. Chauhan, Pankaj Kumar and Shailesh Narain Sharma
Materials Technology 2022,37, 14, 3079–3088 | /10.1080/10667857.2022.2123759
28. An insight into the mechanism of charge transfer of organic (P3HT): inorganic (CZTS) composites for hybrid photovoltaics
Shelfali Jain, Neeraj Chaudhary and Shailesh Narain Sharma
Materials Technology 2022,37,8, 684–694 | <https://doi.org/10.1080/10667857.2020.1870195>
29. An integrated DEMATEL-MMDE-ISM approach for analyzing environmental sustainability indicators in MSMEs
Abdul Gani, **Neeraj Bhanot**, Faisal Talib & Mohammad Asjad
Environmental Science and Pollution Research (2022) 29:2035–2051 | <https://doi.org/10.1007/s11356-021-15194-6>
30. Analysis of cellulose extracted from waste products
Chhavi Sharma, Shailesh Narain Sharma, Ritu Srivastava
Colloid and Polymer Science (2022) 300:1027–1036 | /10.1007/s00396-022-05005-w

CONTENTS

31. Analysis of electromagnetic shielding performance of waste rubber powder-based flexible composites
Shweta Kaushal, Anisha Chaudhary, and **S. R. Dhakate**
J Mater Sci: Mater Electron (2022) 33:24434–24446 | /10.1007/s10854-022-09157-x
32. Andreev Reflection Spectroscopy on SnAs Single Crystals
Sandeep Howlader, Nikhlesh Singh Mehta, **M. M. Sharma**, **V. P. S. Awana**, Goutam Sheet
Journal of Superconductivity and Novel Magnetism (2022) 35:1839–1845|
<https://doi.org/10.1007/s10948-022-06261-1>
33. Association between Acute Exposure to PM_{2.5} Chemical Species and Mortality in Megacity Delhi, India
Pallavi Joshi, Sagnik Dey, Santu Ghosh, Srishti Jain, and **Sudhir Kumar Sharma**
Environ. Sci. Technol. 2022, 56, 7275–7287| <https://doi.org/10.1021/acs.est.1c06864>
34. Attosecond-XUV pulse generation using laser-based high-harmonic generation in argon gas
Shruti Gulihar, Sandeep Kumar, **Mukesh Jewariya**
Eur. Phys. J. Plus (2022) 137:851| <https://doi.org/10.1140/epjp/s13360-022-03062-2>
35. Automation of Demonstrational Model of 1g Kibble Balance Using LabVIEW at CSIR-NPL
Bushra Ehtesham, **Thomas John**, **H K Singh** & **Nidhi Singh**
Indian Journal of Pure & Applied Physics Vol. 60, January 2022, pp. 29-37
36. Boron Induced Crystallization of Silicon on Glass: an Alternate Way to Crystallize Amorphous Silicon Films for Solar Cells
Sucheta Juneja & **Sushil Kumar**
Silicon (2022) 14:10459–10466|<https://doi.org/10.1007/s12633-022-01738-z>
37. Broadband (NIR-Vis-UV) photoresponse of annealed SnSe films and effective oxidation passivation using Si protective layer
Manoj Kumar, **Sanju Rani**, **Ashish Kumar**, **Jai Tawale**, **Ritu Srivastava**, **Bhanu Pratap Singh**, Saurabh Pathak, Xu Wang, **V.N. Singh**
Materials Research Bulletin 153 (2022) 111913| /10.1016/j.materresbull.2022.111913
38. Bulk superconductivity and non-trivial band topology analysis of Pb₂Pd
M M Sharma, **N K Karn**, Poonam Rani, R N Bhowmik and **V P S Awana**
Supercond. Sci. Technol. 35 (2022) 084010 (12pp)| /10.1088/1361-6668/ac7c42
39. Carbon nanotube incorporated eucalyptus derived activated carbon-based novel adsorbent for efficient removal of methylene blue and eosin yellow dyes
Shailesh K. Yadav, **S.R. Dhakate**, **Bhanu Pratap Singh**
Bioresource Technology 344 (2022) 126231| <https://doi.org/10.1016/j.biortech.2021.126231>
40. Certified Reference Materials for Scientific and Industrial Applications
S. P. Singh, J. Buajarern and L. Joseph
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):465–467|
<https://doi.org/10.1007/s12647-022-00604-y>

CONTENTS

41. Charge transfer excitons in unfunctionalized graphite-wrapped MAPbBr₃ nanocrystal composites with different morphologies
Gaurav Kumar Nim, Sukanya Ghosh, **Saurabh Kumar Saini, Mahesh Kumar** and Prasenjit Kar
New J. Chem., 2022,46, 8583| DOI: 10.1039/d2nj01116f
42. Charge transfer induced symmetry breaking in GaN/Bi₂Se₃ topological heterostructure device
Faizan Ahmad, **Rachana Kumar, Sunil Singh Kushvaha, Mahesh Kumar** and Pramod Kumar
NPJ 2D Materials and Applications (2022) 6:12| /10.1038/s41699-022-00288-7
43. Charge transport studies of highly stable diketopyrrolopyrrole-based molecular semiconductor
Sardul Singh Dhayal, Abhimanyu Nain, **Ritu Srivastava**, Akshaya K Palai, Rajesh Punia And Amit Kumar
Bull. Mater. Sci. (2022) 45:242| <https://doi.org/10.1007/s12034-022-02827-w>
44. Chemical properties of emissions from solid residential fuels used for energy in the rural sector of the southern region of India
Tuhin Kumar Mandal, Lokesh Yadav, Sudhir Kumar Sharma, Mohit Saxena, **Nidhi Tomar**, Arindam Dutta, Nidhi Malik, **Ummed Singh Saharan**
Environmental Science and Pollution Research (2022) 29:37930–37953|
<https://doi.org/10.1007/s11356-022-18543-1>
45. CO sensing properties of nanostructured WSe₂/GaN and MoSe₂/GaN based gas sensors
Monu Mishra, **Ajit Dash, Anuj Sharma**, Manika Khanuja, **Govind Gupta**
Physica E 139 (2022) 115147| <https://doi.org/10.1016/j.physe.2022.115147>
46. Comparative study of PTB7:PC₇₁BM based polymer solar cells fabricated under different working environments
Ram Datt, Sandeep Arya, **Swati Bishnoi, Ramashanker Gupta**, Vinay Gupta, Ajit Khosla
Microsystem Technologies (2022) 28:269–274| <https://doi.org/10.1007/s00542-019-04687-7>
47. Comparative study on surface states and CO gas sensing characteristics of CuO thin films synthesised by vacuum evaporation and sputtering processes
Debashrita Mahana, Amit Kumar Mauraya, Prabir Pal, **Preetam Singh, Senthil Kumar Muthusamy**
Materials Research Bulletin 145 (2022) 111567| /10.1016/j.materresbull.2021.111567
48. Comparison of bottomside ionospheric profile parameters (B0 and B1) extracted from FORMOSAT-7/COSMIC-2 GNSS Radio occultations with Digisondes and IRI-2016 model
Arun Kumar Singh, Haris Haralambous, Sampad Kumar Panda
Advances in Space Research 70 (2022) 1121–1141| /10.1016/j.asr.2022.05.045
49. Comparison of Cheap Imported Stainless Steel Samples with Indian-made Samples and a Crystalline Phase Based Methodology for Bench-marking them
N Karar, Vipin Jain & R Mohanty
Indian Journal of Pure & Applied Physics Vol. 60, May 2022, pp. 455-463

CONTENTS

50. Comparison of Various Thin-Film-Based Absorber Materials: A Viable Approach for Next-Generation Solar Cells
Mamta, Kamlesh Kumar Maurya, and Vidya Nand Singh
Coatings 2022, 12, 405 | <https://doi.org/10.3390/coatings12030405>
51. Comparisons of GC-Measured Carboxylic Acids and AMS m/z44 Signals: Contributions of Organic Acids to m/z 44 Signals in Remote Aerosols from Okinawa Island
Bhagawati Kunwar, Kazuhiro Torii, **Shankar G. Aggarwal**, Akinori Takami and Kimitaka Kawamura
Appl. Sci. 2022, 12, 8017 | <https://doi.org/10.3390/app12168017>
52. Complex Phase-Fluctuation Effects Correlated with Granularity in Superconducting NbN Nanofilms
Meenakshi Sharma, Manju Singh, Rajib K. Rakshit, **Surinder P. Singh**, Matteo Fretto, Natascia De Leo, Andrea Perali and Nicola Pinto
Nanomaterials 2022, 12, 4109. <https://doi.org/10.3390/nano12234109>
53. Comprehensive Exordium of Monte Carlo Simulation Technique: An Alternative Approach for Measurement Uncertainty Evaluation
Girija Moona & Harish Kumar
Indian Journal of Engineering & Materials Sciences, 29, 2022, pp.568-572 |
DOI: 10.56042/ijems.v29i5.52190
54. Comprehensive review on topological superconducting materials and interfaces
M M Sharma, Prince Sharma, N K Karn and V P S Awana
Supercond. Sci. Technol. 35 (2022) 083003 (32pp) | /10.1088/1361-6668/ac6987
55. Comprehensive Study of the Topological Surface States through Ultrafast Pump–Probe Spectroscopy
Prince Sharma, Archit Bhardwaj, Rahul Sharma, **V. P. S. Awana**, Tharangattu N. Narayanan, Karthik V. Raman, and **Mahesh Kumar**
J. Phys. Chem. C 2022, 126, 11138–11147 | <https://doi.org/10.1021/acs.jpcc.2c00767>
56. Conduction Mechanism and Dielectric Properties in Polyaniline/Titanium Dioxide Composites
Asha, Sneha Lata Goyal, Rachna Dhankhar, **Rahul Sharma & Arvind Sharma**
Indian Journal of Pure & Applied Physics, 60, 2022, pp.982-988 |
DOI 10.56042/ijpap.v60i12.66425
57. Copper (I) selenocyanate (CuSeCN): Eco-friendly solution-processable deposition of hole transport layer for organic solar cells
Sheerin Naqvi, Neeraj Chaudhary, Rashi Kedia, Preeti Yadav, Asit Patra
Solar Energy 231 (2022) 496–502 | <https://doi.org/10.1016/j.solener.2021.11.063>
58. Correlation of crystalline and optical properties with UV photodetector characteristics of GaN grown by laser molecular beam epitaxy on a-sapphire
V. Aggarwal, C. Ramesh, Urvashi Varshney, P. Tyagi, S. Gautam, A. K. Mauraya, B. S. Yadav, G. Gupta, Ramakrishnan Ganesan, M. Senthil Kumar, S. S. Kushvaha
Applied Physics A (2022) 128:989 | <https://doi.org/10.1007/s00339-022-06134-3>

CONTENTS

59. CoSb₃ based thermoelectric elements pre-requisite for device fabrication
Ruchi Bhardwaj, Ajay Kumar Verma, Kishor Kumar Johari, Nagendra S. Chauhan,
Sivaiah Bathula, S.R. Dhakate, Ajay Dhar, **Bhasker Gahtori**
Solid State Sciences 129 (2022) 106900 | /10.1016/j.solidstatesciences.2022.106900
60. Covalently linked benzothiadiazole-fullerene adducts for organic optoelectronic devices: synthesis and characterization
Divambal Appavoo, **Komal Bhardwaj,** Samarendra P. Singh, Emmanuel N. Koukaras,
Rachana Kumar and Bimlesh Lochab
RSC Adv., 2022, 12, 35977–35988 | DOI: 10.1039/d2ra06175a
61. Current advances in solar-blind photodetection technology: using Ga₂O₃ and AlGaN
Urvashi Varshney, Neha Aggarwal and Govind Gupta
J. Mater. Chem. C, 2022,10, 1573 | DOI: 10.1039/d1tc05101f
62. Defibrillator Delivered Energy Measurement Study with a Calibration Set Up at Different Trans-Thoracic Impedance
Rajesh, V. K. Tanwar, V. Sharma, Vishesh, M. K. Pandey, S. Gajjala, V. V. Agrawal
and **A. K. Singh**
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):477–481 |
<https://doi.org/10.1007/s12647-022-00576-z>
63. Degradation conceptualization of an innovative perovskite solar cell fabricated using SnO₂ and P3HT as electron and hole transport layers
P. Vijendar Reddy, Pratibha Giri and J. P. Tiwari
New J. Chem., 2022, 46, 12751–12766 | <https://doi.org/10.1039/d2nj02274e>
64. Degradation conceptualization of an innovative perovskite solar cell fabricated using SnO₂ and P3HT as electron and hole transport layers [**Correction**]
P. Vijendar Reddy, Pratibha Giri and J. P. Tiwari
New J. Chem., 2022, 46, 13362–13363 | <https://doi.org/10.1039/d2nj02274e>
65. Design analysis and validation of coaxial probe for tissue dielectric properties evaluation used in specific absorption rate measurement
Bhukya Venkanna Naik
Electromagnetic Biology and Medicine 2022, Vol. 41, No. 1, 60–70
<https://doi.org/10.1080/15368378.2021.2001652>
66. Design and development for amelioration of primary water flow standard and calibration systems
Shiv Kumar Jaiswal, Chatar Singh, Sanjeet Kumar, Anshul Varshney, Shanay Rab,
Sanjay Yadav
Flow Measurement & Instrumentation 86 (2022) 102201 | .1016/j.flowmeasinst.2022.102201
67. Designing of two dimensional lanthanum cobalt hydroxide engineered high performance supercapacitor for longer stability under redox active electrolyte
Deepa B. Bailmare, **Prashant Tripathi,** Abhay D. Deshmukh & **Bipin Kumar Gupta**
Scientific Reports | (2022) 12:3084 | <https://doi.org/10.1038/s41598-022-06839-8>

CONTENTS

68. Detailed magneto heat capacity analysis of SnAs topological superconductor
M M Sharma and V P S Awana
J. Phys.: Condens. Matter 34 (2022) 255702 (8pp) | /10.1088/1361-648X/ac6474
69. Detection and correction of laterally misaligned optical setup for generation of symmetric perfect vortex beam
Rajeev Dwivedi, Swati Gangwar, Shibu Saha, V.K. Jaiswal, Ranjana Mehrotra, Parag Sharma
Optik - International Journal for Light and Electron Optics 259 (2022) 168927 | <https://doi.org/10.1016/j.ijleo.2022.168927>
70. Development and validation of a low magnetic permeability measurement setup
Anurag Kumar Katiyar, Alok Prakash, Antim Dangi and Satya Kesh Dubey
Rev. Sci. Instrum. 93, 114701 (2022) | <https://doi.org/10.1063/5.0124348>
71. Development of a certified reference material (CRM) for seven trace elements (Al, Ca, Fe, K, Mg, Na and Ti) in high purity quartz
A. Durga Prasad, S. Thangavel, Lori Rastogi, **D. Soni**, K. Dash, Sunil Jai Kumar
Microchemical Journal 172 (2022) 106926 | <https://doi.org/10.1016/j.microc.2021.106926>
72. Development of Mg-doped hematite (α -Fe₂O₃)-based hydroelectric cell to generate green electricity
Aarti, Anurag Gaur, **Jyoti Shah, R. K. Kotnala** and Dinesh Kumar
New J. Chem., 2022, 46, 21158–21166 | DOI: 10.1039/d2nj03506e
73. Dielectric and impedance studies of binary ZnO–CuO nanocomposites for hydroelectric cell application
Chitralekha, Indrajeet Maurya, Tanika Gupta, S. Shankar, S. Gaurav, Vinita Tuli, **Jyoti Shah, R.K. Kotnala**
Materials Chemistry and Physics 291 (2022) 126690 | /10.1016/j.matchemphys.2022.126690
74. Dielectric and multiferroic properties of Na_{0.5}Bi_{0.5}TiO₃–CoFe₂O₄ heterostructure composite ceramic
Shilpa Thakur, Hakikat Sharma, Sarita Sharma, Sandeep Saini, K. L. Yadav, **Jyoti Shah, R. K. Kotnala**, and N.S. Negi
J Mater Sci: Mater Electron (2022) 33:5831–5845 | /10.1007/s10854-022-07766-0
75. Dielectric encapsulations suitable for applications in quantum technologies
Abhinav Kala and **Venu Gopal Achanta**
Eur. Phys. J. Spec. Top. (2022) 231:799–805 | 10.1140/epjs/s11734-022-00464-2
76. Dielectric, ferroelectric, magnetic and electrical properties of Sm-doped GaFeO₃
Khusboo Agrawal, Banarji Behera, S. C. Sahoo, S. K. Rout, **Ashok Kumar**, Dhiren K. Pradhan, Piyush R. Das
Applied Physics A (2022) 128:156 | <https://doi.org/10.1007/s00339-022-05279-5>
77. Dimension dependency of tungsten oxide for efficient gas sensing
Aditya Yadav, Preetam Singh and Govind Gupta
Environ. Sci.: Nano, 2022, 9, 40 | DOI: 10.1039/d1en00872b

CONTENTS

78. Disorder Induced Magnetic Behavior of Non-Stoichiometric $\text{Co}_{0.75}\text{Mn}_{0.5}\text{Fe}_{0.75}\text{Si}$ Full-Heusler Alloy
Bal Govind, Purnima Bharti, **Sahiba Bano**, **Ashish Kumar**, Satyendra Singh, **V. P. S. Awana**
Journal of Superconductivity and Novel Magnetism (2022) 35:445–453 |
<https://doi.org/10.1007/s10948-021-06076-6>
79. Double glassy states and large spontaneous and conventional exchange bias in $\text{La}_{1.5}\text{Ca}_{0.5}\text{CoFeO}_6$ ferrimagnetic double perovskite
Prajyoti Singh, Rahul K Sing, Srishti Dixit, Neha Patel, Mohd Alam, Sambhab Dan, A Jain, K Anand, Vinod K Gangwar, Rahul Singh, **Amish G Joshi**, S M Yusuf, and Sandip Chatterjee
J. Phys.: Condens. Matter 34 (2022) 375803 (14pp) | /10.1088/1361-648X/ac7f74
80. Downconversion Materials for Perovskite Solar Cells
Ram Datt, Swati Bishnoi, Declan Hughes, Prerna Mahajan, Anoop Singh, **Ramashanker Gupta**, Sandeep Arya, Vinay Gupta, and Wing Chung Tsoi
Sol. RRL 2022, 6, 2200266 | DOI: 10.1002/solr.202200266
81. Drivers of air pollution variability during second wave of COVID-19 in Delhi, India
Ummed Singh Saharan, Rajesh Kumar, Pratyush Tripathy, M. Sateesh, Jyoti Garg, **Sudhir Kumar Sharma**, **Tuhin Kumar Mandal**
Urban Climate 41 (2022) 101059 | <https://doi.org/10.1016/j.uclim.2021.101059>
82. Dual Wavelength based Approach with Partial Least Square Regression for the Prediction of Glucose Concentration
Deepshikha Yadav, **Manjri Singh**, **Sahil Sharma**, **Surinder P Singh** & **P K Dubey**
Indian Journal of Pure & Applied Physics Vol. 60, August 2022, pp. 700-706 |
DOI: 10.56042/ijpap.v60i8.63861
83. Eco-friendly Green Synthesis of stable ZnO nanoparticles using citrus limon: X-Ray Diffraction Analysis and Optical Properties
Anamika Kem, Mohd Rehan Ansari, **P Prathap**, M Jayasimhadri and Koteswara Rao Peta
Phys. Scr. 97 (2022) 085814 | <https://doi.org/10.1088/1402-4896/ac7efb>
84. Effect of bismuth doping and SiC nanodispersion on the thermoelectric properties of solution-processed PbTe
Pradeep Kumar Sharma, **T.D. Senguttuvan**, V.K. Sharma, Pankaj Patro, Sujeet Chaudhary
Journal of Alloys and Compounds 915 (2022) 165390 | /10.1016/j.jallcom.2022.165390
85. Effect of integrating industrial and agricultural wastes on concrete performance with and without microbial activity
Amanpreet Kaur Sodhi, **Neeraj Bhanot**, Rajwinder Singh & Mohammed Alkahtani
Environmental Science and Pollution Research (2022) 29:86092–86108 |
<https://doi.org/10.1007/s11356-021-16445-2>

CONTENTS

86. Effect of irradiation on pyroelectric and electrocaloric parameters in lead-free relaxor ferroelectric ceramic
Vikas N. Thakur, Atul Thakre, Hitesh Borkar, **Ashok Kumar**
Materials Today Communications 32 (2022) 103924 | [/10.1016/j.mtcomm.2022.103924](https://doi.org/10.1016/j.mtcomm.2022.103924)
87. Effect of Li^+ , Mg^{2+} , and Al^{3+} Substitution on the Performance of Nickel Ferrite-Based Hydroelectric Cells
Sandeep Saini, Kanhaiya L. Yadav, **Jyoti Shah**, and **Ravinder K. Kotnala**
Energy Fuels 2022, 36, 7121–7129 | <https://doi.org/10.1021/acs.energyfuels.2c01244>
88. Effect of lockdown amid second wave of COVID-19 on environmental noise scenario of the megacity Delhi, India
S. Kumar, **N. Garg**, **B. S. Chauhan**, **C. Gautam**, T. Chand, M. P. George and K. S. Jayachandran
J. Acoust. Soc. Am. 152 (3), September 2022 | <https://doi.org/10.1121/10.0013827>
89. Effect of Nd doping on structural, dielectric, magnetic and ferroelectric properties of $0.8\text{BiFeO}_3-0.2\text{PbTiO}_3$ solid solution
Manoj Balonia, Ram Chhavi Sharma, Hemant Singh, Manoj K. Singh, **Ashok Kumar**, Prakash Chandra Sati, Bushra Khand, **Vikas N. Thakure**
Journal of Alloys and Compounds 905 (2022) 164228 | [/10.1016/j.jallcom.2022.164228](https://doi.org/10.1016/j.jallcom.2022.164228)
90. Effect of shock wave on optical properties of Propyl p-hydroxybenzoate single crystal: A self-defocusing third order nonlinear optical material
Debabrata Nayak, **N. Vijayan**, **Manju Kumari**, **Pargam Vashishtha**, **Saurabh K. Saini**, **Amit Kumar Gangwar**, **Govind Gupta**, **R.P. Pant**
Journal of Physics and Chemistry of Solids 167 (2022) 110768 | [/10.1016/j.jpics.2022.110768](https://doi.org/10.1016/j.jpics.2022.110768)
91. Effect of shock wave on surface morphology and optical properties of acid phthalate based single crystals
Manju Kumari, **N. Vijayan**, **Debabrata Nayak**, **Kiran**, **Pargam Vashishtha**, **Amit Kumar Gangwar**, **Govind Gupta**, **Preetam Singh**, **R.P. Pant**
Optical Materials 133 (2022) 112986 | <https://doi.org/10.1016/j.optmat.2022.112986>
92. Effect of Sn substitution at Sb site on the magnetic properties of Mn_2NiSb full-Heusler alloy
Bal Govind, Purnima Bharti, **Ashish Kumar**, **Sahiba Bano**, Satyendra Singh, **V.P.S. Awana**
Journal of Alloys and Compounds 907 (2022) 164515 | [/10.1016/j.jallcom.2022.164515](https://doi.org/10.1016/j.jallcom.2022.164515)
93. Effect of Surface Modification of Natural Zeolite on Ammonium Ion Removal from Water Using Batch Study: an Overview
Vikas Yadav, **Mamta Rani**, **Lalit Kumar**, **Nahar Singh**, **V. Ezhilselv**
Water Air Soil Pollut (2022) 233:465 | <https://doi.org/10.1007/s11270-022-05948-4>
94. Efficiency Measurement of Organic Solar Cells: Step-by-Step Protocol to be Followed
M. Ahuja, **S. Naqvi**, **A. Kumar**, **R. Kumar**, **R. K. Singh** and **S. Kumar**
MAPAN-Journal of Metrology Society of India (June 2022) 37(2):311–318 | <https://doi.org/10.1007/s12647-021-00522-5>

CONTENTS

95. Efficient Green Phosphorescent Organic Light Emitting Diode using Iridium Complex
Aparna Tripathi & **Pankaj Kumar**
Indian Journal of Pure & Applied Physics Vol. 60, May 2022, pp. 415-421
96. Electric field modulated photoluminescence in ferroelectric ceramics for photosensitive device applications
Hitesh Borkar, Siju Mishra, Jitendra Gangwar, D. Haranath, **Ashok Kumar**
Materials Research Bulletin 152 (2022) 111831 | /10.1016/j.materresbull.2022.111831
97. Encapsulation of Cu-doped TiO₂ nanocomposites with the understanding of weak photocatalytic properties for sunscreen applications
Jyoti Bansal, Sanjay Kumar Swami, Rana Tabassum, **Shailesh Narain Sharma & Aurangzeb Khurram Hafiz**
Science and Technology, 43:3, 364-374 | DOI: 10.1080/01932691.2020.1841653
98. Engineered Cathode Buffer Layers for Highly Efficient Organic Solar Cells: A Review
Swati Bishnoi, Ram Datt, Sandeep Arya, Sonal Gupta, **Ramashanker Gupta**, Wing Chung Tsoi, **Shailesh N. Sharma**, Shashikant P. Patole, and Vinay Gupta
Adv. Mater. Interfaces 2022, 9, 2101693 | DOI: 10.1002/admi.202101693
99. Enhanced Curie temperature and superior temperature stability by site selected doping in BCZT based lead-free ceramics
Sapna Kumari, Amit Kumar, Aman Kumar, V. Kumar, **Vikas N. Thakur, Ashok Kumar**, P.K. Goyal, Anurag Gaur, Anil Arya, A.L. Sharma
Ceramics International 48 (2022) 13780–13793 | /doi.org/10.1016/j.ceramint.2022.01.260
100. Enhanced electromagnetic interference (EMI) shielding in BiFeO₃–graphene oxide nanocomposites over X-band frequency region
Hilal Ahmad Reshi, Shreeja Pillai, **Avanish Pratap Singh, S. K. Dhawan**, and Vilas Shelke
J. Appl. Phys. 131, 174101 (2022) | doi: 10.1063/5.0086882
101. Electromagnetic interference shielding properties of phenolic resin derived lightweight carbon foam decorated with electrospun zinc oxide nanofibers
Anushi Sharma, Rajeev Kumar, **Ashish Gupta, Pinki Rani Agrawal**, Neeraj Dwivedi, D.P. Mondal, A.K. Srivastava, **Sanjay R. Dhakate**
Materials Today Communications 30 (2022) 103055 | /10.1016/j.mtcomm.2021.103055
102. Enhanced multiferroic properties and magnetoelectric coupling in Nd modified 0.7BiFeO₃–0.3PbTiO₃ solid solution
Manoj Baloni¹, Ram Chhavi Sharma, Hemant Singh, Bushra Khan, Manoj K. Singh, Prakash Chandra Sati, Meera Rawat, Vikas N. Thakur, **Ashok Kumar**, and **R. K. Kotnala**
J Mater Sci: Mater Electron (2022) 33:17161–17173 | /10.1007/s10854-022-08592-0
103. Enhanced photoconductivity performance of microrod-based Sb₂Se₃ device
Yogesh Singh, Manoj Kumar, Reena Yadav, Ashish Kumar, Sanju Rani, Shashi, **Preetam Singh, Sudhir Husale, V.N. Singh**
Solar Energy Materials & Solar Cells 243 (2022) 111765 | /10.1016/j.solmat.2022.111765

CONTENTS

104. Enhanced thermoelectric performance at elevated temperature via suppression of intrinsic excitation in p-type $\text{Bi}_{0.5-x}\text{Sn}_x\text{Sb}_{1.5}\text{Te}_3$ thermoelectric material
Sahiba Bano, D. K. Misra, Purnima Bharti, Ashish Kumar, Bal Govind, and Aman Bhardwaj
J Mater Sci: Mater Electron (2022) 33:6018–6030 | [/10.1007/s10854-022-07781-1](https://doi.org/10.1007/s10854-022-07781-1)
105. Enhanced Thermoelectric Performance of $\text{Ni}_x\text{Bi}_{0.5}\text{Sb}_{1.5}\text{Te}_3$ via In Situ Formation of NiTe_2 Channels
Sahiba Bano, Ashish Kumar, Bal Govind, Aman Bhardwaj, Aakansha Kapoor, Anuradha Ashok, Thiruvengatam Vijayaraghavan, Pallavi Kushwaha and Surinder Pal Singh
ACS Appl. Energy Mater. 2022, 5, 14127–14135 | <https://doi.org/10.1021/acsaem.2c02675>
106. Enhanced thermoelectric performance of n-type $\text{Zr}_{0.66}\text{Hf}_{0.34}\text{Ni}_{1+x}\text{Sn}$ Heusler nanocomposites
Ashish Kumar, Sahiba Bano, Bal Govind, Aman Bhardwaj, V.N. Singh
Journal of Alloys and Compounds 900 (2022) 163454 | [/10.1016/j.jallcom.2021.163454](https://doi.org/10.1016/j.jallcom.2021.163454)
107. Enhanced Water Splitting by Strained Lithium-Substituted Nickel Ferrite Hydroelectric Cells
Sandeep Saini, K. L. Yadav, Jyoti Shah and R. K. Kotnala
ACS Appl. Energy Mater. 2022, 5, 8178–8188 | <https://doi.org/10.1021/acsaem.2c00708>
108. Enhancement of Power Factor and Mechanical Properties in Low Cost $\text{Mg}_2\text{Si}_{1-x}\text{Sn}_x$ Employing a Composite Approach
Sushantika Choudhary, Saravanan Muthiah, and Sanjay R. Dhakate
ACS Appl. Energy Mater. 2022, 5, 549–556 | <https://doi.org/10.1021/acsaem.1c03062>
109. Environmental gas sensors based on electroactive hybrid organic–inorganic nanocomposites using nanostructured materials
Priyanka Dutta and Govind Gupta
Phys. Chem. Chem. Phys., 2022, 24, 28680 | DOI: [10.1039/d2cp04247a](https://doi.org/10.1039/d2cp04247a)
110. Epidermal Inspired Flexible Sensor with Buckypaper/PDMS Interfaces for Multimodal and Human Motion Monitoring Applications
Sharon J. Paul, Indu Elizabeth, Shubhda Srivastava, Jai S. Tawale, Prakash Chandra, Harish C. Barshilia and Bipin K. Gupta
ACS Omega 2022, 7, 37674–37682 | <https://doi.org/10.1021/acsomega.2c04563>
111. Estimation of Measurement Uncertainty of Additive Manufacturing Parts to Investigate the Influence of Process Variables
M. Pant, L. Nagdeve, G. Moona and H. Kumar
MAPAN-Journal of Metrology Society of India (December 2022) 37(4):765–775 | <https://doi.org/10.1007/s12647-022-00592-z>
112. Ethylcellulose-Encapsulated Inorganic Lead Halide Perovskite Nanoparticles for Printing and Optoelectronic Applications
Ashish Kumar, Sanjay Kumar Swami, Vidya Nand Singh, Bipin Kumar Gupta, Om Prakash Sinha, and Ritu Srivastava
Part. Part. Syst. Charact. 2022, 39, 2100250 | DOI: [10.1002/ppsc.202100250](https://doi.org/10.1002/ppsc.202100250)

CONTENTS

113. Eu doped NaYF₄@Er:TiO₂ nanoparticles for tunable ultraviolet lightbased anti-counterfeiting applications
Anoop Singh, Sandeep Arya, Manika Khanuja, Aurangzeb Khurram Hafiz, **Ram Datt**, Vinay Gupta, Ajit Khosla
Microsystem Technologies (2022) 28:295–304| <https://doi.org/10.1007/s00542-019-04734-3>
114. Evaluation and analysis of firecrackers noise: Measurement Uncertainty, legal noise regulations and noise induced hearing loss
Satish K. Lokhande, **Naveen Garg**, Mohindra C. Jain, Sadhana Rayalu
Applied Acoustics 186 (2022) 108462| <https://doi.org/10.1016/j.apacoust.2021.108462>
115. Evaluation of self-heating effect in platinum resistance thermometers
Babita, Umesh Pant, Hansraj Meena, Gaurav Gupta, Komal Bapna, D.D. Shivagan
Measurement 203 (2022) 111994| <https://doi.org/10.1016/j.measurement.2022.111994>
116. Evaluation of various optical parameters of (Ge₂₀Se₈₀)₉₀Sb₁₀ thin films
Jasmeen Kang, **R.K. Kotnala**, S.K. Tripathi
Materials Today: Proceedings 67 (2022) 807–810| [/doi.org/10.1016/j.matpr.2022.08.071](https://doi.org/10.1016/j.matpr.2022.08.071)
117. Evolution of a weak magnetic moment in the FeNbSb based HH materials via Ni doping at Fe site
Ashish Kumar, Bal Govind, Sahiba Bano, Manoj Kumar, Yogesh Singh, Sanju Rani, Brijesh Kumar, V.N. Singh
Journal of Magnetism and Magnetic Materials 554 (2022) 169306| <https://doi.org/10.1016/j.jmmm.2022.169306>
118. Excellent microwave absorbing and electromagnetic shielding performance of grown MWCNT on activated carbon bifunctional composite
Praveen Negi, Ashish Gupta, **Mandeep Singh**, Rajeev Kumar, Sumit Kumar, Himangshu Bhusan Baskey, Ashavani Kumar
Carbon 198 (2022) 151–161| <https://doi.org/10.1016/j.carbon.2022.07.024>
119. Excellent omnidirectional light trapping properties of inverted micro-pyramid structured silicon by copper catalyzed chemical etching
Avritti Srivastava, Deepak Sharma, Subha Laxmi, Jai S. Tawale, Prathap Pathi, Sanjay K. Srivastava
Optical Materials 131 (2022) 112677| <https://doi.org/10.1016/j.optmat.2022.112677>
120. Exploring the optoelectronic properties of SnSe: a new insight
Manoj Kumar, Sanju Rani, Pargam Vashishtha, Govind Gupta, Xu Wang and **V. N. Singh**
J. Mater. Chem. C, 2022,10, 16714| DOI: 10.1039/d2tc03799h
121. Exploring the possibility of using MWCNTs sheets as an electrode for flexible room temperature NO₂ detection
Rahul Kumar, Mamta, B.P. Singh, V.N. Singh
Micro and Nanostructures 164 (2022) 107165| <https://doi.org/10.1016/j.spmi.2022.107165>

CONTENTS

122. Extraction and Analysis of Recovered Silver and Silicon from Laboratory Grade Waste Solar Cells
Dheeraj Sah, Chitra, Kalpana Lodhi, Chander Kant, Sanjay K. Srivastava, Sushil Kumar
Silicon (2022) 14:9635–9642 | <https://doi.org/10.1007/s12633-022-01715-6>
123. Fabrication and Characterization of Si/PEDOT: PSS-Based Heterojunction Solar Cells
Ragavendran Venkatesan, Sheik Moideen Thaha Sheik Kadar Maideen, Saravanan Chandhiran, **Sunil Singh Kushvaha**, Suresh Sagadevan, Vishnukanthan Venkatachalapathy and Jeyanthinath Mayandi
Electronics 2022, 11, 4145 | <https://doi.org/10.3390/electronics11244145>
124. Fabrication of Electrochemical Biosensor Using Zinc Oxide Nanoflowers for the Detection of Uric Acid
P. Dutta, V. Sharma, H. Bhardwaj, V. V. Agrawal, Rajesh and G. Sumana
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):585–595 | <https://doi.org/10.1007/s12647-022-00598-7>
125. Fabrication of periodic, flexible and porous silicon microwire arrays with controlled diameter and spacing: Effects on optical properties
Anjali Saini, Mohammed Abdelhameed, Divya Rani, Wipakorn Jevasuwan, Naoki Fukata, **Premshila Kumari, Sanjay K. Srivastava, Prathap Pathi**, Arup Samanta, Mrinal Dutta
Optical Materials 134 (2022) 113181 | <https://doi.org/10.1016/j.optmat.2022.113181>
126. Facile synthesis and tailoring the structural and photoluminescence properties of ZnO nanoparticles via annealing in air atmosphere
Premshila Kumari, Avritti Srivastava, Ruchi K. Sharma, Anjali Saini, Deepak Sharma, Jai S. Tawale, Sanjay K. Srivastava
Materials Today Communications 32 (2022) 103845 | [/10.1016/j.mtcomm.2022.103845](https://doi.org/10.1016/j.mtcomm.2022.103845)
127. Fe₃O₄/graphene-oxide/chitosan hybrid aerogel based high performance supercapacitor: effect of aqueous electrolytes on storage capacity & cell stability
Neakanshika Chadha, Md. Yasir Bhat, S.A. Hashmi, **Parveen Saini**
Journal of Energy Storage 46 (2022) 103789 | <https://doi.org/10.1016/j.est.2021.103789>
128. Flexible and Polarization Independent Miniaturized Double-Band/Broadband Tunable Metamaterial Terahertz Filter
Manikandan Esakkimuthu, Inbarani Jothinayagam, Karthigeyan Arumugam, Sheena Christabel Pravin and **Mukesh Jewariya**
Materials 2022, 15, 8174 | <https://doi.org/10.3390/ma15228174>
129. Flexomagnetic effects on inhomogeneously strained multiferroics composites
Hitesh Borkar, Vishwajit M. Gaikwad, R.J. Choudhary, M. Tomar, Vinay Gupta, **Ashok Kumar**
Journal of Magnetism and Magnetic Materials 553 (2022) 169274 | [/10.1016/j.jmmm.2022.169274](https://doi.org/10.1016/j.jmmm.2022.169274)

CONTENTS

130. Frequency distribution of pollutant concentrations over Indian megacities impacted by the COVID-19 lockdown
Arnab Mondal, Sudhir Kumar Sharma, Tuhin Kumar Mandal, Imran Girach, Narendra Ojha
Environmental Science and Pollution Research (2022) 29:85676–85687
<https://doi.org/10.1007/s11356-021-16874-z>
131. Futuristic Role of Bhartiya Nirdeshak Dravya an Indian Reference Material on Safety and Quality of Food Products
A. Krishna, S. S. Tripathy, Vinod and N. Singh
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):511–516
<https://doi.org/10.1007/s12647-022-00539-4>
132. Ga₂O₃/GaN Heterointerface-Based Self-Driven Broad-Band Ultraviolet Photodetectors with High Responsivity
Urvashi Varshney, Anuj Sharma, Pargam Vashishtha, Lalit Goswami, and **Govind Gupta**
ACS Appl. Electron. Mater. 2022, 4, 5641–5651 | <https://doi.org/10.1021/acsaelm.2c01362>
133. Glass Transition Temperature Measurement of Polycarbonate Specimen by Dynamic Mechanical Analyser Towards the Development of Reference Material
M. Sehrawat, M. Rani, S. Bharadwaj, S. Sharma, G. S. Chauhan, S. R. Dhakate and B. P. Singh
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):517–527
<https://doi.org/10.1007/s12647-022-00572-3>
134. Gridded distribution of total suspended particulate matter (TSP) and their chemical characterization over Delhi during winter
Ritu Jangirh & Sakshi Ahlawat & Rahul Arya & Arnab Mondal & Lokesh Yadav & Garima Kotnala & Pooja Yadav & Nikki Choudhary & Martina Rani & Rubiya Banoo & Akansha Rai & Ummed Singh Saharan & Neeraj Rastogi & Anil Patel & Shivani & Ranu Gadi & Priyanka Saxena & Narayanasamy Vijayan & Chhemendra Sharma & Sudhir Kumar Sharma & Tuhin Kumar Mandal
Environmental Science and Pollution Research (2022) 29:17892–17918
<https://doi.org/10.1007/s11356-021-16572-w>
135. Growth and characterization of crystalline Bi₂Se₃ thin films on flexible metal foils by magnetron sputtering system
Bheem Singh, Sudhanshu Gautam, V. Aggarwal, J.S. Tawale, S.S. Kushvaha
Materials Today: Proceedings 64 (2022) 1701–1706 | [/10.1016/j.matpr.2022.05.408](https://doi.org/10.1016/j.matpr.2022.05.408)
136. Growth and characterization of Ni substituted Bi₂Se₃ single crystals
Kapil Kumar, Prince Sharma, M. M. Sharma, Yogesh Kumar, V. P. S. Awana
Journal of Superconductivity and Novel Magnetism (2022) 35:1017–1024
<https://doi.org/10.1007/s10948-022-06150-7>

CONTENTS

137. Growth and Characterization of Pure and Sm-Doped Sb₂Te₃ Single Crystal
Kapil Kumar, Yogesh Kumar, V. P. S. Awana
Journal of Superconductivity and Novel Magnetism (2022) 35:2601–2608|
<https://doi.org/10.1007/s10948-022-06363-w>
138. Growth, Structure, Micro-structure and Magneto-transport of an Easy Route Synthesized Bulk Polycrystalline TiSe₂
Abhilasha Saini, Kapil Kumar, M. M. Sharma, R. P. Aloysius, V. P. S. Awana
Journal of Superconductivity and Novel Magnetism (2022) 35:1383–1387|
<https://doi.org/10.1007/s10948-022-06240-6>
139. Heterostructure nanoarchitectonics with ZnO/SnO₂ for ultrafast and selective detection of CO gas at low ppm levels
Amit Kumar Mauraya, Debashrita Mahana, Gaurav Jhaa, Bipul Kumar Pradhan, Roopa, Shweta Tomer, Vandana, Preetam Singh, Sunil Singh Kushvaha, Senthil Kumar Muthusamy
Ceramics International 48 (2022) 36556–36569| /10.1016/j.ceramint.2022.08.215
140. Hierarchical self-assembling and helical structure in focal conic domains in meniscus of ferroelectric liquid crystal
Amit Choudhary, **Suraj Kumar, Ambika Bawa, Surinder P. Singh, Anil K. Thakur, Rajesh and Ashok M. Biradar**
Physical Review E 105, 044706 (2022)| DOI: 10.1103/PhysRevE.105.044706
141. Highly conductive CNT aerogel synthesized via an inert FC-CVD technique: a step towards a greener approach
Manoj Sehrawat, Mamta Rani, Pallvi Dariyal, Sony Bharadwaj, S. R. Dhakate and Bhanu Pratap Singh
Chem. Eng., 2022, 7, 1921| DOI: 10.1039/d2re00170e
142. Highly Porous Carbon From Azadirachta Indica Leaves and Uio-66 Derived Metal Oxide for Asymmetrical Supercapacitors
Shashank Sundriyal, Vishal Shrivastav, Prashant Dubey, Mandeep Singh, Akash Deep, and Sanjay R. Dhakate
IEEE Transactions on Nanotechnology, Vol. 21, 2022| 10.1109/TNANO.2022.3144367
143. High-Performance Functionalized Mg₂Si_{0.9}Sn_{0.1} Thermoelectric Leg Synthesis by a Single-Step Reactive SPS Process
Saravanan Muthiah, Sushantika Choudhary, Priyanka Sangwan, Manju Yadav, Chandrakant Prajapati, Naval Kishor Upadhyay, Radhey Shyam, and Sanjay R. Dhakate
ACS Appl. Energy Mater. 2022, 5, 15710–15718| <https://doi.org/10.1021/acsaem.2c03299>
144. Human Hair-Derived Porous Activated Carbon as an Efficient Matrix for Conductive Polypyrrole for Hybrid Supercapacitors
Prashant Dubey, Priyanka H. Maheshwari, and Shashank Sundriyal
Energy Fuels 2022, 36, 13218–13228| <https://doi.org/10.1021/acs.energyfuels.2c01926>

CONTENTS

145. Identification of Carbonaceous Species and FTIR Profiling of PM_{2.5} Aerosols for Source Estimation in Old Delhi Region of India
S. Shankar, R. Gadi, **S. K. Sharma and T. K. Mandal**
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):529–544|
<https://doi.org/10.1007/s12647-022-00575-0>
146. Impact of Chemical Properties of Human Respiratory Droplets and Aerosol Particles on Airborne Viruses' Viability and Indoor Transmission
Ajit Ahlawat, **Sumit Kumar Mishra**, Hartmut Herrmann, Pradhi Rajeev, Tarun Gupta, Vikas Goel, Yele Sun and Alfred Wiedensohler
Viruses 2022, 14, 1497| <https://doi.org/10.3390/v14071497>
147. Impact of COVID-19 lockdown on ambient noise levels in seven metropolitan cities of India
N. Garg, V. Gandhi, N.K. Gupta
Applied Acoustics 188 (2022) 108582| <https://doi.org/10.1016/j.apacoust.2021.108582>
148. Impact of high energy ion irradiation on structural, morphological, optical and photoluminescence properties of MgTiO₃ thin films
Deepak Negi, Radhe Shyam, **Pargam Vashishtha, Govind Gupta**, Fouran Singh, Srinivasa Rao Nelamarri
Journal of Luminescence 249 (2022) 119051| <https://doi.org/10.1016/j.jlumin.2022.119051>
149. Impact of long-term residue burning versus retention on soil organic carbon sequestration under a rice-wheat cropping system
Asik Dutta, Ranjan Bhattacharyya, Ved Prakash Chaudhary, **Chhemendra Sharma**, Chaitanya Prasad Nath, Soora Naresh Kumar, Brajendra Parmar
Soil & Tillage Research 221 (2022) 105421| <https://doi.org/10.1016/j.still.2022.105421>
150. Impact of Tb doping on luminescence properties of LiCaAlF₆ phosphor prepared in argon atmosphere and charge transfer mechanism
Pooja Seth, Anuj Soni, **Govind Gupta**, D.R. Mishra, Shruti Aggarwal
Journal of Luminescence 252 (2022) 119322| <https://doi.org/10.1016/j.jlumin.2022.119322>
151. Important Developments In The Fields Of Crystal Growth And Real Structure Of Nearly Perfect Single Crystals
K. Lal
Journal of Structural Chemistry, 2022, Vol. 63, No. 7, pp. 1061-1069| DOI:
[10.1134/S0022476622070046](https://doi.org/10.1134/S0022476622070046)
152. Improved energy storage density and energy efficiency of Samarium modified PMNT electroceramic
Charanjeet Singh, Ashok Kumar
Ceramics International 48 (2022) 18278–18285| [/10.1016/j.ceramint.2022.03.086](https://doi.org/10.1016/j.ceramint.2022.03.086)
153. Improved humidity sensitivity and possible energy harvesters in lithium modified potassium niobium tantalate oxide
Satyam Kumar, Vikas N. Thakur, Ravikant, Rajnish Kurchania, Ram S. Katiyar, **Ashok Kumar**
Materials Chemistry and Physics 288 (2022) 126384| [/10.1016/j.matchemphys.2022.126384](https://doi.org/10.1016/j.matchemphys.2022.126384)

CONTENTS

154. Improved photoconductive gain and high responsivity in LT-GaAs on UHV annealing without arsenic overpressure
Nikita Vashistha, Lavi Tyagi, **Saurabh K. Saini**, Debiprasad Panda, **Rajiv K. Singh**, **Mahesh Kumar**, Subhananda Chakrabarti
Physica B 646 (2022) 414285| <https://doi.org/10.1016/j.physb.2022.414285>
155. Improved resistive switching of RGO and SnO₂ based resistive memory device for non-volatile memory application
Km Komal, **Govind Gupta**, Mukhtiyar Singh, Bharti Singh
Journal of Alloys and Compounds 923 (2022) 166196| [/10.1016/j.jallcom.2022.166196](https://doi.org/10.1016/j.jallcom.2022.166196)
156. Improved thermoelectric properties of Fe doped Si-rich higher manganese silicide
Madhuvathani Saminathan, **Saravanan Muthiah**, Lokeswaran Ravi, Animesh Bhui, Reeshma Rameshan, Ravikirana, Suresh Perumal
Materials Science and Engineering B 284 (2022) 115912| [/10.1016/j.mseb.2022.115912](https://doi.org/10.1016/j.mseb.2022.115912)
157. In Memory of Vladimir Kresin **-(Obituary)**
V. P. S. Awana, Israel Felner, Sergei Ovchinnikov
Journal of Superconductivity and Novel Magnetism (2022) 35:2599–2600|
<https://doi.org/10.1007/s10948-022-06368-5>
158. In situ cross-linking capability of novel aminefunctionalized graphene with epoxy nanocomposites
Abhishek K. Pathak, Lekha Sharma, Hema Garg, Tomohiro Yokozeki, **Sanjay R. Dhakate**
J Appl Polym Sci. 2022;139:e52249| <https://doi.org/10.1002/app.52249>
159. In Situ Evolution of Secondary Metallic Phases in Off-Stoichiometric ZrNiSn for Enhanced Thermoelectric Performance
Kishor Kumar Johari, Durgesh Kumar Sharma, **Ajay Kumar Verma**, **Ruchi Bhardwaj**, Nagendra S. Chauhan, Sudhir Kumar, Manvendra Narayan Singh, Sivaiah Bathula, and **Bhasker Gahtori**
ACS Appl. Mater. Interfaces 2022, 14, 19579–19593| [/10.1021/acsami.2c03065](https://doi.org/10.1021/acsami.2c03065)
160. Indigenous Development of Acoustic Sounder (SODAR) in India as an Upgraded Technology for Environmental Protection: A Review
Anjali S Nair, Kirti Soni, **Priyanka Singh**, Nishant Kumar, **Parag Chourey**, **Rohan Kamra**, **Kuldeep Meena & Mahavir Singh**
Indian Journal of Pure & Applied Physics Vol. 60, September 2022, pp. 794-812
DOI: [10.56042/ijpap.v60i9.61862](https://doi.org/10.56042/ijpap.v60i9.61862)
161. Influence of buffer layers on antimony selenide based solar cell
Mamta, K.K. Maurya, V.N. Singh
Optical Materials 126 (2022) 112240| <https://doi.org/10.1016/j.optmat.2022.112240>
162. Influence of Calcium Substitution on Structural, Vibrational and Paramagnetic Properties of Magnesium Ferrite
Gurbinder Kour, Balwinder Kaur, Ajay Singh, Anju Kumari & **Manju Arora**
Indian Journal of Pure & Applied Physics Vol. 60, September 2022, pp. 742-753
DOI: [10.56042/ijpap.v60i9.62368](https://doi.org/10.56042/ijpap.v60i9.62368)

CONTENTS

163. Influence of current conduction paths and native defects on gas sensing properties of polar and non-polar GaN
Ajit Dash, Anuj Sharma, Shubhendra Kumar Jain, B. Sachitra Kumar Patra, Abhiram Gundimeda, Sandipan Mallik, **Govind Gupta**
Journal of Alloys and Compounds 898 (2022) 162808| /10.1016/j.jallcom.2021.162808
164. Influences of Various Parameters on Sound Absorption Properties of Vetiver Grass Fiber-based Developed Composite Material
Kuldeep Meena, Mahavir Singh, Kirti Soni, & **Anjali S Nair**
Indian Journal of Pure & Applied Physics Vol. 60, May 2022, pp. 422-429
165. International interlaboratory comparison of Raman spectroscopic analysis of CVD-grown graphene
Piers Turner, Keith R Paton, Elizabeth J Legge, Andres de Luna Bugallo, A K S Rocha-Robledo, Ahmed-Azmi Zahab, Alba Centeno, Alessio Sacco, Amaia Pesquera, Amaia Zurutuza, Andrea Mario Rossi, Diana N H Tran, Diego L Silva, Dusan Losic, Farzaneh Farivar, Hugo Kerdoncuff, Hyuksang Kwon, Jerome Pirart, Jo~ao Luiz E Campos, **Kiran M Subhedar**, Li-Lin Tay, Lingling Ren, Luiz Gustavo Ca~ncado, Matthieu Paillet, Paul Finnie, Pei Lay Yap, Raul Arena, **Sanjay R Dhakate**, Sebastian Wood, Sergio Jim~enez-Sandova, Tim Batten, Vaiva Nagyte, Yaxuan Yao, Angela R Hight Walker, Erlon H Martins Ferreira, Cinzia Casiraghi and Andrew J Pollard
2D Mater. 9 (2022) 035010| <https://doi.org/10.1088/2053-1583/ac6cf3>
166. Investigating photoluminescence properties of Eu³⁺ doped CaWO₄ nanoparticles via Bi³⁺ amalgamation for w-LEDs application
Maheshwary Singh, Waseem Ul Haq, **Swati Bishnoi**, Bheeshma Pratap Singh, Sandeep Arya, Ajit Khosla and Vinay Gupta
Materials Technology 2022, Vol. 37, No. 9, 1051–1061| [H/10.1080/10667857.2021.1918866](https://doi.org/10.1080/10667857.2021.1918866)
167. Investigation of RF sputtered, n-Bi₂Se₃ heterojunction on p-Si for enhanced NIR optoelectronic applications
Vidushi Gautam, **Sudhanshu Gautam**, Gyanendra Kumar Maurya, Kavindra Kandpal, **Bheem Singh**, Ramakrishnan Ganesan, **S.S. Kushvaha**, Pramod Kumar
Solar Energy Materials & Solar Cells 248 (2022) 112028| /10.1016/j.solmat.2022.112028
168. Investigation of structural and magneto-transport properties of PdTe₂ single crystals
Yogesh Kumar, Prince Sharma, M. M. Sharma, V. P. S. Awana
Applied Physics A (2022) 128:880| <https://doi.org/10.1007/s00339-022-06031-9>
169. Investigation on synthesis, growth, Hirshfeld surface and third order nonlinear optical properties of Urea-Succinic Acid single crystal: A potential candidate for self-defocusing lasing application
Debabrata Nayak, N. Vijayan, Manju Kumari, Kiran, Pargam Vashishtha, Subasis Das, B. Sridhar, **Govind Gupta, R.P. Pant**
Optical Materials 124 (2022) 112051| <https://doi.org/10.1016/j.optmat.2022.112051>
170. IoT-Sodar Network for Airshed Management Planning
Parag Chourey, **Kirti Soni**, Nirbhaw Jap Singh & Ravinder Agarwal
IETE Journal of Research| <https://doi.org/10.1080/03772063.2022.2026826>

CONTENTS

171. Lab-on-Paper Strip Chemical Sensor: Reversible Visible Sensor for Detection of Acids Using Naphthalenediimide Derivative
Mehak Ahuja, Pramod Kumar , and **Rachana Kumar**
IEEE Sensors Journal, Vol. 22, No. 13, July 1, 2022 | /10.1109/JSEN.2022.3175503
172. Langmuir–Blodgett based ordered deposition of functionalized iron oxide nanoparticles for ultrasensitive detection of Escherichia coli O157: H7
Chandra Mouli Pandey, **Manoj Kumar Pandey**, **Gajjala Sumana**
Microchemical Journal 181 (2022) 107708 | <https://doi.org/10.1016/j.microc.2022.107708>
173. Large area, self-powered, flexible, fast, and broadband photodetector enabled by the SnSe-Sb₂Se₃ heterostructure
Manoj Kumar, **Sanju Rani**, **Reena Yadav**, **Yogesh Singh**, **Manju Singh**, **Sudhir Husale**, **V.N. Singh**
Surfaces and Interfaces 30 (2022) 101964 | <https://doi.org/10.1016/j.surfin.2022.101964>
174. Lead-free laminated structures for eco-friendly energy harvesters and magnetoelectric sensors
Hitesh Borkar, Vishwajit M. Gaikwad, Soma Dutta, M. Tomar, Vinay Gupta, **Ashok Kumar**
Journal of Physics and Chemistry of Solids 160 (2022) 110306 | /10.1016/j.jpccs.2021.110306
175. Let's get digital
Shanay Rab, Meher Wan and **Sanjay Yadav**
Nat. Phys. 18, 960 (2022) | <https://doi.org/10.1038/s41567-022-01707-8>
176. Localized Liquid Zones Assisted Highly Crystalline Single-Wall Carbon Nanotube Sheets: Implications for Conducting Shields in Coaxial Cables
Pallvi Dariyal, **Bhanu Pratap Singh**, **Gaurav Singh Chauhan**, and **Sanjay Ranganth Dhakate**
ACS Appl. Nano Mater. 2022, 5, 11964–11972 | <https://doi.org/10.1021/acsanm.2c03043>
177. Long-term variability of trace gases over the Indian Western Himalayan Region
R. Masiwal, **C. Sharma**, **A. Ranjana**, **S.R. Radhakrishnan**, **D.K. Shukla**, **V.K. Bambal**, **S.K. Uniyal**
Science of the Total Environment 806 (2022) 150127 | /10.1016/j.scitotenv.2021.150127
178. Long-Term Variation in Carbonaceous Components of PM_{2.5} from 2012 to 2021 in Delhi
S. K. Sharma, **T. K. Mandal**, **R. Banoo**, **A. Rai**, **M. Rani**
Bulletin of Environmental Contamination and Toxicology (2022) 109:502–510 | <https://doi.org/10.1007/s00128-022-03506-6>
179. “Loop Stabilized” Improved Transfer Cavity-Based Laser Frequency Stabilization
Atish Roy, **Lakhi Sharma**, **Subhasis Panja**, and Subhadeep De
IEEE Journal Of Quantum Electronics, Vol. 58, No. 2, April 2022 | /10.1109/jqe.2022.3150428

CONTENTS

180. Low-cost synthesis of lanthanides (Eu^{3+} and Sm^{3+})- intercalated TiO_2 nanostructures: a detailed study on structural, optical and photocatalytic applications
R. A. Zargar, M. Imran, **M. Arora**, V. Nagal, Tuiba Mearaj, M. Aslam Manthrammel, Mohd Shkir and A. K. Hafiz
J Mater Sci: Mater Electron (2022) 33:26931–26942| /10.1007/s10854-022-09357-5
181. Low-temperature large-scale hydrothermal synthesis of optically active PEG-200 capped single domain MnFe_2O_4 nanoparticles
Prashant Kumar, Saurabh Pathak, **Komal Jain**, **Arjun Singh**, **Kuldeep**, **G.A. Basheed**, **R.P. Pant**
Journal of Alloys and Compounds 904 (2022) 163992| /10.1016/j.jallcom.2022.163992
182. Low-voltage, self-powered and broadband photodetector with Ohmic, transparent and cost-effective AZO electrodes on vertical aligned MoS_2 flakes
Abhay V. Agrawal, Naveen Kumar, Deepu Kumar, **Shubhendra K. Jain**, **Govind Gupta**, Pradeep Kumar, Mukesh Kumar
Surfaces and Interfaces 30 (2022) 101813| <https://doi.org/10.1016/j.surfin.2022.101813>
183. Luminescence studies in cadmium telluride nanocrystals grown on glass substrates
Rakhi Grover, **Ritu Srivastava** and Kanchan Saxena
RSC Adv., 2022, 12, 26596| <https://doi.org/10.1039/d2ra01387h>
184. Magnetic-based detection of muscular contraction for controlling hand prosthesis
Alok Prakash, Neeraj Sharma, **Anurag Kumar Katiyar**, **Satya Kesh Dubey**, Shiru Sharma
Sensors & Actuators: A. Physical 344 (2022) 113709| /10.1016/j.sna.2022.113709
185. Magneto-electrical properties of nickel phthalocyanine thin film and its application in organic solar cells
S.S. Rawat, **A. Rana**, **Ashish Kumar**, **Sanjay Kumar Swami**, **R. Srivastava**, **C. K. Suman**
Solar Energy 231 (2022) 623–629| <https://doi.org/10.1016/j.solener.2021.12.008>
186. Magnetotransport behavior of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ - $\text{Sm}_{0.55}\text{Sr}_{0.45}\text{MnO}_3$ superconducting-ferromagnetic composite thin films
Suman Kumari, Mohd Anas, D S Raghav, **Shital Chauhan**, **P K Siwach**, Vivek Malik and **H K Singh**
Phys. Scr. 97 (2022) 075810| <https://doi.org/10.1088/1402-4896/ac74f1>
187. Measurement and comparison of photosynthetically active radiation by different methods at Delhi
Humaira Ghayas, **S. R. Radhakrishnan**, Vinay Kumar Sehgal, **Sachchidanand Singh**
Theoretical and Applied Climatology (2022) 150:1559–1571| /10.1007/s00704-022-04252-9
188. Measurement and Metrology in Advanced Manufacturing Processes
P. K. Kankar, **G. Moona** and K. A. Desai
MAPAN-Journal of Metrology Society of India (December 2022) 37(4):703–705| <https://doi.org/10.1007/s12647-022-00606-w>

CONTENTS

189. Measurement and Traceability Issues in Isotope Amount Ratio Determination of Stable Isotopes
P. K. Yadav, C. Kochar, L. Taneja and S. S. Tripathy
MAPAN-Journal of Metrology Society of India (March 2022) 37(1):227–235
<https://doi.org/10.1007/s12647-021-00513-6>
190. Measurement of Black Carbon in Delhi: Evidences of Regional Transport, Meteorology and Local Sources for Pollution Episodes
Arpit Malik, Shankar G. Aggarwal, Sho Ohata, Tatsuhiro Mori, Yutaka Kondo, Puna Ram Sinha, Prashant Patel, Baban Kumar, Khem Singh, Daya Soni, Makoto Koike
Aerosol and Air Quality Research Vol 22 ,Issue, 220128 | /10.4209/aaqr.220128
191. Measurement uncertainty assessment of articulated arm coordinate measuring machine for length measurement errors using Monte Carlo simulation
Girija Moona, Vinod Kumar, Mukesh Jewariya, Harish Kumar, Rina Sharma
The International Journal of Advanced Manufacturing Technology (2022) 119:5903–5916
<https://doi.org/10.1007/s00170-021-08416-1>
192. Metal doping in topological insulators- a key for tunable generation of terahertz (**Correction**)
P. Sharma, M.M. Sharma, M. Kumar, V.P.S. Awana
Solid State Communications 351 (2022) 114454 | <https://doi.org/10.1016/j.ssc.2020.114005>
193. Metastable skyrmion phase stabilized in wider T–H region of β -Mn type $\text{Co}_7\text{Zn}_7\text{Mn}_6$ chiral magnet
Pardeep, Yugandhar Bitla, Ajit Kumar Patra, Lalita, Rohit Pathak, Amrita Bhattacharya and G A Basheed
J. Phys.: Condens. Matter 34 (2022) 365801 (6pp) | /10.1088/1361-648X/ac7b5c
194. Metrological Investigation And Calibration Of Reference Standard Block For Ultrasonic Non-Destructive Testing
Kalpna Yadav, Sanjay Yadav, P.K. Dubey
Metrol. Meas. Syst., Vol. 29 (2022) No. 3, pp. 525–538 | DOI: 10.24425/mms.2022.142271
195. Metrological Traceability and Crucial Detector Characteristics for UVC Metrology in UVGI Applications
P. Sharma, V. K. Jaiswal, S. Saha and D. K. Aswal
MAPAN-Journal of Metrology Society of India (June 2022) 37(2):237–249
<https://doi.org/10.1007/s12647-021-00527-0>
196. Modification in photovoltaic and photocatalytic properties of bismuth ferrites by tailoring band-gap and ferroelectric properties
Arti, Reema Gupta, **S.P. Singh**, Rajan Walia, Vinod Kumar, Vivek Verma
Journal of Alloys and Compounds 908 (2022) 164602 | /10.1016/j.jallcom.2022.164602
197. Modifications in ferromagnetic properties of MnAl bilayer thin films induced by swift heavy ion irradiation
H. Khanduri, Mukesh C. Dimri, S. A. Khan, Prashant Kumar, J. Link, R. Stern, Nanhe Kumar Gupta, R. P. Pant
Journal of Materials Research Vol. 37 Issue 15 August 2022 | :10.1557/s43578-022-00667-2

CONTENTS

198. Morphological evolution driven semiconducting nanostructures for emerging solar, biological and nanogenerator applications
Avanish Kumar Srivastava, **Jai Shankar Tawale**, Rajni Verma, Daksh Agarwal, Charu Sharma, Ashavani Kumar and Manoj Kumar Gupta
Mater. Adv., 2022, 3, 8030–8062 | DOI: 10.1039/d2ma00683a
199. Na ion batteries: An India centric review
Yogesh Singh, Rahul Parmar, **Mamta**, **Sanju Rani**, **Manoj Kumar**, **Kamlesh Kumar Maurya**, **Vidya Nand Singh**
Heliyon 8 (2022) e10013 | <https://doi.org/10.1016/j.heliyon.2022.e10013>
200. Nano-Engineered Surface Comprising Metallic Dendrites for Biomolecular Analysis in Clinical Perspective
Rohini Kumari, Daphika S. Dkhar, Supratim Mahapatra, Divya, **Surinder P. Singh** and Pranjali Chandra
Biosensors 2022, 12, 1062 | <https://doi.org/10.3390/bios12121062>
201. Nanostructure Approach Enhancing the Thermoelectric Performance of a p-Type HMS-CrSi₂ Composite Synthesized by the MS-SPS Technique
Chandrakant Prajapati, **Saravanan Muthiah**, M. Navaneethan, **Naval Kishor Upadhyay**, **Radhey Shyam**, and **Sanjay R. Dhakate**
ACS Appl. Energy Mater. 2022, 5, 4698–4706 | <https://doi.org/10.1021/acsaem.2c00116>
202. National and Global Status of the High Pressure Measurement and Calibration Facilities
Shanay Rab, **Afaqul Zafer**, **Raman Kumar Sharma**, **Lalit Kumar**, Abid Haleem & **Sanjay Yadav**
Indian Journal of Pure & Applied Physics Vol. 60, January 2022, pp. 38-48
203. New insights on MXene and its advanced hybrid materials for lithium-ion batteries
Jeevan Jyoti, **Bhanu Pratap Singh**, Manjit Sandhu and Surya Kant Tripathi
Sustainable Energy Fuels, 2022, 6, 971 | DOI: 10.1039/d1se01681d
204. Nonlinear optical single crystals for terahertz generation and detection
Sudha Yadav, **Manju Kumari**, **Debabrata Nayak**, **Girija Moona**, **Rina Sharma**, **N. Vijayan** and **Mukesh Jewariya**
Journal of Nonlinear Optical Physics & Materials Vol. 31, No. 2 (2022) 2230001 (16 pages) | DOI: 10.1142/S0218863522300018
205. Non-trivial band topology in the superconductor AuSn₄: a first principle study
N K Karn, **M M Sharma** and **V P S Awana**
Supercond. Sci. Technol. 35 (2022) 114002 (9pp) | /10.1088/1361-6668/ac9160
206. n-Si/p-Sb₂Se₃ structure based simple solar cell device
Mamta, **Y. Singh**, **K.K. Maurya**, **V.N. Singh**
Materials Today Sustainability 18 (2022) 100148 | /10.1016/j.mtsust.2022.100148

CONTENTS

207. Numerical Simulation for Optimization of Ultra-thin n-type AZO and TiO₂ Based Textured p-type c-Si Heterojunction Solar Cells
Chandan Yadav & Sushil Kumar
Silicon (2022) 14:4291–4299 | <https://doi.org/10.1007/s12633-021-01212-2>
208. Numerical simulation of novel designed perovskite/silicon heterojunction solar cell
Chandan Yadav & Sushil Kumar
Optical Materials 123 (2022) 11184 | <https://doi.org/10.1016/j.optmat.2021.111847>
209. Observation of intrinsic fluorescence in cobalt ferrite magnetic nanoparticles by Mn²⁺ substitution and tuning the spin dynamics by cation distribution
Prashant Kumar, Saurabh Pathak, Arjun Singh, **Komal Jain**, **H. Khanduri**, Lan Wang, Sang-Koog Kim and **R. P. Pant**
J. Mater. Chem. C, 2022, 10, 12652 | DOI: 10.1039/d2tc02605h
210. Observation of structural change-driven Griffiths to non-Griffiths-like phase transformation in Pr_{2-x}Sr_xCoFeO₆ (x = 0 to 1)
Arkadeb Pal, Khyati Anand, Dheeraj Kumar, **Amish G. Joshi**, Peter Tsung-Wen Yen, Shin-Ming Huang, H.D. Yang, A.K. Ghosh, Sandip Chatterjee
Journal of Magnetism and Magnetic Materials 562 (2022) 169764 | [10.1016/j.jmmm.2022.169764](https://doi.org/10.1016/j.jmmm.2022.169764)
211. Observation of unconventional proximity induced superconducting effects in Bi₂Se₃ flakes
Reena Yadav, **Biplab Bhattacharyya**, **Animesh Pandey**, **Mandeep Kaur**, **Anurag Gupta** and **Sudhir Husale**
Phys. Scr. 97 (2022) 115812 | <https://doi.org/10.1088/1402-4896/ac97ca>
212. Observations and Modeling of Martian Auroras
S.A. Haider, **K.K. Mahajan**, S.W. Bougher, N.M. Schneider, J. Deighan, S.K. Jain, J.C. Gérard
Space Science Reviews (2022) 218:32 | <https://doi.org/10.1007/s11214-022-00906-2>
213. Observations of particle number size distributions and new particle formation in six Indian locations
Mathew Sebastian, Sobhan Kumar Kompalli, Vasudevan Anil Kumar, **Sandhya Jose**, S.Suresh Babu, Govindan Pandithurai, **Sachchidanand Singh**, Rakesh K. Hooda, Vijay K. Soni, Jeffrey R. Pierce, Ville Vakkari, Eija Asmi, Daniel M. Westervelt, Antti-Pekka Hyvärinen, and Vijay P. Kanawade
Atmos. Chem. Phys., 22, 4491–4508, 2022 | <https://doi.org/10.5194/acp-22-4491-2022>
214. On the techniques and standards of particulate matter sampling
Prashant Patel & Shankar G. Aggarwal
Journal of the Air & Waste Management Association, 72:8, 791-814 | DOI: 10.1080/10962247.2022.2048129
215. On Timing Performance of NavIC Receiver Through PPP Time Transfer Technique
A. Santra, S. Dan, **P. Banerjee**, S. Kundu and A. Bose
MAPAN-Journal of Metrology Society of India (March 2022) 37(1):207214 | <https://doi.org/10.1007/s12647-021-00528-z>

CONTENTS

216. One Step Fabrication of Aligned Carbon Nanotube Sheet via FCCVD Technique
Manoj Sehrawat, Mamta Rani and Bhanu Pratap Singh
Hindawi Journal of Nanomaterials Volume 2022, Article ID 8318217, 10 pages |
<https://doi.org/10.1155/2022/8318217>
217. Optical absorption investigations for efficient crystal violet dye removal from wastewater via carbon nanotubes: Montmorillonite-based nanocomposite
Chandni Puri, Manju Arora, Rajesh, Gajjala Sumana
Luminescence. 2022;1–11. | DOI: 10.1002/bio.4374
218. Palladium encapsulated nanofibres for scavenging ethylene from sapota fruits
Gajanan Gundewadi, Shalini Gaur Rudra, Radha Prasanna, Tirthankar Banerjee, Sanjay Kumar Singh, **Sanjay R. Dhakate, Ashish Gupta** and Anjali Anand fruits.
Front. Nutr. 9:994813. | doi: 10.3389/fnut.2022.994813
219. Partial replacement of cement with induction furnace dust for enhancing concrete properties with and without *Aspergillus niger* fungus: a green building approach
Jay Kumar, Amanpreet Kaur Sodhi, **Neeraj Bhanot**
Environmental Science and Pollution Research (2022) 29:72445–72460 |
<https://doi.org/10.1007/s11356-022-21097-x>
220. Performance evaluation and optimization of $\text{CH}_3\text{NH}_3\text{PbBr}_3$ based planar perovskite solar cells using various hole-transport layers
R. Jeyakumar & Atanu Bag
Solar Energy 236 (2022) 832–840 | <https://doi.org/10.1016/j.solener.2022.03.048>
221. Perylene diimide incorporated activated carbon as a composite electrode for asymmetric supercapacitor
Prashant Dubey, Komal Bhardwaj, Rachana Kumar, Shashank Sundriyal, Priyanka H. Maheshwari
Journal of Energy Storage 56 (2022) 106058 | <https://doi.org/10.1016/j.est.2022.106058>
222. Phase evolution and enhanced electrical properties in $\text{Ba}_{0.85}\text{Ca}_{0.15}\text{Zr}_{0.10}\text{Ti}_{0.90}\text{O}_3$ leadfree ceramics prepared at different sintering temperatures
Sarita Sharma, Revti Nandan, **Jyoti Shah, Ravinder Kumar Kotnala & Nainjeet Singh Negi**
Phase Transitions 2022, Vol.95, Nos.8–9, 609–625 |
<https://doi.org/10.1080/01411594.2022.2098740>
223. Photocatalytic CO_2 Reduction Using an Amorphous TiO_2 -Encapsulated $\text{Cs}_2\text{AgBiBr}_6$ Nanocrystal: Selective Methane Formation
Smruti Purohit, Sanjib Shyamal, **Saurabh K. Saini**, Kanhaiya L. Yadav, **Mahesh Kumar** and Soumitra Satapathi
Energy Fuels 2022, 36, 12170–12180 | <https://doi.org/10.1021/acs.energyfuels.2c02484>
224. Photocatalytic degradation efficiency of Cu/Cu₂O core–shell structured nanoparticles for endosulfan mineralization
Puja Goel & **Manju Arora**
J Nanopart Res (2022) 24: 56 | <https://doi.org/10.1007/s11051-022-05436-0>

CONTENTS

225. Physico-Chemical Properties and Deposition Potential of PM_{2.5} during Severe Smog Event in Delhi, India
Sadaf Fatima, Sumit Kumar Mishra, Ajit Ahlawat and Ashok Priyadarshan Dimri
Int. J. Environ. Res. Public Health 2022, 19, 15387 | <https://doi.org/10.3390/ijerph192215387>
226. Plasmon mediated terahertz frequency response with AuGe self-assembled hole-arrays over gallium arsenide
Lavi Tyagi, **Nikita Vashistha, Mahesh Kumar**, Subhananda Chakrabarti
Proc. SPIE 12230, *Terahertz Emitters, Receivers, and Applications XIII*, 1223005 (30 September 2022) | [doi:10.1117/12.2631799](https://doi.org/10.1117/12.2631799)
227. Polaron-Mediated Photoconduction in Lead-Free Single-Crystalline Perovskite Thin-Film Devices
Naveen Kumar Tailor, **Saurabh K. Saini, Mahesh Kumar**, and Soumitra Satapathi
J. Phys. Chem. C 2022, 126, 11165–11173 | <https://doi.org/10.1021/acs.jpcc.2c01865>
228. Poly(3,4-ethylenedioxythiophene):Poly(styrene sulfonate) in antibacterial, tissue engineering and biosensors applications: Progress, challenges and perspectives
Sonal Gupta, Ram Datt, **Anamika Mishra**, Wing Chung Tsoi, **Asit Patra**, Patrycja Bober
J Appl Polym Sci. 2022; 139:e52663. | <https://doi.org/10.1002/app.52663>
229. Poly[3,6-bis(2-thienyl)diketopyrrolopyrrole-selenophene]: Effect of polymerization method on optical, electrochemical, and photovoltaic properties
Shahjad, Anamika Mishra, Neeraj Chaudhary, Dinesh Bhardwaj, Pallab Pahari, **Asit Patra**
Synthetic Metals 291 (2022) 117170 | <https://doi.org/10.1016/j.synthmet.2022.117170>
230. Preparation of Holmium Oxide Solution as a Wavelength Calibration Standard for UV–Visible Spectrophotometer
R. Yadav, S. Sardar, M. Singh, R. K. Mukherjee, Anju, S. Singh, P. Kushwaha and S. P. Singh
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):579–584 | <https://doi.org/10.1007/s12647-022-00581-2>
231. Preparation of nanocrystalline Pd/SnO₂ thin films deposited on alumina substrate by reactive magnetron sputtering for efficient CO gas sensing
Amit Kumar Gangwar, Rahul Godiwal, Stuti Srivastava, Prabir Pal, **Govind Gupta, Preetam Singh**
Materials Research Bulletin 148 (2022) 111692 | [/10.1016/j.materresbull.2021.111692](https://doi.org/10.1016/j.materresbull.2021.111692)
232. Probing phase separation in Nd_{1-x}Sr_xMnO₃ (x ≈ 0.4, 0.5) polycrystals through temperature dependent magnetic and Raman spectroscopy studies
Ankit Bhoiriya, D.S. Raghav, Neha Bura, Deepa Yadav, Jasveer Singh, H.K. Singh, Nita Dilawar Sharma
Journal of Alloys and Compounds 894 (2022) 162424 | [/10.1016/j.jallcom.2021.162424](https://doi.org/10.1016/j.jallcom.2021.162424)

CONTENTS

233. Probing the topological surface states in superconducting Sn₄Au single crystal: a magneto transport study
M M Sharma, Poonam Rani and **V P S Awana**
J. Phys.: Condens. Matter 34 (2022) 415701 (10pp) | /10.1088/1361-648X/ac8463
234. Process-structure-properties relationship in low-cost thermoelectric iron silicide synthesis
Priyanka & Saravanan Muthiah
Ceramics International 48 (2022) 29366–29371 | /10.1016/j.ceramint.2022.05.382
235. Quantum size effects in Ag thin films grown on the fivefold surface of the icosahedral Al-Cu-Fe quasicrystal: Influence of the growth temperature
A. K. Shukla, J. Ledieu, E. Gaudry, D. M. Wu, T. A. Lograsso and V. Fournée
J. Vac. Sci. Technol. A 40, 013212 (2022) | doi: 10.1116/6.0001450
236. Rapid sensing of *Tilletia indica* – Teliospore in wheat extract by a piezoelectric label free immunosensor
Priyanka Sharma, Ruchika Chauhan, Veena Pande, Tinku Basu, **Rajesh**, Anil Kumar
Bioelectrochemistry 147 (2022) 108175 | <https://doi.org/10.1016/j.bioelechem.2022.108175>
237. Rapid thermal annealing induced engineering of surface and photoluminescence properties of (K,Na)NbO₃ thin films for optoelectronic applications
Radhe Shyam, Deepak Negi, Mukul Gupta, **Pargam Vashishtha**, **Govind Gupta**, Apurba Das, Pamu Dobbidi, Kamendra Awasthi, Srinivasa Rao Nelamarri
Applied Surface Science 575 (2022) 151794 | <https://doi.org/10.1016/j.apsusc.2021.151794>
238. Rapidly responding room temperature NO₂ gas sensor based on SnSe nanostructured film
Sanju Rani, **Manoj Kumar**, Hardhyan Sheoran, R. Singh, **Vidya Nand Singh**
Materials Today Communications 30 (2022) 103135 | /10.1016/j.mtcomm.2022.103135
239. Realization of ITS-90 Radiance Temperature Scale from 961.78 C to 3000 C at CSIR-NPL
U. Pant, **G. Gupta**, **H. Meena**, **A. Bhatt**, **K. Bapna** and **D. D. Shivagan**
MAPAN-Journal of Metrology Society of India | <https://doi.org/10.1007/s12647-021-00507-4>
240. Realization of room temperature electro-phosphorescence from an iridium metal based efficient novel triplet emitter
Ankit Kumar Rao, Devanshu Varshney, **Ritu Srivastava**, Amarjeet Kaur
Applied Physics A (2022) 128:766 | <https://doi.org/10.1007/s00339-022-05891-5>
241. Recent advancement in three dimensional graphene-carbon nanotubes hybrid materials for energy storage and conversion applications
Jeevan Jyoti, Tejendra Kumar Gupta, **Bhanu Pratap Singh**, Manjit Sandhu, Surya Kant Tripathi
Journal of Energy Storage 50 (2022) 104235 | <https://doi.org/10.1016/j.est.2022.104235>
242. Recent advances in nanomaterials integrated immunosensors for food toxin detection
Hema Bhardwaj, **Rajesh**, **Gajjala Sumana**
J Food Sci Technol (January 2022) 59(1):12–33 | /10.1007/s13197-021-04999-5

CONTENTS

243. Recent progress in the fabrication and applications of flexible capacitive and resistive pressure sensors
Bijender & Ashok Kumar
Sensors & Actuators: A. Physical 344 (2022) 113770| /10.1016/j.sna.2022.113770
244. Recent progress of flexible NO₂ and NH₃ gas sensors based on transition metal dichalcogenides for room temperature sensing
P. Goswami & G. Gupta
Materials Today Chemistry 23 (2022) 100726| /doi.org/10.1016/j.mtchem.2021.100726
245. Recovery and analysis of polymeric layers from waste solar modules by chemical route
Chitra, Dheeraj Sah, Parveen Saini, Sushil Kumar
Solar Energy 244 (2022) 31–39| <https://doi.org/10.1016/j.solener.2022.08.033>
246. Recovery and analysis of valuable materials from a discarded crystalline silicon solar module
Dheeraj Sah, Chitra, Sushil Kumar
Solar Energy Materials & Solar Cells 246 (2022) 111908| 10.1016/j.solmat.2022.111908
247. Red mud industrial waste translated into green electricity production by innovating an ingenious process based on Hydroelectric Cell
R.K. Kotnala, Rojaleena Das, Jyoti Shah, Sanjeev Sharma, C. Sharma, P.B. Sharma
Journal of Environmental Chemical Engineering 10 (2022) 107299|
<https://doi.org/10.1016/j.jece.2022.107299>
248. Reddish-orange-emitting Ca₁₂Al₁₄O₃₃: Sm³⁺ phosphors with high color purity
K. Ganesh Kumar, P. Balaji Bhargav, K. Aravinth, Raja Arumugam, P. Ramasamy, **Prathap Pathi**
Chemical Papers (2022) 76:1147–1155| <https://doi.org/10.1007/s11696-021-01915-1>
249. Regression analysis of ventilation coefficient at a semi-arid IGP region using forward selection technique
Priyanka Singh, Kirti Soni, Anjali S. Nair, And Mahavir Singh
MAUSAM, 73, 3 (July 2022), 617-626| <https://doi.org/10.54302/mausam.v73i3.5933>
250. Respiratory Deposition Dose of PM_{2.5} and PM₁₀ Before, During and After COVID-19 Lockdown Phases in Megacity-Delhi, India
S. Fatima, A. Ahlawat, S. K. Mishra, V. K. Soni and R. Guleria
MAPAN-Journal of Metrology Society of India (December 2022) 37(4):891–900|
<https://doi.org/10.1007/s12647-022-00548-3>
251. Reticulated porous carbon foam with cobalt oxide nanoparticles for excellent oxygen evolution reaction
Shiv Prakash, Ravi Kumar, Pankaj Kumar, Sonu Rani, Khushboo Kumari, Saroj Kumari, Sanjay R. Dhakate
Materials Chemistry and Physics 275 (2022) 125131| /10.1016/j.matchemphys.2021.125131

CONTENTS

252. Reversible, voluminous and tunable patterning of multiwalled carbon nanotubes in ferrofluid: Partial or complete?
Mahesh Chand, Ajay Shankar, Annveer, Alex Fabiano Cortez Campos, **Rajender Prasad Pant**, Jerome Depeyrot
Applied Surface Science 604 (2022) 154283| <https://doi.org/10.1016/j.apsusc.2022.154283>
253. ReWORM Memory Effect in PET-Metal Fiber-Based Electroconductive Yarn
Suraj P. Khanna, Satish Singh, C. K. Suman, and Nandan Kumar
IEEE Transactions On Electron Devices, Vol. 69, No. 8, August 2022 |
[10.1109/TED.2022.3180308](https://doi.org/10.1109/TED.2022.3180308)
254. Rice husk biomass torrefied without carrier gas: influence on physico-thermal properties as co-combusted renewable fuel
Mandeep Singh, Ashish Gupta, Vinay Pal, Rajesh K. Seth, Amit Kulshreshtha, **Sanjay R. Dhakate**
Biomass Conversion and Biorefinery| <https://doi.org/10.1007/s13399-021-02233-y>
255. Role of Eu and Fe in TiO₂ for magneto-opto-electronic applications
Divya Rehani, Manish Saxena, M. Balal, S. R. Barman, **Sanjay R. Dhakate, Shailesh Narain Sharma**
Applied Physics A (2022) 128:737| <https://doi.org/10.1007/s00339-022-05830-4>
256. Role of Indian Reference Materials for the Calibration of Sophisticated Instruments
M. Kumari, N. Vijayan, D. Nayak, Kiran and **R. P. Pant**
MAPAN-Journal of Metrology Society of India (September 2022) 37(3):505–510|
<https://doi.org/10.1007/s12647-022-00543-8>
257. Role of processing parameters in CVD grown crystalline monolayer MoSe₂
Girija Shankar Papanai, Krishna Rani Sahoo, Betsy Reshma G, Sarika Gupta and **Bipin Kumar Gupta**
RSC Adv., 2022, 12, 13428| DOI: [10.1039/d2ra00387b](https://doi.org/10.1039/d2ra00387b)
258. Role of sintering temperature on electronic and mechanical properties of thermoelectric material: A theoretical and experimental study of TiCoSb half-Heusler alloy
Ajay Kumar Verma, Kishor Kumar Johari, Kriti Tyagi, Durgesh Kumar Sharma, Pawan Kumar, Sudhir Kumar, Sivaiah Bathula, **S.R. Dhakate, Bhasker Gahtori**
Materials Chemistry and Physics 281 (2022) 125854| [/10.1016/j.matchemphys.2022.125854](https://doi.org/10.1016/j.matchemphys.2022.125854)
259. Room temperature sputtered nanocrystalline SnO₂ thin films sensitized with Pd nanoparticles for high performance CO gas sensing application
Amit Kumar Gangwar, Stuti Srivastava, Rahul Godiwal, Jyoti Jaiswal, **Pargam Vashishtha**, Samanta Pal, Prabir Pal, **Govind Gupta, Preetam Singh**
Optical Materials 128 (2022) 112362| <https://doi.org/10.1016/j.optmat.2022.112362>
260. Sb₂(S, Se)₃-based photovoltaic cell with MoS₂ as a hole transport layer: a numerical investigation
Mamta, R. Kumar, R. Kumari, K.K. Maurya, V.N. Singh
Materials Today Sustainability 20 (2022) 100218| [/10.1016/j.mtsust.2022.100218](https://doi.org/10.1016/j.mtsust.2022.100218)

CONTENTS

261. Sb_2Se_3 as an HTL for $\text{Mo}/\text{Sb}_2\text{Se}_3/\text{Cs}_2\text{TiF}_6/\text{TiO}_2$ solar structure: performance evaluation with SCAPS-1D
Mamta, K.K. Maurya, V.N. Singh
Heliyon 8 (2022) e10925 | <https://doi.org/10.1016/j.heliyon.2022.e10925>
262. $\text{Sb}_2\text{Se}_3/\text{CZTS}$ dual absorber layer based solar cell with 36.32 % efficiency: A numerical simulation
Mamta, K.K. Maurya, V.N. Singh
Journal of Science: Advanced Materials and Devices 7 (2022) 100445 | [/10.1016/j.jsamd.2022.100445](https://doi.org/10.1016/j.jsamd.2022.100445)
263. Seasonal variations in carbonaceous species of $\text{PM}_{2.5}$ aerosols at an urban location situated in Indo-Gangetic Plain and its relationship with transport pathways, including the potential sources
Khaiwal Ravindra, Tanbir Singh, **Tuhin Kumar Mandal, Sudhir Kumar Sharma**, Suman Mor
Journal of Environmental Management 303 (2022) 114049 | [/10.1016/j.jenvman.2021.114049](https://doi.org/10.1016/j.jenvman.2021.114049)
264. Signature of weak-antilocalization in sputtered topological insulator Bi_2Se_3 thin films with varying thickness
Sudhanshu Gautam, V. Aggarwal, Bheem Singh, V. P. S. Awana, Ramakrishnan Ganesan & **S. S. Kushvaha**
Scientific Reports, (2022) 12:9770 | <https://doi.org/10.1038/s41598-022-13600-8>
265. Significant role of defect-induced surface energy in water splitting to generate electricity by nickel ferrite hydroelectric cell
Ravinder Kumar Kotnala, Sandeep Saini, **Jyoti Shah**, Kanhaiya Lal Yadav
Int J Energy Res. 2022;46:6421–6435 | DOI: 10.1002/er.7579
266. Simple and rapid biogenic synthesis of colloidal silver and gold nanoparticles using Aegle marmelos fruit for SERS detection of DNA
Aman Sahu, Parul Singh, Pankaj Singh, Ajay Pratap Singh Gahlot & **Ranjana Mehrotra**
Inorganic And Nano-Metal Chemistry | <https://doi.org/10.1080/24701556.2021.2025089>
267. Sn_2Pd : a possible superconducting material with topological surface states
M M Sharma and V P S Awana
J. Phys. D: Appl. Phys. 55 (2022) 385301 (8pp) | <https://doi.org/10.1088/1361-6463/ac7e86>
268. SnTe as a BSF enhances the performance of Sb_2Se_3 based solar cell: A numerical approach
Raman Kumari, Mamta, Rahul Kumar, V.N. Singh
Heliyon 8 (2022) e12043 | <https://doi.org/10.1016/j.heliyon.2022.e12043>
269. SODAR Based Meteorological Sensor Network for Air Pollution Monitoring in Northern India
P. Chourey, N. J. Singh, **K. Soni** and R. Agarwal
MAPAN-Journal of Metrology Society of India | <https://doi.org/10.1007/s12647-022-00569-y>

CONTENTS

270. Soft Ferrite Bi-layer Design of Frequency Selective Micro Cavity
Meenakshi Arya, Arnab Pattanayak, Mayuri N Gandhi, Kousik Pradhan, Ajinkya Punjal, Shriganesh S Prabhu, **Venu Gopal Achanta**, and Siddhartha P Duttagupta
2022 47th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), Delft, Netherlands, 2022, pp. 1-2 | doi: [10.1109/IRMMW-THz50927.2022.9895935](https://doi.org/10.1109/IRMMW-THz50927.2022.9895935)
271. Solution route processed and organically-Capped Quinary CuIn_{1-x}Gax(SySe_{1-y})₂(CIGSSe) inks for use in low-cost photovoltaics
Shailesh Narain Sharma, Parul Chawla, Pooja Semalti
Materials Chemistry and Physics 282 (2022) 125903 | [10.1016/j.matchemphys.2022.125903](https://doi.org/10.1016/j.matchemphys.2022.125903)
272. Solution route to process BaZnO₂:Eu³⁺ nano-phosphor for White-LED applications
Naina Lohia, Swati Bishnoi, **Govind Gupta, Lalit Goswami, Shailesh Narain Sharma, D. Haranath**
Materials Chemistry and Physics 289 (2022) 126418 | [10.1016/j.matchemphys.2022.126418](https://doi.org/10.1016/j.matchemphys.2022.126418)
273. Solvent influenced morphology control of hole transport layer of CuSCN on performance of organic solar cells
Neeraj Chaudhary, Sheerin Naqvi, Deepshikha Rathore, Sweetly Rathi, Asit Patra
Materials Chemistry and Physics 282 (2022) 125898 | [10.1016/j.matchemphys.2022.125898](https://doi.org/10.1016/j.matchemphys.2022.125898)
274. Spinterface Effects in Hybrid La_{0.7}Sr_{0.3}MnO₃/SrTiO₃/C₆₀/Co Magnetic Tunnel Junctions
Ilaria Bergenti, Takeshi Kamiya, Dongzhe Li, Alberto Riminucci, Patrizio Graziosi, Donald A. MacLaren, **Rajib K. Rakshit, Manju Singh**, Mattia Benini, Hirokazu Tada, Alexander Smogunov, and Valentin A. Dediu
ACS Appl. Electron. Mater. 2022, 4, 4273–4279 | <https://doi.org/10.1021/acsaelm.2c00300>
275. Spoof surface plasmon-based terahertz metasensor for glucose and ethanol
Ruchi Bhati, **Mukesh Jewariya**, Anil K Malik
Applied Physics A (2022) 128:840 | <https://doi.org/10.1007/s00339-022-05943-w>
276. Spray deposited gallium doped zinc oxide (GZO) thin film as the electron transport layer in inverted organic solar cells
Sanjay Kumar Swami, Neha Chaturvedi, Anuj Kumar, Vinod Kumar, Ashish Garg, Viresh Dutta
Solar Energy 231 (2022) 458–463 | <https://doi.org/10.1016/j.solener.2021.12.002>
277. Stable carbon and nitrogen isotopic characteristics of PM_{2.5} and PM₁₀ in Delhi, India
Sudhir Kumar Sharma, Supriya G. Karapurkar, Damodar M. Shenoy, **Tuhin Kumar Manda**
Journal of Atmospheric Chemistry (2022) 79:67–79 | [10.1007/s10874-022-09429-0](https://doi.org/10.1007/s10874-022-09429-0)
278. Statistical evaluation of cow-dung derived activated biochar for phenol adsorption: Adsorption isotherms, kinetics, and thermodynamic studies
Marut Jain, Sadaf Aiman Khan, Abhisek Sahoo, **Prashant Dubey**, Kamal Kishore Pant, Zyta Maria Ziora, Mark A.T. Blaskovich
Bioresource Technology 352 (2022) 127030 | <https://doi.org/10.1016/j.biortech.2022.127030>

CONTENTS

279. Strategy to improve the efficiency of tin selenide based solar cell: A path from 1.02 to 27.72%
Manoj Kumar, Sanju Rani, Yogesh Singh, Mamta, Ashish Kumar, V.N. Singh
Solar Energy 232 (2022) 146–153 | <https://doi.org/10.1016/j.solener.2021.12.069>
280. Stress-Induced Structural Phase Transition in Polystyrene/NaYF₄: Eu³⁺ Photoluminescent Electrospun Nanofibers
Sanjeev Kumar , Garima Jain , Kuldeep Kumar , **Ashish Gupta , J. S. Tawale , B. P. Singh, S. R. Dhakate** and P. D. Sahare
Hindawi Journal of Nanomaterials Volume 2022, Article ID 2173629, 10 pages | <https://doi.org/10.1155/2022/2173629>
281. Structural and Optoelectronic Investigation of Combustion-Derived Ba₂Zn₂La₄O₁₀: Er³⁺ Green Emitters for n-UV-Based White LEDs
Sushma Devi, **Avni Khatkar**, V. B. Taxak, Anju Hooda, S. P. Khatkar
Journal of Electronic Materials (2022) 51:3637–3649 | [/10.1007/s11664-022-09608-5](https://doi.org/10.1007/s11664-022-09608-5)
282. Structural and Vibrational Response of Artificial Spider Webs with Different Spacing
Jeevan Jyoti, Amit Kumar, Piyush Lakhani, Manjit Sandhu, **Bhanu Pratap Singh**, Navin Kumar
Journal of Vibration Engineering & Technologies (2022) 10:3101–3117 | <https://doi.org/10.1007/s42417-022-00541-9>
283. 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 (2022) 162553 | [/10.1016/j.jallcom.2021.162553](https://doi.org/10.1016/j.jallcom.2021.162553)
284. Structural correlation of phonon dynamics in Bismuth and Tellurium for the formation of Bismuth Telluride, using ultrafast transient absorption spectroscopy
Saurabh K. Saini, Prince Sharma, Nikita Vashistha, Lavi Tyagi, **Mahesh Kumar**
Physica B 638 (2022) 413935 | <https://doi.org/10.1016/j.physb.2022.413935>
285. Structural modification and evaluation of dielectric, magnetic and ferroelectric properties of Nd- modified BiFeO₃ – PbTiO₃ multiferroic ceramics
Manoj Baloni, Ram Chhavi Sharma, Hemant Singh, Bushra Khan, Manoj K. Singh, **Vikas N. Thakur & Ashok Kumar**
Ferroelectrics 2022, Vol. 589, 161–176 | [/10.1080/00150193.2022.2061230](https://doi.org/10.1080/00150193.2022.2061230)
286. Structural stability of orthorhombic DyScO₃ under extreme conditions of pressure and temperature
Neha Bura, Velaga Srihari, **Ankit Bhoariya, Deepa Yadav, Jasveer Singh**, Himanshu K. Poswal and **Nita Dilawar Sharma**
Physical Review B 106, 024113 (2022) | DOI: [10.1103/PhysRevB.106.024113](https://doi.org/10.1103/PhysRevB.106.024113)

CONTENTS

287. Structural, Electronic and Thermoelectric Properties of Bi₂Se₃ Thin Films Deposited by RF Magnetron Sputtering
S. Gautam, Ajay Kumar Verma, Aniket Balapure, **B. Singh**, Ramakrishnan Ganesan, **M. Senthil Kumar, V. N. Singh, Bhasker Gahtori, S. S. Kushvaha**
Journal of Electronic Materials (2022) 51:2500–2509 | /10.1007/s11664-022-09498-7
288. Structural, optical and electrical behaviour of sodium-substituted magnesium nanoferrite for hydroelectric cell applications
Vivek Kumar, Rakesh Kumar Singh, Aniket Manash, Shashank Bhushan Das, **Jyoti Shah, R. K. Kotnala**
Applied Nanoscience (2023) 13:4573–4591 | <https://doi.org/10.1007/s13204-022-02737-7>
289. Structural, optical, photoluminescence, and EPR behaviour of novel Zn_{0.80}Cd_{0.20}O thick films: An effect of different sintering temperatures
Rayees Ahmad Zargar, Kundan Kumar, **Manju Arora**, Mohd Shkir, H.H. Somaily, H. Algarni, S. AlFaify
Journal of Luminescence 245 (2022) 118769 | <https://doi.org/10.1016/j.jlumin.2022.118769>
290. Studies on structural and optical behavior of nanoporous potassium-substituted magnesium ferrite nanomaterials, and their application as a hydroelectric cell
Aniket Manash, Rakesh Kumar Singh, Vivek Kumar, Shashank Bhushan Das, Singh Sonu Kumar, Nishant Kumar, **Jyoti Shah, and R. K. Kotnala**
J Mater Sci: Mater Electron (2022) 33:22103–22118 | /10.1007/s10854-022-08978-0
291. Study of birefringence inside nanocrystalline Zinc Oxide thin films using terahertz spectroscopy
Rahul Godiwal, Subhash Nimanpure, Guruvandra Singh, Amit Kumar Gangwar, Ajay Kumar Verma, Dibakar Roychowdhury, **Preetam Singh, Mukesh Jewariya**
Optical Materials 133 (2022) 112962 | <https://doi.org/10.1016/j.optmat.2022.112962>
292. Study of growth and broadband FMR spectroscopy in PLD grown Y₃Fe₅O₁₂/Gd₃Ga₅O₁₂ thin films
S Satapathy, R P Pant and K K Maurya
J. Phys. D: Appl. Phys. 55 (2022) 435004 (10pp) | <https://doi.org/10.1088/1361-6463/ac89fb>
293. Study of light-induced degradation of polymer: fullerene solar cells
Abhishek Sharma, Mihirsinh Chauhan, Jessica Patel, Manoj Kumar Pandey, Brijesh Tripathi, **J. P. Tiwari and Suresh Chand**
New J. Chem., 2022, 46, 10765 | DOI: 10.1039/d2nj02001g
294. Study of the Electromagnetic-Induced Transparency and its Dependence on Probe Decay for Cascade, Lambda, and Vee Models
S. S. Nande, **M. Thakran, H. S. Rawat and S. K. Dubey**
MAPAN-Journal of Metrology Society of India (June 2022) 37(2):347–355 | /10.1007/s12647-021-00510-9

CONTENTS

295. Study of variation of aerosol optical properties over a high altitude station in Indian Western Himalayan region, palampur using raman lidar system
Shishir Kumar Singh, S. R. Radhakrishnan, Jaswant, Sumit Kumar Mishra, Devesh Kumar Shukla, Ashish Ranjan, Chhemendra Sharma
Journal of Atmospheric Chemistry (2022) 79:117–139 | /10.1007/s10874-022-09432-5
296. Study on dissolution behavior of CuO nanoparticles in various synthetic media and natural aqueous medium
Praveen Kumar Yadav, Chinky Kochar, Lakhan Taneja, Sushree Swarupa Tripathy
J Nanopart Res (2022) 24: 122 | <https://doi.org/10.1007/s11051-022-05508-1>
297. Studying the band-offset of PdO/SnO₂ heterostructures using X-ray photoelectron spectroscopy
Amit Kumar Mauraya, Debashrita Mahana, Bipul Kumar Pradhan, Roopa, and Senthil Kumar Muthusamy
J Mater Sci: Mater Electron (2022) 33:25078–25088 | /10.1007/s10854-022-09214-5
298. Substitution of excess Mn at Ni and Sn site in full-Heusler Mn_{2.4}Ni_{0.8}Sn_{0.8} alloy
Bal Govind, Ashish Kumar, Sahiba Bano, Aman Bhardwaj, V. P. S. Awana
Applied Physics A (2022) 128:542 | <https://doi.org/10.1007/s00339-022-05683-x>
299. Successive magnetic transitions with large refrigerant capacity in arc-melted Mn_{3-x}Fe_xSn₂ (x = 0.3, 0.7) alloys
Sonam Perween, Lalita, A. Rathi, R.P. Pant, B. Gahtori, P.D. Babu, G.A. Basheed
Journal of Magnetism and Magnetic Materials 541 (2022) 168466 | /10.1016/j.jmmm.2021.168466
300. Superconducting Transport Properties of NiFe Artificial Spin Ice and Nb Hybrid Structure[Correction]
Apoorva Verma, Mandeep Kaur, T. D. Senguttuvan, Anurag Gupta
Journal of Superconductivity and Novel Magnetism (2021) 34:373–381 | <https://doi.org/10.1007/s10948-021-06000-y>
301. Surface and Diffusion Charge Contribution Studies of Human Hair-Derived Heteroatom-Doped Porous Carbon Electrodes for Supercapacitors
Prashant Dubey, Vishal Shrivastav, Ashwinder Kaur, Priyanka H. Maheshwari and Shashank Sundriyal
Energy Fuels 2022, 36, 626–637 | <https://doi.org/10.1021/acs.energyfuels.1c03175>
302. Surface nanopatterning of amorphous gallium oxide thin film for enhanced solarblind photodetection
Damanpreet Kaur, Rakhi, **Pargam Vashishtha, Govind Gupta**, Subhendu Sarkar and Mukesh Kumar
Nanotechnology 33 (2022) 375302 (9pp) | <https://doi.org/10.1088/1361-6528/ac76d3>
303. Surface states induced weak anti-localization effect in Bi_{0.85}Sb_{0.15} topological single crystal
Yogesh Kumar & V. P. S. Awana
Mater. Res. Express 9 (2022) 056301 | <https://doi.org/10.1088/2053-1591/ac6cd0>

CONTENTS

304. Synaptic plasticity in electro-polymerized PEDOT based memristors for neuromorphic application
Nitish Saini, Arti Bisht, Asit Patra and Ajeet Kumar
J Mater Sci: Mater Electron (2022) 33:27053–27061 | /10.1007/s10854-022-09368-2
305. Synergistic paracrine action of Vitamin D and mesenchymal stem cell secretome in targeting pancreatic cancer stem cells (**Abstract Only**)
Sangeeta Choudhury, Neha Chopra, Kriti Jain, Poonam Yadav, **Surinder P. Singh**, Yashika Charla
Cancer Res (2022) 82 (22_Supplement): B081. | /10.1158/1538-7445.PANCA22-B081
306. Synthesis and properties of 3,4-dioxythiophene and 1,4-dialkoxybenzene based copolymers via direct C-H arylation: Dopant-free hole transport material for perovskite solar cells
Anamika Mishra, Sonal Gupta, Asit Patra
J Polym Sci. 2022;60:975–984. | DOI: 10.1002/pol.20210466
307. Synthesis, growth and studies on optical, thermal and terahertz analyses of bulk size sodium acid phthalate single crystal: a metal-organic material for nonlinear optical applications
Manju Kumari, N. Vijayan, Debabrata Nayak, Mahak Vij, Pargam Vashishtha, Subhash Nimanpure, Govind Gupta, Mukesh Jewariya, R. P. Pant
Journal of Thermal Analysis and Calorimetry (2022) 147:1167–1175 | <https://doi.org/10.1007/s10973-020-10391-w>
308. Synthesis of bis(thiophen-2-yl)benzothiadiazole scaffold donor-acceptor polymers: studies of polymerization, electrical, optical, and photovoltaic properties
Anamika Mishra, Sonal Gupta, Asit Patra
Polymer Bulletin | <https://doi.org/10.1007/s00289-022-04535-1>
309. Synthesis, phase confirmation and electrical properties of (1-x)KNNS-xBNZSH lead-free ceramics
Amit Kumar, Sapna Kumari, V. Kumar, **Prashant Kumar, Vikas N. Thakur, Ashok Kumar**, P. K. Goyal, Anil Arya, and A. L. Sharma
J Mater Sci: Mater Electron (2022) 33:6240–6252 | /10.1007/s10854-022-07798-6
310. Technological advancements in bio-recognition using liquid crystals: Techniques, applications, and performance
Rajesh, Lokesh K. Gangwar, Sujeet K. Mishra, Amit Choudhary, Ashok M. Biradar, Gajjala Sumana
Luminescence. 2022;1–23. | DOI: 10.1002/bio.4242
311. Temperature-dependent electrical and magnetodielectric properties of 0.7Bi_{0.99}Nd_{0.01}Fe_{0.99}(Co,Ti)_{0.01}O₃-0.3CaTiO₃ composite
Bushra Khan, Aditya Kumar, Arushi Pandey, Gulab Singh, **Ashok Kumar & Manoj K. Singh**
Ferroelectrics 2022, VOL. 589, 235–242 | <https://doi.org/10.1080/00150193.2022.2034440>
312. Temperature-dependent evolution of topological surface states
Prince Sharma, Yogesh Kumar, V.P.S. Awana, Mahesh Kumar
Solid State Sciences 125 (2022) 106829 | /10.1016/j.solidstatesciences.2022.106829

CONTENTS

313. Temperature-Dependent n-p-n Switching and Highly Selective Room-Temperature n-SnSe₂/p-SnO/n-SnSe Heterojunction-Based NO₂ Gas Sensor
Sanju Rani, Manoj Kumar, Parveen Garg, Rahul Parmar, **Ashish Kumar, Yogesh Singh, Vishal Baloria**, Uday Deshpande, and **Vidya Nand Singh**
ACS Appl. Mater. Interfaces 2022, 14, 15381–15390 | /10.1021/acsami.1c24679
314. Terahertz time resolved spectroscopy of monolayer graphene
Subhash Nimanpure, Guruvandra Singh, Kiran M. Subhedar, Dibakar Roy Chowdhury and **Mukesh Jewariya**
2022 47th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), Delft, Netherlands, 2022, pp. 1-2, doi: 10.1109/IRMMW-THz50927.2022.9895470.
315. The association of sun exposure, ultraviolet radiation effects and other risk factors for pterygium (the SURE RISK for pterygium study) in geographically diverse adult (>_40 years) rural populations of India -3rd report of the ICMR-EYE SEE study group
Radhika Tandon, Praveen Vashist, Noopur Gupta, Vivek Gupta, Saumya Yadav, Dipali Deka, **Sachchidanand Singh**, K. Vishwanath, G. V. S. Murthy
PLOS ONE | <https://doi.org/10.1371/journal.pone.0270065>
316. The influence of top electrode work function on the performance of methylammonium lead iodide based perovskite solar cells having various electron transport layers
Atanu Bag, Rahul Pandey, Savita Kashyap, Jaya Madan, **Jeyakumar Ramanujam**
Chemical Physics Letters 806 (2022) 140009 | <https://doi.org/10.1016/j.cplett.2022.140009>
317. The Role of Magnetic Interaction on the Thermoelectric Performance of ZrNiSn Half-Heusler Alloys
Kishor Kumar Johari, Sivaiah Bathula, and **Bhasker Gahtori**
Phys. Status Solidi A 2022, 219, 2100765 | DOI: 10.1002/pssa.202100765
318. The role of particulate matter in reduced visibility and anionic composition of winter fog: a case study for Amritsar city
Rekha Yadav, Aditi Sugha, Manpreet S. Bhatti, Sushil K. Kansal, **Sudhir K. Sharma** and **Tuhin K. Mandal**
RSC Adv., 2022, 12, 11104 | DOI: 10.1039/d2ra00424k
319. The ultra-high thermoelectric power factor in facile and scalable single-step thermal evaporation fabricated composite SnSe/Bi thin films
Manoj Kumar, Sanju Rani, Rahul Parmar, Matteo Amati, Luca Gregoratti, Abhishek Ghosh, Saurabh Pathak, Anil Kumar, Xu Wang and **Vidya Nand Singh**
J. Mater. Chem. C, 2022,10, 18017 | DOI: 10.1039/d2tc03719j
320. Thermoelectric and Photovoltaic Properties of Mn-Doped Kesterite Cu₂Zn_{1-x}Mn_xSnSe₄
Gaurav Jamwal, Mohd Warish, **Saravanan Muthiah**, Shruti Chakravarty, Navita Jakhar, Asokan Kandasami, and Asad Niazi
Inorg. Chem. 2022, 61, 16390–16404 | <https://doi.org/10.1021/acs.inorgchem.2c02403>

CONTENTS

321. Thickness dependent optical properties of sputtered Bi₂Se₃ films on mica
S. Gautam, Bheem Singh, V. Aggarwal, M. Senthil Kumar, V.N. Singh, S.P. Singh, S.S. Kushvaha
Materials Today: Proceedings 64 (2022) 1725–1731 | /10.1016/j.matpr.2022.05.514
322. Thickness-dependent magneto-transport of Bi₂Se₃/SiO₂ topological insulator thin films
Yogesh Kumar, Prince Sharma, and V. P. S. Awana
J Mater Sci: Mater Electron (2022) 33:18726–18733 | /10.1007/s10854-022-08720-w
323. Time-series prediction and forecasting of ambient noise levels using deep learning and machine learning techniques
S.K. Tiwari, L.A. Kumaraswamidhas and N. Garg
Noise Control Engr. J. 70 (5), September-October 2022
324. Tin Oxide (SnO₂)-Decorated Reduced Graphene Oxide (rGO)-Based Hydroelectric Cells to Generate Large Current
Aarti, Anurag Gaur, Prakash Chand, Jyoti Shah, and Ravinder Kumar Kotnala
ACS Omega 2022, 7, 43647–43656 | <https://doi.org/10.1021/acsomega.2c04553>
325. TiO₂ nanoparticle-encapsulated polyacrylonitrile nanofibres as transparent air filters for indoor air quality
Vikas Goel, Sumit Kumar Mishra, Ashish Gupta, Jai S. Tawale, Sanjay R. Dhakate and Puneet Misra
Current Science, Vol. 123, No..12, 25Dec 2022 | 10.18520/cs/v123/i12/1486-1492
326. Transition Metal and Rare-Earth Metal Doping in SnO₂ Nanoparticles
Divya Rehani, Manish Saxena, Pratima R. Solanki, Shailesh Narain Sharma
Journal of Superconductivity and Novel Magnetism (2022) 35:2573–2581 | <https://doi.org/10.1007/s10948-022-06283-9>
327. Transition metal dichalcogenide MXY (M = Mo, W; X, Y = S, Se) monolayer: Structure, fabrication, properties, and applications
Mamta, Yogesh Singh, K. K. Maurya, V. N. Singh
Journal of Materials Research Volume 37 Issue 20 October 2022 | 10.1557/s43578-022-00643-w
328. Transition metal tellurides based gas sensors for efficient sensing at room temperature: Progress and prospective
Stuti Srivastava, Preetam Singh, Govind Gupta
172 (2022) 207452 | <https://doi.org/10.1016/j.micrna.2022.207452>
329. Tuneable electron–magnon coupling of ferromagnetic surface states in PdCoO₂
F. Mazzola, C.M. Yim, V. Sunko, S. Khim, P. Kushwaha, O. J. Clark, L. Bawden, I. Marković, D. Chakraborti, T. K. Kim, M. Hoesch, A. P. Mackenzie, P. Wahl and P. D. C. King
NPJ Quantum Materials (2022) 7:20 | <https://doi.org/10.1038/s41535-022-00428-8>

CONTENTS

330. Tuning of energy levels, transport properties and device performance of naphthalenediimide derivatives by introduction of Michael addition reaction
Mehak Ahuja, Saurabh K. Saini, Neeraj Chaudhary, Mahesh Kumar, Rajiv K. Singh and Rachana Kumar
New J. Chem., 2022,46, 15392| DOI: 10.1039/d2nj01979e
331. Tuning of rheological and magnetic properties of Ni doped magnetite based magnetic nanofluid
Kuldeep, Komal Jain, Prashant Kumar, R.P. Pant, G.A. Basheed
Physica B 643 (2022) 414136| <https://doi.org/10.1016/j.physb.2022.414136>
332. Ultrafast carrier and phonon dynamics in thin films of bismuth telluride on a flexible substrate
Animesh Pandey, Alka Sharma, Nikita Vashistha, Sumit Kumar, Reena Yadav, Mandeep Kaur, Mahesh Kumar, Sudhir Husale
Optical Materials 128 (2022) 112294| <https://doi.org/10.1016/j.optmat.2022.112294>
333. Ultrafast photoresponse in n-MoS₂/AlN/p-Si (SIS) heterojunction based visible to NIR photodetectors
Krishan Kumar, **Reena Yadav, Sudhir Husale, Preetam Singh**, Davinder Kaur
Solar Energy Materials & Solar Cells 246 (2022) 111942 | [/10.1016/j.solmat.2022.111942](https://doi.org/10.1016/j.solmat.2022.111942)
334. Ultrafast probing of indium doping on SnTe topological insulator
Praveen Tanwar, Prince Sharma, Amrish K. Panwar, Avanish K. Srivastava, **Sukhvir Singh**, Anil Kumar, **Mahesh Kumar**
Physica B 631 (2022) 413656| <https://doi.org/10.1016/j.physb.2021.413656>
335. Ultrafast transient absorption spectroscopic studies on the Impact of growth time on size, stability, and optical characteristics of colloidal gold nanoparticles
Jyoti Saroha, N.P. Lalla, Mahesh Kumar, Shailesh Narain Sharma
Optik - International Journal for Light and Electron Optics 268 (2022) 169759 | <https://doi.org/10.1016/j.ijleo.2022.169759>
336. Ultra-low friction self-levitating nanomagnetic fluid bearing for highly efficient wind energy harvesting
Saurabh Pathak, Ran Zhang, Bishakhdatta Gayen, Vinod Kumar, Hui Zhang, **R.P. Pant**, Xu Wang
Sustainable Energy Technologies and Assessments 52 (2022) 102024 | <https://doi.org/10.1016/j.seta.2022.102024>
337. Unveiling the role of ethylene glycol for enhanced performance of PEDOT:PSS/Silicon hybrid solar cells
Avritti Srivastava, Ruchi K. Sharma, Deepak Sharma, Jai S. Tawale, Ved Varun Agrawal, Sanjay K. Srivastava
Optical Materials 134 (2022) 112922| <https://doi.org/10.1016/j.optmat.2022.112922>
338. UV to NIR tunable photodetector using Bi₂Te₂Se/n-GaN heterojunction
Gyanendra Kumar Maurya, Faizan Ahmad, Kavindra Kandpal, **Rachana Kumar, Mahesh Kumar**, Pramod Kumar, Akhilesh Tiwari
Surfaces and Interfaces 32 (2022) 102152| <https://doi.org/10.1016/j.surfin.2022.102152>

CONTENTS

339. Variations and Source Apportionment of PM_{2.5} and PM₁₀ Before and During COVID-19 Lockdown Phases in Delhi, India
S. Fatima, A. Ahlawat, **S. K. Mishra**, M. Maheshwari and V. K. Soni
MAPAN-Journal of Metrology Society of India (December 2022) 37(4):937–955
<https://doi.org/10.1007/s12647-021-00506-5>
340. Various techniques useful for determination of adulterants in valuable saffron: A review' [Trends in Food Science & Technology 111 (2021) 301–321] [Correction]
Leena Kumari, Pranita Jaiswal, **S. Swarupa Tripathy**
Trends in Food Science & Technology 119 (2022) 592–592 | /10.1016/j.tifs.2021.12.001
341. White Organic Light Emitting Diodes Via Complementary Color Mixing Approach Through Multilayer Device Architecture
Aparna Tripathi & **Pankaj Kumar**
Indian Journal of Pure & Applied Physics Vol. 60, February 2022, pp. 105-110
342. ZnO nanoflakes self-assembled from the water splitting process using a hydroelectric cell
Jyoti Shah, **Abha Shukla**, Manoranjan Kar, **Govind Gupta**, **Shipra Jain** and **R. K. Kotnala**
React. Chem. Eng., 2022, 7, 1836 | DOI: 10.1039/d2re00094f