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November 2024



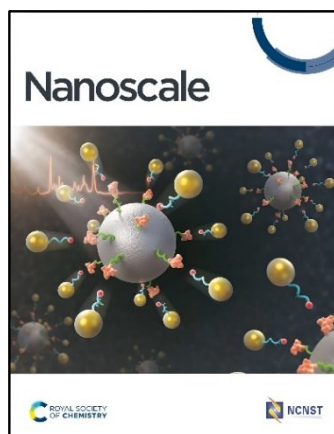
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BIOLOGY

Journal Articles



Author(s): MALHOTRA, MEHAK; PARDASANI, MEENAKSHI; PATHAN, SHAHIDKHAN; SRIKANTH, PRIYADHARSHINI; SHAW, KARISHMA; ABRAHAM, NIXON M.; JAYAKANNAN, MANICKAM

Title: Star-polymer unimolecular micelle nanoparticles to deliver a payload across the blood-brain barrier

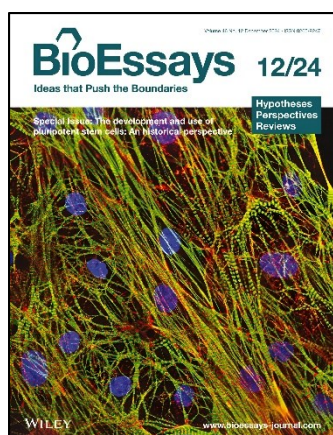
Citation: Nanoscale 16(46), 21582-21593.

Publisher: Royal Society of Chemistry

URI: <https://doi.org/10.1039/D4NR02636E>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9164>

Publication Date: 2024-10



Author(s): PILLAI, ANIRUDH; Verma, Vasundhara; Galande, Sanjeev

Title: CHARM and EvoETR: Precision epigenetic tools for gene silencing

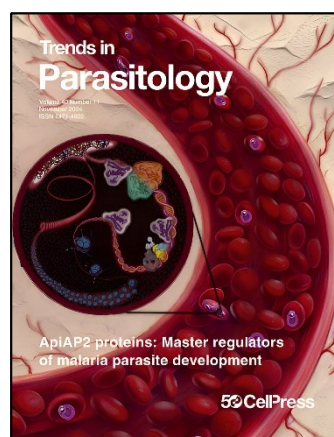
Citation: BioEssays.

Publisher: Wiley

URI: <https://doi.org/10.1002/bies.202400186>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9203>

Publication Date: 2024-11



Author(s): PURKAYASTHA, DEVATRISHA; PANDIT, KUSHANKUR; Upadrasta, Sindhuri; Khilari, Ajinkya; Shanmugam, Dhanasekaran; KARMODIYA, KRISHANPAL

Title: The 32nd National Congress of Parasitology, Pune: bringing together India's parasitologists

Citation: Trends in Parasitology.

Publisher: Elsevier B.V.

URI: <https://doi.org/10.1016/j.pt.2024.10.022>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9200>

Publication Date: 2024-11

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Author(s): VARTAK, ANIKET S. R.; VERMA, SHASHANK; HAZRA, AMRITA B.

Title: Synthesis of 5,6-substituted benzimidazoles and their evaluation as potential intermediates in the anaerobic vitamin B₁₂ biosynthesis pathway

Citation: Chemical Communications, 60(89), 13012-13015.

Publisher: Royal Society of Chemistry

URI: <https://doi.org/10.1039/D4CC04489D>

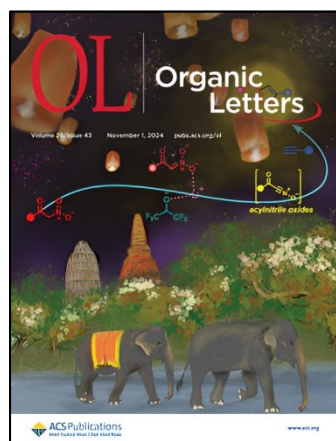
DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9184>

Publication Date: 2024-11

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CHEMISTRY

Journal Articles



Author(s): BANKAR, ONKAR S.; PAL, CHHABI; LAHA, DEBASISH; SABALE, ABHIJEET S.; BHAT, RAMAKRISHNA G.

Title: The Reactivity of Acceptor-Acceptor Diazo Pyrazolones with Allyl Thioethers under Visible Light: Access to Homoallyl Sulfides, Spiropyrazolones - Pesticide Analogues and Photoflow Synthesis

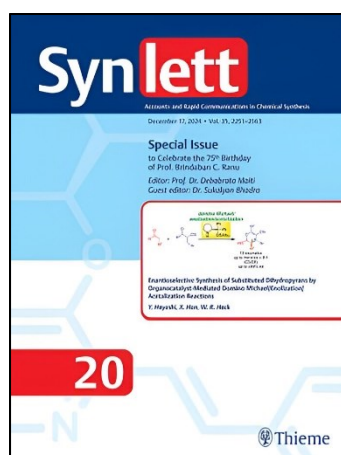
Citation: Organic Letters, 26(43), 9191-9197.

Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acs.orglett.4c03117>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9179>

Publication Date: 2024-10



Author(s): BEHERA, MOUSUMI; SAHU, AJIT KUMAR; SHUKLA SHUBHAM Y.; BHAT, RAMAKRISHNA G.

Title: Electrochemically Promoted Regioselective C3-H Trifluoro/Difluoromethylation of 2H-Indazoles at Room Temperature

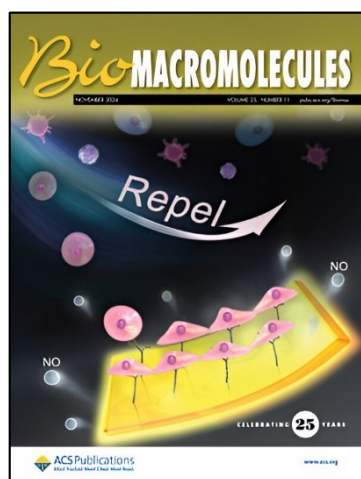
Citation: Synlett, 35(20): 2547-2553.

Publisher: Thieme

URI: <https://doi.org/10.1055/a-2422-1340>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9190>

Publication Date: 2024-10



Author(s): CHANDRA JOSHI, DHEERAJ; GAVHANE, UTRESHWAR ARJUN; JAYAKANNAN, MANICKAM

Title: Melt Polycondensation Strategy to Access Unexplored L-Amino Acid and Sugar Copolymers

Citation: Biomacromolecules, 25(11), 7311-7322.

Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acs.biomac.4c00993>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9191>

Publication Date: 2024-10

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Author(s): FAJAL, SAHEL; GHOSH, DIPAYAN; BISWAS, KISHALAY; MANDAL, WRITAKSHI; SARKAR, NAYAN; DAM, GOURAB K.; ROY, ANIRBAN; ROYCHOWDHURY, ANTAK; MAJUMDER, DIPANJAN; GHOSH, SUJIT K. et al.

Title: Chemically robust functionalized covalent organic framework for the highly efficient and selective separation of bromine

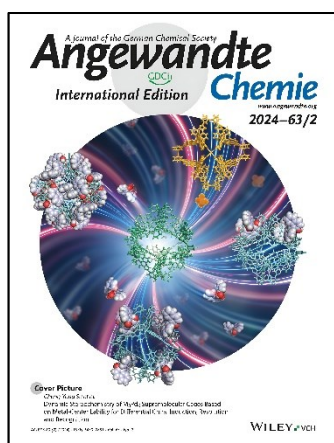
Citation: Materials Horizons.

Publisher: Royal Society of Chemistry

URI: <https://doi.org/10.1039/D4MH00780H>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9172>

Publication Date: 2024-10



Author(s): GHOSH, PULAK; Betz, Karin; Gutfreund, Cédric; PAL, ARINDAM; Marx, Andreas; SRIVATSAN, SEERGAZHI G.

Title: Structures of a DNA Polymerase Caught while Incorporating Responsive Dual-Functional Nucleotide Probes

Citation: Angewandte Chemie International Edition.

Publisher: Wiley

URI: <https://doi.org/10.1002/anie.202414319>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9161>

Publication Date: 2024-10



Author(s): KASHISH; HOSSAIN, MD JABED; KHAN, SHABANA

Title: N-Heterocyclic Silylene-Cu(I) Complexes as Efficient Catalysts for Three-Component Coupling Reactions

Citation: Chemistry—An Asian Journal.

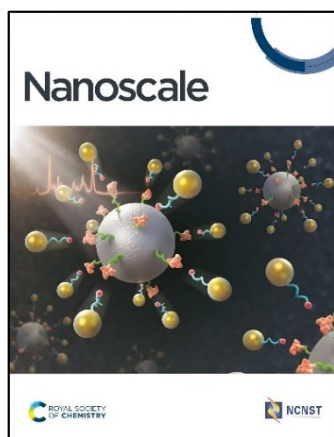
Publisher: Wiley

URI: <https://doi.org/10.1002/asia.202401058>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9202>

Publication Date: 2024-10

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Author(s): MALHOTRA, MEHAK; PARDASANI, MEENAKSHI; PATHAN, SHAHIDKHAN; SRIKANTH, PRIYADHARSHINI; SHAW, KARISHMA; ABRAHAM, NIXON M.; JAYAKANNAN, MANICKAM

Title: Star-polymer unimolecular micelle nanoparticles to deliver a payload across the blood-brain barrier

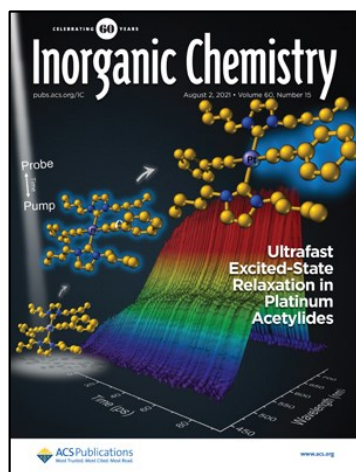
Citation: *Nanoscale* 16(46), 21582-21593.

Publisher: Royal Society of Chemistry

URI: <https://doi.org/10.1039/D4NR02636E>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9164>

Publication Date: 2024-10



Author(s): MANDAL, VIJAY KUMAR; GAURAV, KUMAR; KAULAGE, SANDEEP H.; KHAN, SHABANA

Title: UiO-67 MOF-Encapsulated NHC-Based Single-Site Copper Catalyst and Its Application in Regioselective Borylation of Terminal Alkynes

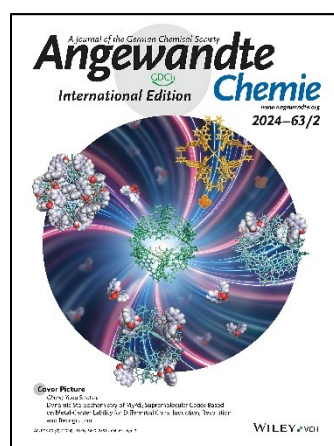
Citation: *Inorganic Chemistry*, 63(43), 20510-20520.

Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acs.inorgchem.4c03114>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9193>

Publication Date: 2024-10



Author(s): MONDAL, ABHISHEK; MONDAL, DEBASHIS; Sarkar, Susmita; SHIVPUJE, UMESH; Mondal, Jagannath; TALUKDAR, PINAKI

Title: Self-Assembled Hydrazide-Based Nanochannels: Efficient Water Translocation and Salt Rejection

Citation: *Angewandte Chemie International Edition*.

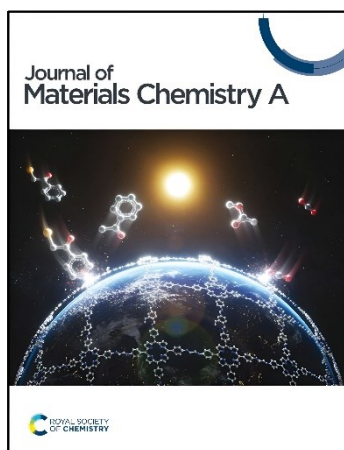
Publisher: Wiley

URI: <https://doi.org/10.1002/anie.202415510>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9187>

Publication Date: 2024-08

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Author(s): Mondal, Keya; Advani, Kushagra; Ghosh, Snigdha; Shanmugathan, Kadiravan; Kulsi, Gouta; SIVARAM, SWAMINATHAN; Gupta, Sayam Sen

Title: Shola: a 3D porous hydrophobic-oleophilic lignocellulosic material for efficient oil/water separation

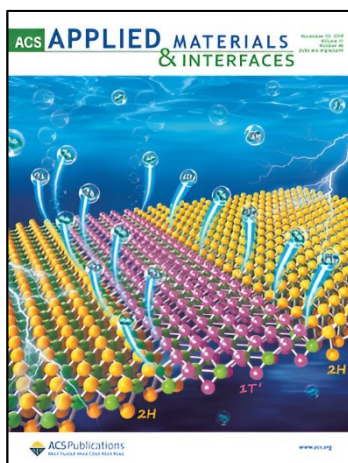
Citation: Journal of Materials Chemistry A

Publisher: Royal Society of Chemistry

URI: <https://doi.org/10.1039/D4TA06463A>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9199>

Publication Date: 2024-11



Author(s): Pal, Shibam; GAVHANE, UTRESHWAR ARJUN; Asha, S. K.

Title: Biocompatible PVAc-g-PLLA Acrylate Polymers for DLP 3D Printing with Tunable Mechanical Properties

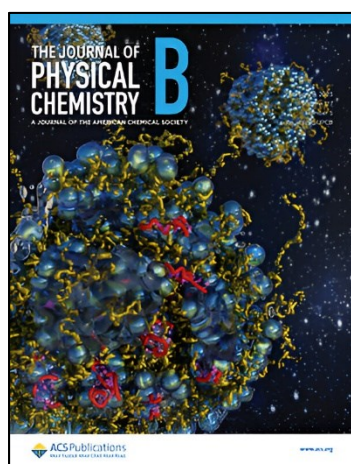
Citation: ACS Applied Materials & Interfaces, 16(45), 62594-62605.

Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acsami.4c11285>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9170>

Publication Date: 2024-10



Author(s): ROY, BIKIRNA; HRIDYA, V. M.; MUKHERJEE, ARNAB

Title: Memory Effects Explain the Fractional Viscosity Dependence of Rates Associated with Internal Friction: Simple Models and Applications to Butane Dihedral Rotation

Citation: Journal of Physical Chemistry B, 128(43), 10615-10624.

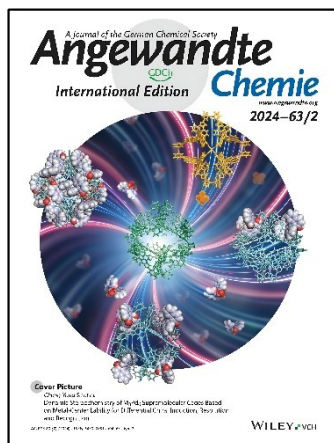
Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acs.jpcc.4c05394>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9192>

Publication Date: 2024-10

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Author(s): SARKAR, MEGHAMALA; KUSHWAHA, VIKASH; BOOMISHANKAR, RAMAMOORTHY

Title: Ligand-Directed Synthesis of a Self-Organized Chloro-Bridged Cubic Pd(II) Cage Showing Selective Encapsulation of Phenols

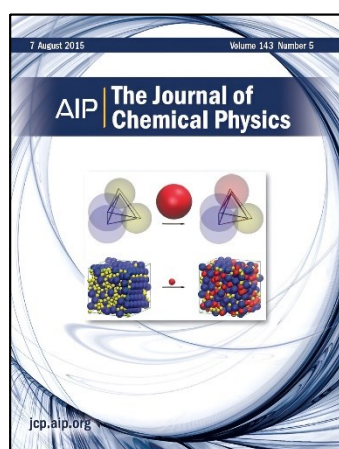
Citation: Angewandte Chemie International Edition, 63(44).

Publisher: Wiley

URI: <https://doi.org/10.1002/anie.202406358>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9178>

Publication Date: 2024-10



Author(s): SHARMA, ANAND; Liu, Chen; Ozawa, Misaki

Title: Selecting relevant structural features for glassy dynamics by information imbalance

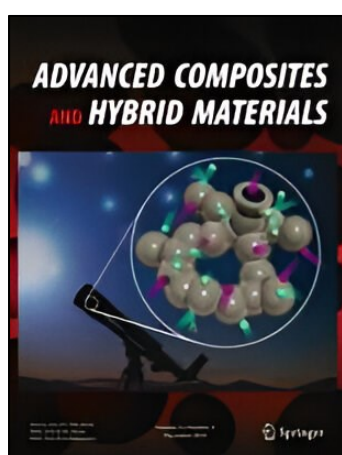
Citation: Journal of Chemical Physics, 161(18), 184506.

Publisher: AIP Publishing

URI: <https://doi.org/10.1063/5.0235084>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9201>

Publication Date: 2024-11



Author(s): SINGH, HIMAN DEV; Mayakannan, G.; Misra, Rajkumar; Sarkar, Sujoy; CHAKRABORTY, DEBANJAN; Nandi, Shyamapada

Title: Selective electroreduction of CO₂ to value-added C1 and C2 products using MOF and COF-based catalysts

Citation: Advanced Composites and Hybrid Materials, 07(209).

Publisher: Springer Nature

URI: <https://doi.org/10.1007/s42114-024-01016-z>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9174>

Publication Date: 2024-10

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Author(s): SINGH, PIYUSH; SINGH, HIMAN DEV; SHEKHAR, PRAGALBH; NASA, PRAVEEN; RASE, DEEPAK; JAIN, CHITVAN; SINGH, YASHRAJ KUMAR; VAIDHYANATHAN, RAMANATHAN

Title: CO₂-Specific Gate Opening Transforms a Dense Cation-Filled Zinc-Aminotriazolato-Oxalate Framework into an Ultramicroporous MOF

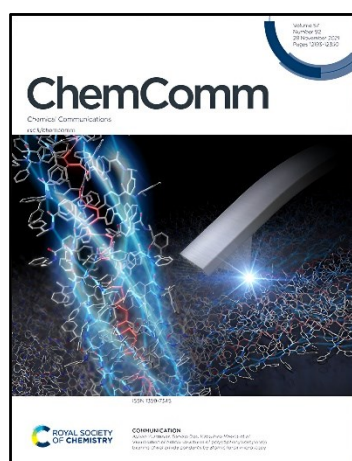
Citation: Crystal Growth & Design, 24(21), 8838-8846.

Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acs.cgd.4c00825>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9181>

Publication Date: 2024-11



Author(s): VARTAK, ANIKET S. R.; VERMA, SHASHANK; HAZRA, AMRITA B.

Title: Synthesis of 5,6-substituted benzimidazoles and their evaluation as potential intermediates in the anaerobic vitamin B₁₂ biosynthesis pathway

Citation: Chemical Communications, 60(89), 13012-13015.

Publisher: Royal Society of Chemistry

URI: <https://doi.org/10.1039/D4CC04489D>

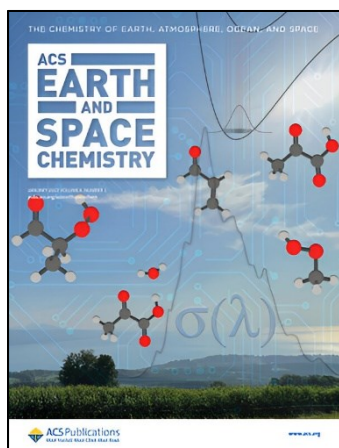
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Publication Date: 2024-11

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EARTH AND CLIMATE SCIENCE

Journal Articles



Author(s): DANISH, MOHD; TRIPATHY, GYANA RANJAN

Title: Dominant Production of Dissolved Inorganic Carbon by Organic Matter Degradation in a Coastal Lagoon: Evidence from Carbon Isotopes

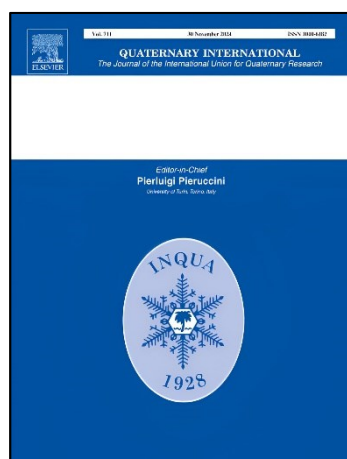
Citation: ACS Earth and Space Chemistry, 8(11), 2155-2165.

Publisher: American Chemical Society

URI: <https://doi.org/10.1021/acsearthspacechem.4c00148>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9163>

Publication Date: 2024-11



Author(s): Kulkarni, Yogesh R.; TRIPATHY, GYANA RANJAN; Sangode, Satish Jagdeo; Naga Kumar, K.Ch.V.; Demudu, G.; Rao, Kakani Nageswara

Title: Geochemical evidence for increased sediment supply from the Deccan basalts during the Late Holocene aridity

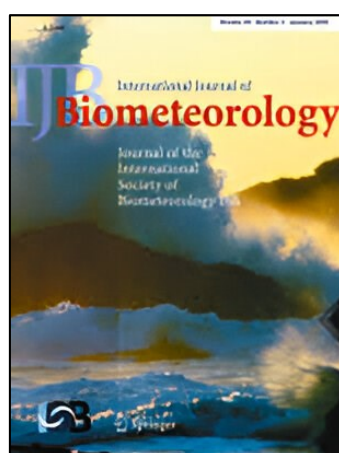
Citation: Quaternary International, 707, 24-34.

Publisher: Elsevier B.V.

URI: <https://doi.org/10.1016/j.quaint.2024.07.016>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9162>

Publication Date: 2024-10



Author(s): SARKAR, AHARNA; Das, Pinaki; Mukherjee, Sandipan; Burman, Pramit Kumar Deb; Chakraborty, Supriyo

Title: Evaluating tree-ring proxies for representing the ecosystem productivity in India

Citation: International Journal of Biometeorology.

Publisher: Springer Nature

URI: <https://doi.org/10.1007/s00484-024-02799-y>

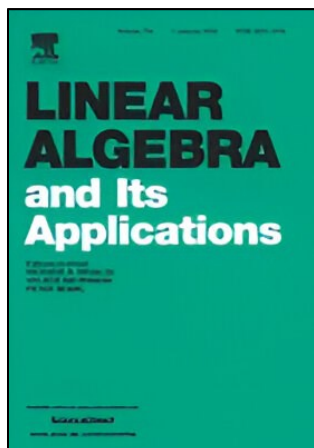
DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9167>

Publication Date: 2024-10

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MATHEMATICS

Journal Articles



Author(s): Balasubramanian, Kumar; KAIPA, KRISHNA; Khurana, Himanshi

Title: On the cardinality of matrices with prescribed rank and partial trace over a finite field

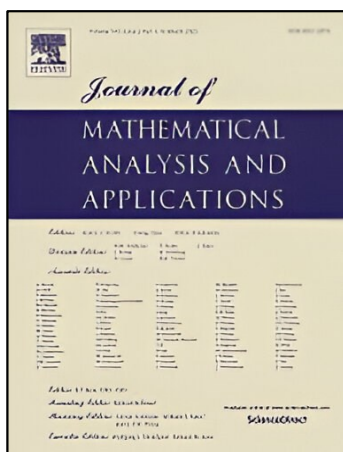
Citation: Linear Algebra and its Applications, 704, 35-57.

Publisher: Elsevier B.V.

URI: <https://doi.org/10.1016/j.laa.2024.10.011>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9183>

Publication Date: 2025-01



Author(s): BISWAS, NIRJAN; Kumar, Rohit

Title: Higher order fractional weighted homogeneous spaces: Characterization and finer embeddings

Citation: Journal of Mathematical Analysis and Application, 543(02), Part 2

Publisher: Elsevier B.V.

URI: <https://doi.org/10.1016/j.jmaa.2024.128935>

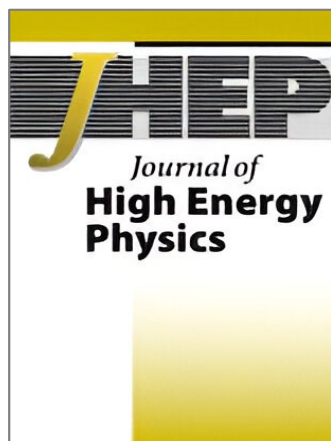
DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9185>

Publication Date: 2025-03

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PHYSICS

Journal Articles



Author(s): BHOWMICK, SUPRITHA; GHOSH, DIPTIMOY; ULLAH, FARMAN

Title: Bispectrum at 1-loop in the Effective Field Theory of Inflation

Citation: Journal of High Energy Physics, 2024(10), 57.

Publisher: Springer Nature

URI: [https://link.springer.com/article/10.1007/JHEP10\(2024\)057](https://link.springer.com/article/10.1007/JHEP10(2024)057)

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9140>

Publication Date: 2024-10



Author(s): Chawla, Chirag; Chatterjee, Sourav; SHAH, NEEV; Breivik, Katelyn

Title: Detecting Detached Black Hole Binaries through Photometric Variability

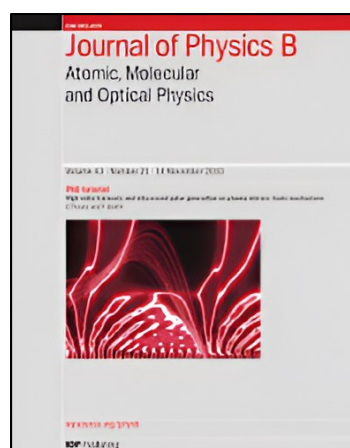
Citation: Astrophysical Journal, 975(02).

Publisher: IOP Science

URI: <https://doi.org/10.3847/1538-4357/ad7b0b>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9169>

Publication Date: 2024-11



Author(s): De, S.; MANDAL, S.; SEN, ARNAB et al.

Title: Observation of sequential three-body dissociation of camphor molecule-a native frame approach

Citation: Journal of Physics B: Atomic, Molecular and Optical Physics, 57(23).

Publisher: IOP Science

URI: <https://doi.org/10.1088/1361-6455/ad8695>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9171>

Publication Date: 2024-12

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Author(s): Gattu, Mytraya; SREEJITH, G.J.; Jain, J. K.

Title: Proposal for bulk measurement of braid statistics in the fractional quantum Hall effect

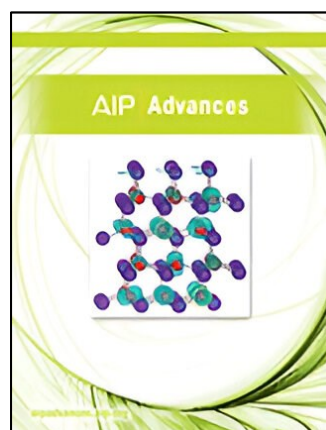
Citation: Physical Review B, 110, 205426.

Publisher: American Physical Society

URI: <https://doi.org/10.1103/PhysRevB.110.205426>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9197>

Publication Date: 2024-11



Author(s): KUMAR, ANKIT

Title: Simplified approach to estimate Lorenz number using experimental Seebeck coefficient for non-parabolic band

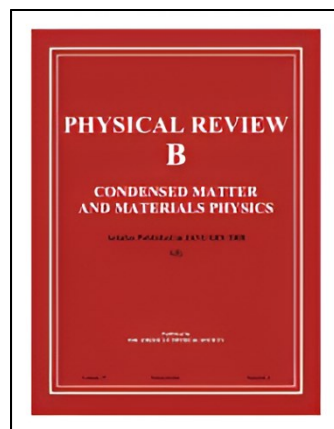
Citation: AIP Advances, 14(10), 105216.

Publisher: AIP Publishing

URI: <https://doi.org/10.1063/5.0229780>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9182>

Publication Date: 2024-11



Author(s): Negi, Devesh; Badola, Shalini; Paul, Suvodeep; PISTAWALA, NASHRA; HARNAGEA, LUMINITA; Saha, Surajit

Title: Magnetic excitation-phonon coupling in NiPS3 at high temperatures

Citation: Physical Review B, 110(09), 094434.

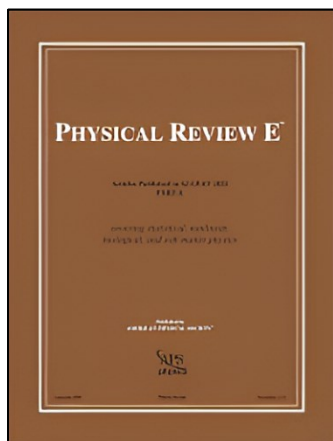
Publisher: American Physical Society

URI: <https://doi.org/10.1103/PhysRevB.110.094434>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9166>

Publication Date: 2024-09

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Author(s): PANDE, SHREERANG; MITRA, DEBARSHI; CHATTERJI, APRATIM

Title: Topology-mediated organization of Escherichia coli chromosome in fast-growth conditions

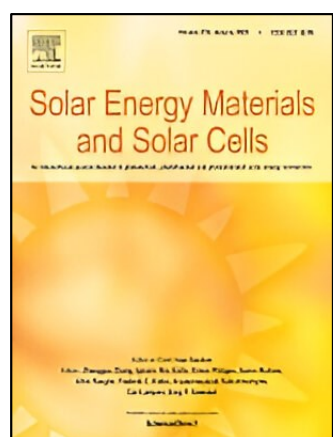
Citation: Physical Review E, 110(05), 054401.

Publisher: American Physical Society

URI: <https://doi.org/10.1103/PhysRevE.110.054401>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9165>

Publication Date: 2024-11



Author(s): SAIDARSAN, ABHISEK; Guruprasad, Satyabrata; Malik, Ashish; Basumatary, Pilik; Ghosh, Dhriti Sundar

Title: A critical review of unrealistic results in SCAPS-1D simulations: Causes, practical solutions and roadmap ahead

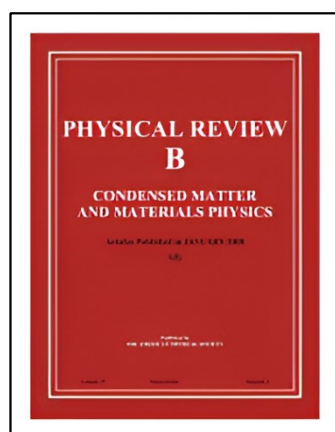
Citation: Solar Energy Materials and Solar Cells, 279, 113230.

Publisher: Elsevier B.V.

URI: <https://doi.org/10.1016/j.solmat.2024.113230>

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Author(s): Paul, Sanku; KANNAN, J.BHARATHI; SANTHANAM, M. S.

Title: Faster entanglement driven by quantum resonance in many-body kicked rotors

Citation: Physical Review B, 110(14), 144301.

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URI: <https://doi.org/10.1103/PhysRevB.110.144301>

DR URI: <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/9128>

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Author(s): NAYAK, PRANAY; GHOSH, RATHEEJIT; NATH, REJISH

Title: Density engineering via intercondensate dipole-dipole interactions

Citation: Physical Review A, 110, 053319.

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