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**Monthly Bulletin of Publications:
Faculty, Scientists and Students of IISER Pune.
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PATENTS

Inventor(s) BRITTO, SANDANARAJ S.; BHANDARI, PAVANKUMAR JANARDHAN; REDDY, MULLAPUDI MOHAN
Title Generation-Dependent Supramolecular Assemblies of Protein-Dendron Conjugates
Assignee Indian Institute of Science Education and Research Pune
Patent No. US 11,807,884 B2
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8300>
Date of Publication 2023-11

Inventor(s) BRITTO, SANDANARAJ S.; BHANDARI, PAVANKUMAR JANARDHAN; REDDY, MULLAPUDI MOHAN
Title Generation-Dependent Supramolecular Assemblies of Protein-Dendron Conjugates
Assignee Indian Institute of Science Education and Research Pune
Patent No. 466848
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8301>
Date of Publication 2023-11

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BIOLOGY

Journal Articles

Author(s) CHATTERJEE, ABHIJIT; CHATTERJEE, JOY; Sappati, Subrahmanyam; TANWAR, RITEEKA; Ambhore, Madan D.; ARFIN, HABIBUL; UMESH, RINTU M.; LAHIRI, MAYURIKA; MANDAL, PANKAJ; HAZRA, PARTHA

Title Engineering TADF, mechanochromism, and second harmonic up-conversion properties in regioisomeric substitution space

Citation Chemical Science.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D3SC04280D>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8313>

Date of Publication 2023-11

Author(s) DEY, BIPASHA; MITRA, DEBASMITA; DAS, TIRTHASREE; SHERLEKAR, APARNA; BALAJI, RAMYA; RIKHY, RICHA

Title Adhesion and Polarity protein distribution-regulates hexagon dominated plasma membrane organization in Drosophila blastoderm embryos

Citation Genetics.

Publisher Oxford University Press

URI <https://doi.org/10.1093/genetics/iyad184>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8305>

Date of Publication 2023-10

Author(s) KAUSHIK, ANUSHKA; UDGAONKAR, JAYANT B.

Title Replacement of the native cis prolines by alanine leads to simplification of the complex folding mechanism of a small globular protein

Citation Biophysical Journal, 122(19), 3894-3908.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.bpj.2023.08.012>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8274>

Date of Publication 2023-10

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Author(s) KONDHARE, KIRTIKUMAR R.; PATIL, NIKITA S.; Siddappa, Sundaresha; BANERJEE, ANJAN K.; Hannapel, David J.
Title Tandem Expression of a Mobile RNA and Its RNA-Binding Protein(s) Enhances Tuber Productivity in Potato
Citation International Journal of Molecular Sciences, 24(21), 15754.
Publisher MDPI
URI <https://doi.org/10.3390/ijms242115754>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8263>
Date of Publication 2023-11

Author(s) MATHEW, MABEL MARIA; GANGULY, AKANSHA; PRASAD, KALIKA
Title Multiple feedbacks on self-organized morphogenesis during plant regeneration
Citation New Phytologist.
Publisher Wiley
URI <https://doi.org/10.1111/nph.19412>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8309>
Date of Publication 2023-11

Author(s) Rajput, Vinay; KADAM, PRADNYA; BHALERAO, UNNATI; TUPEKAR, MANISHA; DESHPANDE, DIPTI; SHASHIDHARA, L. S.; KARMODIYA, KRISHANPAL et al.
Title Genomic surveillance reveals early detection and transition of delta to omicron lineages of SARS-CoV-2 variants in wastewater treatment plants of Pune, India
Citation Environmental Science and Pollution Research.
Publisher Springer Nature
URI <https://doi.org/10.1007/s11356-023-30709-z>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8266>
Date of Publication 2023-11

Author(s) VAIDYA, KAVERI; RODRIGUES, GOLDING; GUPTA, SONALI; Devarajan, Archit; YEOLEKAR, MIHIKA; MADHUSUDHAN, M. S.; KAMAT, SIDDHESH S.
Title Identification of sequence determinants for the ABHD14 enzymes
Citation Proteins: Structure, Function, and Bioinformatics.
Publisher Wiley
URI <https://doi.org/10.1002/prot.26632>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8303>
Date of Publication 2023-11

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CHEMISTRY

Journal Articles

Author(s) CHATTERJEE, ABHIJIT; CHATTERJEE, JOY; Sappati, Subrahmanyam; TANWAR, RITEEKA; Ambhore, Madan D.; ARFIN, HABIBUL; UMESH, RINTU M.; LAHIRI, MAYURIKA; MANDAL, PANKAJ; HAZRA, PARTHA

Title Engineering TADF, mechanochromism, and second harmonic up-conversion properties in regioisomeric substitution space

Citation Chemical Science.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D3SC04280D>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8313>

Date of Publication 2023-11

Author(s) CHATTOPADHAYAY, SANDIP; Ghosh, Anupam; Mukhopadhyay, Titas Kumar; SHARMA, RASHMI; Datta, Ayan; TALUKDAR, PINAKI

Title Supramolecular Barrel-Rosette Ion Channel Based on 3,5-Diaminobenzoic Acid for Cation-Anion Symport

Citation Angewandte Chemie-International Edition, 62(46), e202313712.

Publisher Wiley

URI <https://doi.org/10.1002/anie.202313712>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8277>

Date of Publication 2023-11

Author(s) FAJAL, SAHEL; MAJUMDER, DIPANJAN; MANDAL, WRITAKSHI; LET, SUMANTA; DAM, GOURAB K.; Shirolkar, Mandar M.; GHOSH, SUJIT K.

Title Unraveling mechanistic insights into covalent organic frameworks for highly efficient sequestration of organic iodides from simulated nuclear waste

Citation Journal of Materials Chemistry A.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D3TA04995G>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8306>

Date of Publication 2023-10

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Author(s) Gautam, Manu; KANADE, SANDEEP; Kale, Bharat B.
Title Electrochemical Energy Storage and Conversion Applications of Graphene Oxide: A Review
Citation Energy & Fuels, 37(22), 17134-17160.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acs.energyfuels.3c02933>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8267>
Date of Publication 2023-11

Author(s) Nandre, Vinod; BATTU, SHATEESH; ITAGI, MAHESH; Patil, Sanhita; Kumbhar, Navanath; Gejji, Shridhar P.; Malkhede, Dipalee; THOTIYL, MUSTHAFA OTTAKAM; Kodam, Kisan
Title Siderophore mediated in vitro synthesis of electrocatalytic nanocrystallite struvite variants for highly efficient and durable hydrogen evolution reaction
Citation International Journal of Hydrogen Energy.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.ijhydene.2023.10.213>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8302>
Date of Publication 2023-11

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EARTH AND CLIMATE SCIENCE

Journal Articles

Author(s) DUTTA, ARIJEET; Sivankutty, Rahul; MANI, NEENA JOSEPH
Title Investigating the Atlantic-Indian monsoon teleconnection pathways in PMIP₃ last millennium simulations
Citation Climate Dynamics.
Publisher Springer Nature
URI <https://doi.org/10.1007/s00382-023-06994-2>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8272>
Date of Publication 2023-11

Author(s) SAISHREE, AMRITA; MANAGAVE, SHREYAS; Sarangi, Vijayananda; Sanyal, Prasanta
Title Experimental evidence suggests dominance of species effect on the variability in hydrogen isotope fractionation between leaf wax compounds and source water
Citation Organic Geochemistry, 183, 104656.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.orggeochem.2023.104656>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8268>
Date of Publication 2023-09

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MATHEMATICS

Journal Articles

Author(s) Bharali, Gautam; BORAH, DIGANTA; Gorai, Sushil
Title The Squeezing Function: Exact Computations, Optimal Estimates, and a New Application
Citation Journal of Geometric Analysis, 33, 383.
Publisher Springer Nature
URI <https://doi.org/10.1007/s12220-023-01439-y>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8307>
Date of Publication 2023-10

Author(s) MISHRA, RAMA; NARAYANAN, VISAKH
Title Geometry of knots in real projective 3-space
Citation Journal of Knot Theory and Its Ramifications, 32(10), 2350068.
Publisher World Scientific Publishing Co Pte Ltd
URI <https://doi.org/10.1142/S0218216523500682>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8273>
Date of Publication 2023-09

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PHYSICS

Journal Articles

Author(s) Anbajagane, D.; BANERJEE, ARKA et al.
Title Beyond the 3rd moment: a practical study of using lensing convergence CDFs for cosmology with DES Y3
Citation Monthly Notices of the Royal Astronomical Society, 526(4), 5530-5554.
Publisher Oxford University Press
URI <https://doi.org/10.1093/mnras/stad3118>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8312>
Date of Publication 2023-12

Author(s) CMS Collaboration; Tumasyan, A.; ALPANA, A.; DUBE, SOURABH; KANSAL, B.; LAHA, A.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, SEEMA et al.
Title Search for narrow resonances in the b-tagged dijet mass spectrum in proton-proton collisions $\sqrt{s} = 13\text{TeV}$
Citation Physical Review D, 108(01),012009.
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevD.108.012009>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8279>
Date of Publication 2023-07

Author(s) CMS Collaboration; Tumasyan, A.; ALPANA, A.; DUBE, SOURABH; KANSAL, B.; LAHA, A.; PANDEY, S.; RASTOGI, A.; SHARMA, SEEMA et al.
Title Search for the exotic decay of the Higgs boson into two light pseudoscalars with four photons in the final state in proton-proton collisions at $\sqrt{s}=13\text{ TeV}$
Citation Journal of High Energy Physics, 2023(07), 148.
Publisher Springer Nature
URI [https://doi.org/10.1007/JHEP07\(2023\)148](https://doi.org/10.1007/JHEP07(2023)148)
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8280>
Date of Publication 2023-07

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Author(s) CMS Collaboration; Tumasyan, A.; ALPANA, A.; DUBE, SOURABH; KANSAL, B.; LAHA, A.; PANDEY, S.; RASTOGI, A.; SHARMA, SEEMA et al.

Title Probing Heavy Majorana Neutrinos and the Weinberg Operator through Vector Boson Fusion Processes in Proton-Proton Collisions at $\sqrt{s} = 13\text{TeV}$

Citation Physical Review Letters, 131(01), 011803.

Publisher American Physical Society

URI <https://doi.org/10.1103/PhysRevLett.131.011803>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8264>

Date of Publication 2023-07

Author(s) CMS Collaboration; Tumasyan, A.; ALPANA, A.; DUBE, SOURABH; KANSAL, B.; LAHA, A.; PANDEY, S.; RASTOGI, A.; SHARMA, SEEMA et al.

Title Measurements of Higgs boson production in the decay channel with a pair of τ leptons in proton-proton collisions at $\sqrt{s} = 13\text{TeV}$

Citation European Physical Journal C, 83(07), 562

Publisher Springer Nature

URI <https://doi.org/10.1140/epjc/s10052-023-11452-8>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8270>

Date of Publication 2023-07

Author(s) CMS Collaboration; Tumasyan, A.; ALPANA, A.; DUBE, SOURABH; KANSAL, B.; LAHA, A.; PANDEY, S.; RASTOGI, A.; SHARMA, SEEMA et al.

Title Measurement of the differential $t\bar{t}$ production cross section as a function of the jet mass and extraction of the top quark mass in hadronic decays of boosted top quarks

Citation European Physical Journal C, 83(07), 560.

Publisher Springer Nature

URI <https://doi.org/10.1140/epjc/s10052-023-11587-8>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8276>

Date of Publication 2023-07

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Author(s) CMS Collaboration; Tumasyan, A.; ALPANA, A.; DUBE, SOURABH; KANSAL, B.; LAHA, A.; PANDEY, S.; RASTOGI, A.; SHARMA, SEEMA et al.
Title Search for high-mass exclusive $\gamma\gamma \rightarrow WW$ and $\gamma\gamma \rightarrow ZZ$ production in proton-proton collisions at $\sqrt{s}=13$ TeV
Citation Journal of High Energy Physics, 2023(07), 229.
Publisher Springer Nature
URI [https://doi.org/10.1007/JHEP07\(2023\)229](https://doi.org/10.1007/JHEP07(2023)229)
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8308>
Date of Publication 2023-07

Author(s) CMS Collaboration; Tumasyan, A.; DUBE, SOURABH; KANSAL, B.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, SEEMA et al.
Title Search for CP violating top quark couplings in pp collisions at $\sqrt{s} = 13$ TeV
Citation Journal of High Energy Physics , 2023(07), 23.
Publisher Springer Nature
URI [https://doi.org/10.1007/JHEP07\(2023\)023](https://doi.org/10.1007/JHEP07(2023)023)
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8269>
Date of Publication 2023-07

Author(s) CMS Collaboration; Tumasyan, A.; DUBE, SOURABH; KANSAL, B.; PANDEY, S.; RANE,A.; RASTOGI, A.; SHARMA, SEEMA et al.
Title Two-particle azimuthal correlations in γp interactions using pPb collisions at $\sqrt{s_{NN}}=8.16$ TeV
Citation Physics Letters B, 844, 137905.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.physletb.2023.137905>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8271>
Date of Publication 2023-09

Author(s) LIGO Scientific Collaboration; Virgo Collaboration; Abbott, R.; SOURADEEP, TARUN et al.
Title Open Data from the Third Observing Run of LIGO, Virgo, KAGRA, and GEO
Citation Astrophysical Journal Supplement Series, 267(02).
Publisher IOP Publishing
URI <https://doi.org/10.3847/1538-4365/acdc9f>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8278>
Date of Publication 2023-08

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Author(s) SAHA, MADHUMITA; AGARWALLA, BIJAY KUMAR; Kulkarni, Manas; Purkayastha, Archak
Title Environment assisted superballistic scaling of conductance
Citation Physical Review B, 108(16), L161115.
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevB.108.L161115>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8304>
Date of Publication 2023-10

Author(s) SHARMA, MAYANK ; BHATTACHARYAY, ARIJIT
Title Spontaneous collective transport in a heat-bath
Citation Physica A: Statistical Mechanics and its Applications, 626, 129082.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.physa.2023.129082>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/8265>
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