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Monthly Bulletin of Publications:  
Faculty, Scientists and Students of IISER Pune.  
November 2020

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# BIOLOGY

**Author(s)** BHATTACHARJEE, ANINDYA S.; Joshi, Samir V.; Naik, Shilpa; Sangle, Shashikala; ABRAHAM, NIXON M.  
**Title** Quantitative assessment of olfactory dysfunction accurately detects asymptomatic COVID-19 carriers  
**Citation** EClinical Medicine, 28.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.eclinm.2020.100575>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5388>  
**Date of Publication** 2020-11

**Author(s)** BUWA, NATASHA; MAZUMDAR, DEBASMITA; BALASUBRAMANIAN, NAGARAJ  
**Title** Caveolin1 Tyrosine-14 Phosphorylation: Role in Cellular Responsiveness to Mechanical Cues  
**Citation** The Journal of Membrane Biology, 253, 509-534.  
**Publisher** Springer  
**URI** <https://doi.org/10.1007/s00232-020-00143-0>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5349>  
**Date of Publication** 2020-10

**Author(s)** DESHPANDE, JHELAN N.; Kaltz, Oliver; Fronhofer, Emanuel A.  
**Title** Host-parasite dynamics set the ecological theatre for the evolution of state- and context-dependent dispersal in hosts  
**Citation** OIKOS.  
**Publisher** Wiley  
**URI** <https://doi.org/10.1111/oik.07512>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5378>  
**Date of Publication** 2020-09

**Author(s)** GHATE, KETAKEE; MUTALIK, SAMPADA P.; Sthanam, Lakshmi Kavitha; Sen, Shamik; GHOSE, AURNAB  
**Title** Fmn2 Regulates Growth Cone Motility by Mediating a Molecular Clutch to Generate Traction Forces  
**Citation** Neuroscience, 448, 160-171.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.neuroscience.2020.09.046>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5350>  
**Date of Publication** 2020-11

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**Author(s)** Gurav, Tanuja P.; Jayaramaiah, Ramesha H.; Punekar, Sachin A.; DHOLAKIA, BHUSHAN B.; Giri, Ashok P.

**Title** Generation of novelties in the genus Ocimum as a result of natural hybridization: A morphological, genetical and chemical appraisal

**Citation** Industrial Crops and Products, 156.

**Publisher** Elsevier B.V.

**URI** <https://doi.org/10.1016/j.indcrop.2020.112859>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5390>

**Date of Publication** 2020-11

**Author(s)** Jodar, Tiffany Ona; Lage-Rupprecht, Vanessa; ABRAHAM, NIXON M.; Rose, Christine R.; Egger, Veronica

**Title** Local Postsynaptic Signaling on Slow Time Scales in Reciprocal Olfactory Bulb Granule Cell Spines Matches Asynchronous Release

**Citation** Frontiers in Synaptic Neuroscience.

**Publisher** Frontiers Media S.A.

**URI** <https://doi.org/10.3389/fnsyn.2020.551691>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5389>

**Date of Publication** 2020-11

**Author(s)** Kinatukara, Priyadarshan; SINGH, SHUBHAM; MHETRE, AMOL; KAMAT, SIDDHESH S. et al.

**Title** Peri-natal growth retardation rate and fat mass accumulation in mice lacking Dip<sub>2</sub>A is dependent on the dietary composition

**Citation** Transgenic Research, 29, 553-562.

**Publisher** Springer Nature

**URI** <https://doi.org/10.1007/s11248-020-00219-6>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5360>

**Date of Publication** 2020-11

**Author(s)** Lote-Oke, Rashmi; Pawar, Jwala; Kulkarni, Shriram; Sanas, Prasanna; Kajale, Neha; Gondhalekar, Ketan; Khadilkar, Vaman; KAMAT, SIDDHESH; Khadilkar, Anuradha

**Title** A LC-MS method for 25-hydroxy-vitamin D3 measurements from dried blood spots for an epidemiological survey in India

**Citation** Scientific Reports, 10.

**Publisher** Springer Nature

**URI** <https://doi.org/10.1038/s41598-020-76955-w>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5373>

**Date of Publication** 2020-11

## CHEMISTRY

**Author(s)** Ahmed, Naushad; Tripathi, Shalini; Sarkar, Arup; Ansari, Kamal Uddin; Das, Chinmoy; PRAJESH, NEETU; Horike, Satoshi; BOOMISHANKAR, RAMAMOORTHY; Shanmugam, Maheswaran

**Title** Chiral tetranuclear copper(ii) complexes: synthesis, optical and magnetic properties

**Citation** New Journal of Chemistry, 44(39), 16845-16855.

**Publisher** Royal Society of Chemistry

**URI** <https://doi.org/10.1039/D0NJ02856H>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5374>

**Date of Publication** 2020-10

**Author(s)** DEWAN, ANWESHI; HALDAR, SATTWICK; Narayanan, Remya

**Title** Multi-shelled NiO hollow microspheres as bifunctional materials for electrochromic smart window and non-enzymatic glucose sensor

**Citation** Journal of Solid State Electrochemistry.

**Publisher** Springer Nature

**URI** <https://doi.org/10.1007/s10008-020-04861-2>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5385>

**Date of Publication** 2020-11

**Author(s)** SAMANTA, MRITYUNJAY; CHAUDHURY, SRABANTI

**Title** Coarse-grained molecular dynamics simulations study of the conformational properties of single polyelectrolyte diblock copolymers

**Citation** Biophysical Chemistry, 266.

**Publisher** Elsevier B.V.

**URI** <https://doi.org/10.1016/j.bpc.2020.106437>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5354>

**Date of Publication** 2020-11

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**Author(s)** DESWAL, SWATI; SINGH, SACHIN KUMAR; Pandey, Richa; NASA, PARVEEN; Kabra, Dinesh; Praveenkumar, Balu; OGALE, SATISHCHANDRA B.; BOOMISHANKAR, RAMAMOORTHY

**Title** Neutral 1D Perovskite-Type ABX<sub>3</sub> Ferroelectrics with High Mechanical Energy Harvesting Performance

**Citation** Chemistry of Materials, 32(19), 8333-8341.

**Publisher** American Chemical Society

**URI** <https://doi.org/10.1021/acs.chemmater.0c02179>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5377>

**Date of Publication** 2020-10

## MATHEMATICS

**Author(s)** Balakumar, G. P.; BORAH, DIGANTA; Mahajan, Prachi; Verma, Kaushal

**Title** Further remarks on the higher dimensional Suita conjecture

**Citation** Annales Polonici Mathematici, 125(2), 101-115.

**Publisher** The Institute of Mathematics of the Polish Academy of Sciences

**URI** <https://doi.org/10.4064/ap200203-21-4>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5355>

**Date of Publication** 2020

## PHYSICS

**Author(s)** BHATKAR, SAYALI ATUL

**Title** Ward identity for loop level soft photon theorem for massless QED coupled to gravity

**Citation** Journal of High Energy Physics, 2020(10).

**Publisher** Springer Nature

**URI** [https://doi.org/10.1007/JHEP10\(2020\)110](https://doi.org/10.1007/JHEP10(2020)110)

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5356>

**Date of Publication** 2020-10

**Author(s)** Bhattacharjee, Kaustav; BISWAS, KORAK; Prasad, Bhagavatula L. V.

**Title** Unraveling the Role of Excess Ligand in Nanoparticle Pattern Formation from an Evaporatively Dewetting Nanofluid Droplet

**Citation** Journal of Physical Chemistry C, 124(42), 23446-23453.

**Publisher** American Chemical Society

**URI** <https://doi.org/10.1021/acs.jpcc.0c07259>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5376>

**Date of Publication** 2020-09

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**Author(s)** CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, A.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S.  
**Title**  $W^+W^-$  boson pair production in proton-proton collisions at  $\sqrt{s} = 13$  TeV  
**Citation** Physical Review D, 102(9).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevD.102.092001>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5375>  
**Date of Publication** 2020-11

**Author(s)** CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S. et al.  
**Title** Measurement of the cross section for  $t\bar{t}$  production with additional jets and b jets in pp collisions at  $\sqrt{s} = 13$  TeV  
**Citation** Journal of High Energy Physics, 2020(11).  
**Publisher** Springer Nature  
**URI** [https://doi.org/10.1007/JHEP07\(2020\)125](https://doi.org/10.1007/JHEP07(2020)125)  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/4942>  
**Date of Publication** 2020-07

**Author(s)** CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S.  
**Title** Measurements of production cross sections of WZ and same-sign WW boson pairs in association with two jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV  
**Citation** Physics Letters B, 809.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.physletb.2020.135710>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5382>  
**Date of Publication** 2020-10

**Author(s)** CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S.  
**Title** Measurement of  $B_c(2S)^+$  and  $B_c^*(2S)^+$  cross section ratios in proton-proton collisions at  $\sqrt{s} = 13$  TeV  
**Citation** Physical Review D, 102(9).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevD.102.092007>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5391>  
**Date of Publication** 2020-11

**Author(s)** Dabhade, P.; SANKHYAYAN, S. et al.  
**Title** Search and analysis of giant radio galaxies with associated nuclei (SAGAN) I. New sample and multi-wavelength studies  
**Citation** Astronomy & Astrophysics, 642.  
**Publisher** EDP Sciences  
**URI** <https://doi.org/10.1051/0004-6361/202038344>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5379>  
**Date of Publication** 2020-10

**Author(s)** DEWAN, ANWESHI; HALDAR, SATTWICK; Narayanan, Remya  
**Title** Multi-shelled NiO hollow microspheres as bifunctional materials for electrochromic smart window and non-enzymatic glucose sensor  
**Citation** Journal of Solid State Electrochemistry.  
**Publisher** Springer Nature  
**URI** <https://doi.org/10.1007/s10008-020-04861-2>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5385>  
**Date of Publication** 2020-11

**Author(s)** DESWAL, SWATI; SINGH, SACHIN KUMAR; Pandey, Richa; NASA, PARVEEN; Kabra, Dinesh; Praveenkumar, Balu; OGALE, SATISHCHANDRA B.; BOOMISHANKAR, RAMAMOORTHY  
**Title** Neutral 1D Perovskite-Type ABX<sub>3</sub> Ferroelectrics with High Mechanical Energy Harvesting Performance  
**Citation** Chemistry of Materials, 32(19), 8333-8341.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.chemmater.0c02179>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5377>  
**Date of Publication** 2020-10

**Author(s)** Kar, Indrani; HARNAGEA, LUMINITA; Banik, Soma; SINGH, SURJEET; Thirupathaiah, Setti  
**Title** Observation of surface Dirac state in transition metal dichalcogenide NiTe<sub>2</sub> using ARPES  
**Citation** AIP Conference Proceedings, 2265(1).  
**Publisher** AIP Publishing  
**URI** <https://doi.org/10.1063/5.0016745>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5351>  
**Date of Publication** 2020-11

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**Author(s)** Kushnirenko, Y. S.; Evtushinsky, D. V.; Kim, T. K.; Morozov, I.; HARNAGEA, LUMINITA; Wurmehl, S.; Aswartham, S.; Büchner, B.; Chubukov, A. V.; Borisenko, S. V.  
**Title** Nematic superconductivity in LiFeAs  
**Citation** Physical Review B, 102(18).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevB.102.184502>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5347>  
**Date of Publication** 2020-11

**Author(s)** MANGAONKAR, JAY; VISHWAKARMA, CHETAN; MAURYA, S. SAGAR; SARKAR, SUMIT; MacLennan, Jamie L.; DUTTA, PRANAB; RAPOL, UMAKANT D.  
**Title** Effects of finite momentum width on the reversal dynamics in a BEC based atom optics delta-kicked rotor  
**Citation** Journal of Physics B: Atomic, Molecular and Optical Physics, 53(23).  
**Publisher** IOP Publishing Ltd  
**URI** <https://doi.org/10.1088/1361-6455/abbf43>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5383>  
**Date of Publication** 2020-11

**Author(s)** MENON, DHANYA S.; VARDARAJAN, SUNEETA  
**Title** Nonlinear perturbations of higher dimensional anti-de Sitter spacetime  
**Citation** Physical Review D, 102(10).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevD.102.104026>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5353>  
**Date of Publication** 2020-11

**Author(s)** MITTAL, K. M.; Giraud, O.; Ullmo, D.  
**Title** Semiclassical evaluation of expectation values  
**Citation** Physical Review E, 102(4).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevE.102.042211>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5346>  
**Date of Publication** 2020-10

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**Author(s)** Pal, Sukanya; Grover, Shivani; HARNAGEA, LUMINITA; TELANG, PRACHI; SINGH, ANUPAM; Muthu, D. V. S.; Waghmare, U. V.; Sood, A. K.  
**Title** Destabilizing excitonic insulator phase by pressure tuning of exciton-phonon coupling  
**Citation** Physical Review Research, 2(4).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevResearch.2.043182>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5348>  
**Date of Publication** 2020-11

**Author(s)** ROUT, DIBYATA; MUDI, SANCHAYETA RANAJIT; Hoffmann, Marco; Spachmann, Sven; Klingeler, Rüdiger; SINGH, SURJEET  
**Title** Structural and physical properties of trilayernickelates  $R_4Ni_3O_{10}$  (R=La, Pr, and Nd)  
**Citation** Physical Review B, 102(19).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevB.102.195144>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5384>  
**Date of Publication** 2020-11

**Author(s)** Tekur, S. Harshini; SANTHANAM, M. S.  
**Title** Symmetry deduction from spectral fluctuations in complex quantum systems  
**Citation** Physical Review Research, 2(3).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevResearch.2.032063>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5345>  
**Date of Publication** 2020-09

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