

Peer review Journal Publications

2024-25

1. Barman S, Sahu PP. Enhancement of hydrogen and oxygen evolution through durable water splitting using CoTiO₃ perovskite as a bifunctional electrocatalyst. *Ionics*. 2025, 4, 3511-3523, Feb 11:1-3.
2. Biswas B, Yadav M, Senapati M, Sahu PP, Talukdar FA, Baghel GS. Design and fabrication of a novel resisto-capacitive sensor for the detection of the freshness of fish. *Microsystem Technologies*. 2024 Nov 12:1-4.
3. Sahu, P.P., Chattopdhyay, P., Sarma, G. and Das, S., In-silico Identification of citrus phytochemicals for chemical interaction of CoH of Mucor and human GRP78 receptor and its experimental verification through FTIR spectroscopy. *Journal of the Indian Chemical Society(Elsevier)*, 101(11), p.101345. 2024, Impact factor-3.2
2. Biswas B, Yadav M, Sahu PP, Talukdar FA, Baghel GS. Design and Fabrication of a Capacitive Sensor for the Detection of Formaldehyde in Fish at Room Temperature. *IEEE Sensors Journal*. 2024 [10.1109/JSEN.2024.3465238](https://doi.org/10.1109/JSEN.2024.3465238) Impact factor-4.3
3. Narzary R, Brahma H, Das S, Chetia R, Sahu PP. Synthesis, characterization and estimation of performance parameters of binary ZnO–SnO₂/p-Si heterojunction solar cells. *Optical Materials*. 2024 Aug 1;154:115599. Impact factor-3.8
4. Sahu PP. Multimode interference coupler based on general interference for integrated optical and quantum optic devices: A review. *Physica Scripta*. **99** 085106 DOI 10.1088/1402-4896/ad5b92, 2024. Impact factor-3.081
5. Chetia R, Sahu PP. Quantum image edge extraction algorithm for noisy image. *IETE Journal of Research*. 70(5): 5348-63. 2024., Impact factor-0.829
6. Das S, Sarma G, Panicker NJ, Sahu PP. Identifying citrus limonoids as a potential fusion inhibitor of DENV-2 virus through its in silico study and FTIR analysis. *In Silico Pharmacology(Springer-Nature)*. 12(1):35, 2024. 2023-24

1. Phukan P, Narzary R, Sahu PP. Improved responsivity and detectivity photodetector based on ZnO-rGO nanocomposite nanostructures. *Journal of Materials Science: Materials in Electronics*. Oct;34(28):1965, 2023 Impact Factor- 2.779
2. Chetia R, Sahu PP. Quantum Image Edge Extraction Algorithm for Noisy Image. *IETE Journal of Research*., Aug 26:1-6, 2023. Impact Factor- 1.877
3. Chetia R, Sahu PP. Quantum edge extraction of chest CT image for the detection and differentiation of infected region of COVID-19 patient. *Arabian journal for science and engineering*. Aug;48(8):11155-66., 2023 Impact Factor- 2.806.
4. Narzary R, Chetia R, Sahu PP. A low-temperature efficient approach for the fabrication of ZnO-rGO heterostructures for applications in optoelectronic applications. *IEEE Access*., Jul 31, 2023. Impact Factor- 3.476
5. Sahu PP. Optical manipulation of quantum optic entanglement using graphene clad surface plasmonic polariton device. *Quantum Information Processing*. Jun 20;22(6):248, 2023. Impact Factor- 2.006.
6. Sahu PP, Sarma G, Das S, Borkakoty B. Rapid diagnosis of COVID-19 using disposal paper capacitive sensor. *Analytica Chimica Acta*. Jun 6:341500, 2023 Impact Factor- 6.911,
7. Panicker NJ, Sahu PP. Synthesis and optimization of N, S doped reduced graphene oxide-NiCo₂S₄ hybrid active material for all-solid-state asymmetric supercapacitor. *Diamond and Related Materials*. Jun 1;136:109936, 2023 Impact Factor- 3.806.
8. Panicker NJ, Dutta JC, Sahu PP. Confined growth of NiCo₂S₄ on 2D/2D porous carbon self-repairing g-C₃N₄/rGO heterostructure for enhanced performance of asymmetric supercapacitors. *Chemical Engineering Journal*. May 1;463:142376, 2023. Impact Factor- 16.744.
9. Hudait MK, Johnston SW, Das MR, Karthikeyan S, Sahu PP, Das J, Zhao J, Bodnar RJ, Joshi R. Carrier Recombination Dynamics of Surface-Passivated Epitaxial (100) Ge, (110) Ge, and (111) Ge Layers by Atomic Layer Deposited Al₂O₃. *ACS Applied Electronic Materials*. May 24., 2023, Impact Factor- 4.494.

2022-23

1. Sahu PP. Fundamental optical logic gate operations using optically controlled two surfaces plasmonic polariton mode coupler based on graphene clad waveguide. *Optical Engineering*. Mar 1;62(3):038104, 2023 Impact Factor- 1.352.
2. Das, Jagat, and Partha Pratim Sahu. "β-Ni (OH)₂ mediated redox catalysis for efficient hydrogen generation by reducing accumulation of bubbles in water splitting." *International Journal of Hydrogen Energy* 48.14: 5377-5386, 2023. Impact Factor- 7.139.
3. Das S, Sahu PP. CeO₂ NPs based capacitive sensor for quantification of limonin in citrus limetta juice. *IEEE*

Sensors Journal. 23 (7), 7591-7598 2023. Impact Factor- 4.325.

4. Das, S., Panicker, N.J., Rather, M.A., Mandal, M. and Sahu, P.P., 2022. Green synthesis of cerium oxide nanoparticles using Dillenia indica aqueous extract and its anti-oxidant activity. *Bulletin of Materials Science*, 46(1), p.3, 2022. Impact factor-1.878.

5. Panicker NJ, Ajayan PM, Sahu PP. Band-gap tuned hexagonal-boron nitride/reduced graphene oxide superlattice wrapped cadmium sulfide/Polypyrrole nanocomposite as an efficient supercapacitor electrode material. *Journal of Energy Storage*. 56:105901, 2022. Impact factor-9.4.

6. Narzary R, Phukan P, Das S, Sahu PP, [Flexibility of Key Electronic and Optical Properties of Reduced Graphene Oxide Through Its Controlled Synthesis](#), *IEEE Transactions on Electron Devices*. 69(11):6400-7, 2022
Impact factor -2.94.

7. Gupta, A. K., Das, S., **Sahu, P. P.**, & Mishra, P. "Design and development of IDE sensor for naringin quantification in pomelo juice: An indicator of citrus maturity". *Food chemistry*, 377, 131947, 2022.
<https://doi.org/10.1016/j.foodchem.2021.131947>, Impact Factor-9.232.

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1. Muchahary D, Ram LS, Narzary R, Sahu PP, Bhattarai S, Tayal S. Heterojunction between crystalline silicon and nanocomposite coupled ZnO· SnO₂ and optimization of its photovoltaic performance. *Current Applied Physics*, Jun 1;38:15-21, 2022. Impact factor -2.48.

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2. Chetia, Rajib, and **Partha Pratim Sahu**. "Quantum Edge Extraction of Chest CT Image for the Detection and Differentiation of Infected Region of COVID-19 Patient." *Arabian journal for science and engineering(Springer-Nature)* pp1-12, 2022. DOI: 10.1007/s13369-021-06511-9, Impact factor: 2.56.

3. Roy, Joydev, Suvendu Bhattacharya, **Partha Pratim Sahu**, and Amit Baran Das. "Physical, mechanical, and electrical properties of rice starch-based films plasticised by ionic liquid." *Indian Chemical Engineer* (2021): 1-12. Impact factor: 0.534.

4. Gupta, Arun Kumar, Subhamoy Dhua, **Partha Pratim Sahu**, Giulia Abate, Poonam Mishra, and Andrea Mastinu. "Variation in phytochemical, antioxidant and volatile composition of pomelo fruit (*Citrus grandis* (L.) Osbeck) during seasonal growth and development." *Plants* 10, no. 9 (2021): 1941. <https://doi.org/10.3390/plants10091941>, Impact Factor: 3.91.

5. Das, Satyajit, and **Partha Pratim Sahu**. "A novel electrochemical interdigitated electrodes sensor for limonin quantification and reduction in citrus limetta juice." *Food Chemistry*, 377, 132248, 2022.
<https://doi.org/10.1016/j.foodchem.2022.132248>, Impact Factor-9.232.

2020-21

1. M. Senapati and **P. P. Sahu** "Onsite fish quality monitoring using ultra-sensitive patch electrode capacitive sensor at room temperature " *Bioelectronics and biosensors*, 168, 112570, 2020,
<https://doi.org/10.1016/j.bios.2020.112570>, Impact factor: 10.257, Citation -19.

2. Gupta, Arun Kumar, **Partha Pratim Sahu**, and Poonam Mishra. "Ultrasound aided debittering of bitter variety of citrus fruit juice: Effect on chemical, volatile profile and antioxidative potential." *Ultrasonics Sonochemistry* 81 (2021): 105839. <https://doi.org/10.1016/j.ultsonch.2021.105839>, Impact factor -8.4.

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<https://doi.org/10.1007/s11128-020-02944-7>, Impact factor-2.24.

4. Rewrewa Narzary, Palash Phukan and **Partha Pratim Sahu**, Efficiency Enhancement of low cost Heterojunction Solar Cell by incorporation of rGO into ZnO nanostructures, *IEEE Transactions on Electron Devices*, Vol-68, 3238-3245, 2021, 10.1109/TED.2021.3080228, Impact factor -2.64.

5. Amit Baran Das, VV Goud, Chandan Das and **Partha Pratim Sahu**, Development of Colorimetric pH Indicator Paper Using Anthocyanin for Rapid Quality Monitoring of Liquid Food, *Journal of Packaging Technology and Research*, pp 1-9 (in press) 2021 <https://doi.org/10.1007/s41783-020-00104-x>, Impact factor:0.567

6. P. Phukan and **P. P. Sahu** "High performance UV photodetector based on Metal-Semiconductor-Metal structure using TiO₂-rGO composite" *Optical materials* (Elsevier), 109, 110330, 2020. DOI:10.1016/j.optmat.2020.110330, Impact factor-3.8

7. J Das and **P P Sahu**, "Water splitting with screw pitched cylindrical electrode and Fe(OH)₂ catalyst under 1.4 Volt ", *Renewable energy* (Elsevier), 165, 525-532 2021. <https://doi.org/10.1016/j.renene.2020.10.130>, Impact factor: 8.7.

8. **PP Sahu**, "Optical switch based on Graphene clad two surface plasmonic polariton mode coupler" *Optik*, 166026,

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9. Rewrewa Narzary, Santanu Maity and **Partha Pratim Sahu**, “Coupled ZnO-SnO₂ Nanocomposite for Efficiency Enhancement Of ZnO-SnO₂/p-Si Heterojunction Solar Cell”, IEEE transaction on Electronics, devices, 68, 610-617, 2020. 10.1109/TED.2020.3042449, Impact factor-2.913.

2019-20

1. G. G. Gebreegziabher, A. S. Asemahegne, D. W. Ayele, D. Mani, R. Narzary, **P. P. Sahu** and A. Kumar, “Polyaniline– graphene quantum dots (PANI–GQDs) hybrid for plastic solar cell.” Carbon Letters, vol-30, pp1–11 (2020). <https://doi.org/10.1007/s42823-019-00064-6>, Citation: 5, Impact factor: 4.5.

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3. Palash Phukan, Rewrewa Narzary and **Partha Pratim Sahu**, “A green approach to fast synthesis of reduced graphene oxide using alcohol for tuning semiconductor property”, Materials Science in Semiconductor Processing, Vol-104, pp104670, 2019. DOI:10.1016/j.mssp.2019.104670, Citation: 9, Impact factor: 3.087.

4. Mukut Senapati and **Partha P Sahu**, “Meat quality assessment using Au patch electrode Ag-SnO₂/SiO₂/Si MIS capacitive gas sensor at room temperature”, Food Chemistry , 324, 126893, 2020. <https://doi.org/10.1016/j.foodchem.2020.126893>. Impact factor: 9.232

5. Partha Pratim Sahu, “Compact Multi-Photons Quantum Interference Component for Integrated Quantum Optic Device”, IEEE Journal of Selected Topics in Quantum Electronics, Vol-26(3), pp1-6, 2020: Impact factor: 4.917. DOI: 10.1109/JSTQE.2020.2975537.

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44. Rinku Rani Das, Santanu Maity, Atanu Choudhury, Apurba Chakraborty, CT Bhunia, **Partha P Sahu**, “Temperature-dependent short-channel parameters of FinFETs”, Journal of Computational Electronics, Vol-17, 1001-1012, 2018, Impact factor 2.11. <https://doi.org/10.1007/s10825-018-1212-y>.

2. **P P Sahu**, “A Compact Surface Plasmonics Polariton Quantum Entanglement Device” Plasmonics, vol-14(4) pp 875-879, 2019. Impact factor : 2.366. <https://doi.org/10.1007/s11468-018-0869-1>.

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4. **P. P. Sahu**, “Thermooptic Two Mode interference device for reconfigurable Quantum optic circuits”, Quantum information processing, Vol-17, 150, 2018, Impact factor: 2.283.

5. S. Maity and **P. P. Sahu**, “High photo-sensing performance with electro-optically efficient silicon based ZnO/ZnMgO heterojunction structure” IEEE sensor journal, Vol-18, 6569-6575, 2018 Impact factor 2.518.

2017-18

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3. S. Maity, V. Kartik, **P. P. Sahu**, P K. Sawin, C T Bhunia, and S. Debnath, “Unavoidable front contact model of Si solar cell through a generalized effective medium approximation approach” Sādhanā, Vol-43 (3), 31, 2018. Impact factor-0.769.

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2016-17

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2. **P. P. Sahu**, "Compact component for integrated quantum optic processing", Scientific reports (Nature), 5: 16276, 2015. Impact factor: 5.232.
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2015-16

1. S Maity, SK Metya, CT Bhunia, P Chakraborty and **P. P. Sahu**, "Improvement of front side contact and quantum efficiency of c-Si solar cell through light induced plating" Optical and Quantum Electronics 47 (10), 3391-3404. 2015. Impact factor: 1.610.
2. N Gogoi and **P. P. Sahu**, "All optical compact surface plasmonic two mode interference device for optical logic gates", Applied Optics 54 (5), 1051-1057, 2015. Impact factor: 1.791.
3. Nilima Gogoi and **Partha Pratim Sahu**, "Design of All-optical Inverter using Nonlinear Plasmonic Two-mode Waveguide" Advanced Research in Electrical and Electronic Engineering, Vol-2, pp-35-38, 2015.
4. S Maity, CT Bhunia, **P.P. Sahu**, "Reduction in defect levels and improvement in optical and structural properties by modifying ZnO based thin film into nanorods", Optik-International Journal for Light and Electron Optics 127 (6), 3271-3473, 2016, 2015 Impact factor: 2.187,
6. Diganta Das, Maitreyee Sharma, Hemanga Kumar Das, **Partha Pratim Sahu** and Robin Doley, "Purification and Characterization of Nk-3FTx: A Three Finger Toxin from the Venom of North East Indian Monocled Cobra", J Biochem Molecular Toxicology, Vol-30, pp 59-70, 2016. Impact factor: 3.606.
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3. Aradhana Dutta, Bidyut Deka and **Partha Pratim Sahu**, " Design and Fabrication of Silicon in Petrol ", Procedia Engineering (Elsevier), Vol. 64, pp. 195-204, 2013. Impact factor: 0.97.
4. Hemanga Kumar Das and **Partha Pratim Sahu**, "Coupled Nerve: A Technique to Increase the Nerve Conduction Velocity in Demyelinating Polyneuropathic Patients", Procedia Engineering (Elsevier), Vol. 64, pp. 275-282, 2013. Impact factor: 0.97.
5. Mahipal Singh and **Partha Pratim Sahu**, " A Wideband Linear Sinusoidal Frequency to Voltage Converter With Fast Response Time ", Procedia Engineering (Elsevier), Vol. 64, pp. 26-35, 2013. Impact factor: 0.97.
6. **Partha Pratim Sahu**, "An Ultra Compact multi Mode Interference Coupler with Parabolic Down Tapered Geometry", Procedia Engineering (Elsevier), Vol. 64, pp. 215-223, 2013. Impact factor: 0.97.
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11. **P. P. Sahu**, "All optical switch using optically controlled two mode interference coupler" Applied Optics, Vol.- 51, no. 14, pp. 2601-2605, 2012. Impact factor: 1.973.
12. Bijoy Chand Chatterjee, Nityananda Sarma, **Partha Pratim Sahu**, "Priority based Routing and Wavelength Assignment with traffic Grooming for Optical Networks", IEEE/OSA Journal of Optical Communication and Networking, Vol.-4, no. 6, pp. 480-489, 2012. Impact factor: 3.093.
13. Bijoy Chand Chatterjee, Nityananda Sarma, **Partha Pratim Sahu**, "A Heuristic Priority based Wavelength Assignment Scheme for Optical Networks", Optik - International Journal for Light and Electron Optics (Elsevier), Vol.- 123, no. 17, pp. 1505-1510, 2012. Impact factor: 2.187.
14. **P. P. Sahu**, "Double S-bend structure for a compact two mode interference coupler", Applied optics, Vol-50(3), pp 242-245, 2011. Impact factor: 1.973.
15. **P. P. Sahu**, M. Singh and Anukul Baishya, "New low-voltage full wave rectification technique without a diode" IET circuits Devices and Systems, Vol-5(1), pp. 33-36, 2011. Impact factor: 1.277.
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19. **P. P. Sahu**, M. Singh and Anukul Baishya, "A novel versatile precision full wave rectifier", IEEE Trans.on Instrumentation and measurements, Vol-59(10), pp. 2742-2746, 2010. Impact factor:5.6
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