**Department of Physics**

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| **Papers Published** |
| **2021**   1. Rohit Mukherjee and **S.Konar** "Electromagnetically Induced Grating and Parity-time Symmetry in Coupled Quantum Wells", **Chinese Physics** **(Accepted, 2021)** 2. Tribhuwan Kishore Mishra, A Kumar and **S.K.Sinha,** Experimental investigation and study of HVOF sprayed WC-12Co, WC-10Co-4Cr and Cr3C2-25NiCr coating on its sliding wear behaviour,  **International Journal of Refractory Metals and Hard Materials**,**Volume 94, January 2021, 105404** [https://www.sciencedirect.com/science/article/pii/S0263436820302808](https://www.rediffmail.com/cgi-bin/red.cgi?red=https%3A%2F%2Fwww%2Esciencedirect%2Ecom%2Fscience%2Farticle%2Fpii%2FS0263436820302808&isImage=0&BlockImage=0&rediffng=0&rogue=e9534672228e687112ae760a6c5c786ef1ecf0bf&rdf=UGcDYANoBXABNw==&els=5e9eac211e6a1fb8ed80eff128e96187) 3. T. K. Mishra, A. Kumar, **S. K. Sinha**, Sliding Wear Behavior of Thermally Sprayed WC-20Cr3C2-7Ni and La2O3 **Composite Coatings,  Emerging Materials Research** **Volume 10 Issue 2,  pp. 1-9, ISSN 2046-0147 | E-ISSN 2046-0155, June 2021** <https://doi.org/10.1680/jemmr.20.00138> 4. **S Konar***,*Parity-time symmetry in photonics with the emphasis to semiconductor quantum wells,**Asian Journal of Physics, Vol 30, No 1, in press (2021)** 5. Rohit Mukherjee, **S. Konar ,** and Puspashree Mishra "Phase-sensitive modulation instability in asymmetric coupled quantum wells" **PHYSICAL REVIEW A 103, 033517 (2021)** 6. Vikash Kumar, Neha Singh, Soumita Jana, **Sanjeeb Kumar Rout,** Ratan Kumar Dey, Gajendra Prasad Singh, Surface polar charge induced Ni loaded CdS heterostructure nanorod for efficient photo-catalytic hydrogen evolution, **International Journal of Hydrogen Energy** 46 (30), (2021),16373-16386. 7. Khusboo Agrawal, Banarji Behera, S.C. Sahoo, **S.K. Rout**, Ashok Kumar, Piyush R. 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Shomaila Khanam, **S K Rout**, Decolorisation of Rhodamine B and Methylene Blue Dyes in the presence of Bismuth Tungstates: A detailed investigation on the effect of grain size, , **Bulletin of Materials Science**, 44(2021) 11. Konar, K., **Bose, K.** & **Paul, R.K.** Revisiting cosmic microwave background radiation using blackbody radiation inversion. **Sci Rep 11, 1008 (2021).** 12. BK Sonu, **E. Sinha,**[Structural, thermal stability and electrical conductivity of zirconium substituted barium cerate ceramics](javascript:void(0)), **Journal of Alloys and Compounds     860, 158471 (2021).** 13. **Nishi Srivastava**, D. Vignesh, and N. Saxena, Investigation of Artificial Neural Network Performance in the Aerosol Properties Retrieval, **Journal of Water and Climate Change**, Accepted (2021) 14. Ashish Gaurav, Deepali Sinha, Rakesh K. Prasad, **Dilip K. Singh**,*Single step synthesis of size-controlled carbon quantum dots using electrochemical etching of graphite.***J. of Nanoscience & Nanotech (2021, Under revision)  *arXiv:2011.03217v1 [physics.app-ph]*** 15. Mritunjoy Prasad Ghosh, Subhadeep Datta, **Rishi Sharma**, Kamar Tanbir, Manoranjan Kar, Samrat Mukherjee, Copper doped nickel ferrite nanoparticles: Jahn-Teller distortion and its effect on microstructural, magnetic and electronic properties, ***Materials Science & Engineering B***, **Vol 263 (2021) 114864.** 16. **S. Lahiri** and A. M. Jayannavar, Stochastic Energetics and Thermodynamics at Small Scales, Resonance 26, 523 (2021). 17. Soumyadeep C. Sarkar, Niharika Verma , **Pawan K. 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Shahid,](https://www.sciencedirect.com/science/article/pii/S246802302030016X?via%3Dihub#!)S[anjay K.Sinha](https://www.sciencedirect.com/science/article/pii/S246802302030016X?via%3Dihub#!), Improvement in adhesion of HAP deposited on alumina after Ar+ ions implantation and its physiochemical properties, **Surfaces and Interfaces (Elsevier) 19(2020)100485 Feb 2020.** [**https://www.sciencedirect.com/science/article/pii/S246802302030016X?via%3Dihub**](https://www.sciencedirect.com/science/article/pii/S246802302030016X?via%3Dihub)[**https://doi.org/10.1016/j.surfin.2020.100485**](https://doi.org/10.1016/j.surfin.2020.100485) 9. TK Mishra, A Kumar, **SK Sinha**, [Investigation of sliding wear behaviour of Ni-WC microwave cladding](javascript:void(0)). **Materials Today: Proceedings**[**26( 2**](https://www.sciencedirect.com/science/journal/22147853/26/part/P2)**) Pages 1418-1422, 2020.** 10. A. K. Sahu, S. K. 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