**Department of Physics**

**BIT Mesra, Ranchi**

**List of Research Papers Publications in referred Journals**

**2023**

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| 1. Manoj Kumar Rout, **Sunita Keshri**, Crossover to the negative dielectric constant in La3+ and Dy3+ doped Co-Zn spinel nanoferrites: **Journal of Alloys and Compounds (Elsevier Publication) 965, 2023, 171425**
2. Smit Anand and **Sanjay Kumar Sinha**, Mechanical, Structural, Corrosion, and Dielectric Properties of Hydroxyapatite Doped with Varying Concentrations of Cu to be Used as Orthopedic Implants, **Journal of Materials Engineering and Performance (JMEPEG), Online Published : December 1, 2023, https://doi.org/10.1007/s11665-023-08970-7**
3. Dhal, S., Singh, S., Konar, K.,  **Paul, R. K**. Calculation of Cosmic microwave background radiation parameters using COBE/FIRAS dataset. **Exp Astron** **(2023).** <https://doi.org/10.1007/s10686-023-09904-w>
4. Somita Dhal & **R. K. Paul,** Investigation on CMB monopole and dipole using blackbody radiation inversion, **Sci Report  13, 3316 (2023),** <https://doi.org/10.1038/s41598-023-30414-4>
5. S Sahoo, T Badapanda, A Hota, **SK Rout,** [Investigation of Dielectric and Energy Storage Performance of (1-x) BaTiO3-xBi (Zn2/3Nb1/3) O3 Ceramic for Possible MLCC Application](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=nF9cGjkAAAAJ&cstart=100&pagesize=100&citation_for_view=nF9cGjkAAAAJ:VLnqNzywnoUC) **ECS Journal of Solid State Science and Technology 12 (5), 053003 (2023)**
6. A Satapathy, SK Dash, **SK Rout,** S Parida, [Barium zirconate—A simple perovskite with multidimensional applications](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=nF9cGjkAAAAJ&cstart=100&pagesize=100&citation_for_view=nF9cGjkAAAAJ:z_wVstp3MssC) **Perovskite Metal Oxides, 231-252(2023)**
7. SP Muduli, S Parida, **SK Rout,** SK Mahapatra, [Investigation of Dielectric and Ferroelectric Properties of PVDF/0.5 Ba (Zr0. 2Ti0. 8) O3–0.5 (Ba0. 7Ca0. 3) TiO3 Composite](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=nF9cGjkAAAAJ&cstart=100&pagesize=100&citation_for_view=nF9cGjkAAAAJ:uJ-U7cs_P_0C) , **Advances in Diverse Applications of Polymer Composites, 105-119(2023)**
8. N Kumari, **SK Rout,** Advances in Diverse Applications of Polymer Composites, 105-119 **Journal of Materials Science: Materials in Electronics 34 (3), 205 (2023)**
9. Vignesh, D., and **Ela Rout**, Technological Challenges and Advancement in Proton Conductors: **A Review; Energy & Fuels, 37, 3428-3469 (2023)**
10. Preethi Kumari P, Anusha G, J.N.Cheerlin Mishma, **Rajeev K. Sinha,** Santosh L. Gaonkar, Heliyon, New benzisoxazole derivative:A potential corrosion inhibitor for mild steel in 0.5 M hydrochloric acid medium -Insights from electrochemical and density functional theory studies,  **Accepted for publication in Heliyon (2023)**
11. Prajna N. D., Tom Devasia, **Rajeev K. Sinha,**Cardiovascular marker proteins

detection in the blood serum using an LSPR chip based on Au nanobipyramid, **J. Biomed. Photonics & Eng., accepted for publication (2023)**1. Swarnagowri Nayak, Santosh L. Gaonkar, Deepak Devadiga, T.N. Ahipa,

**Rajeev K. Sinha S**ynthesis, characterization and photo-physical properties of sugar hydrazone having indole and 1,3,4-oxadiazole moiety, , J.  Lumin. 263, 120065 (2023). |

1. N Ullal, D Sunil, SD Kulkarni, **Rajeev K. Sinha,** PJ Anand, UK Bhat, Eco-friendly ink formulation of column purified carbon dots from GABA for antoicounterfeiting applications, , J. Photochem. Photobiol. **A: Chem., 114914 (2023)**
2. , Srinivas Shenoy Heckadka, Raghuvir Pai Ballambat, Poornima Bhagavath, Manjeshwar Vijaya Kini, **Rajeev K Sinha,** M.K Sonali, and Diya Sen, Thermogravimetric analysis of flax, jute, and UHMWPE fibers and their composites with melamine and phenol formaldehyde resins **Cogent Eng.  10(1), 2209990 (2023).**
3. D. Behera, **S. K. Mukherjee**, Insight to Structural, Electronic, Optical and Thermoelectric Properties of NaCaSb and KCaSb half Heusler Compounds: a DFT Approach, **JETP Letters ISSN 0021-3640 (2023)** (Impact Factor 1.29)
4. A.E. Nebatti, A. Zekri, Y. Zakaria, R. Singh, **S. K. Mukherjee**, A. S. Kadari, M. Guezzoul, K. D. Khodja, B. Amrani, B. Aissa, Compositional Mapping of Mo-doped ZnO thin films: Mechanical, nanp-surface and ToF-SIMS analyses, **Journal of Molecular Structure, 1286 135566 (2023) (Impact Factor: 3.841)**
5. Taieb Seddik, Debidatta Behera, Mohammed Batouche, Walid Ouerghui, Houda Ben Abdallah, Ram Krishna Sarkar, Mostafa M. Salah, Ahmed Shaker**, Sanat Kumar Mukherjee**, Electronic Properties, Linear and Nonlinear Performance of KAgCh(Ch=S, Se) **Compunds: A First-Principles Study Crystals 13 726 (2023) (Impact Factor: 2.670).**
6. Debidatta Behera, **Sanat Kumar Mukherjee,** First-principles calculations to investigate structural, optoelectronics and thermoelectric properties of lead free Cs2GeSnX6 (X = Cl, Br) **Materials Science and Engineering: B 292, 116421 (2023) (Impact Factor: 3.407)**
7. Debidatta Behera, Ahmed Azzouz Rached, Abdessalem Bouhenna, Mostafa M. Salah, Ahmed Shaker, **Sanat Kumar Mukherjee**, First-Principles Studies on the Physical Properties of the Half Heusler RbNbCd and RbNbZn Compounds: A Promising Material for Thermoelectric Applications, **Crystals, 13 618 (2023) (Impact Factor: 2.670).**
8. Mumtaz Manzoor, Debidatta Behera, Ramesh Sharma, Muhammad Waqas Iqbal**, S. K. Mukherjee,** First principles insights on the structural, mechanical, dynamical, thermoelectric and thermodynamics properties of novel topological (ScSb) semi-metal, **Materials Science and Engineering: B 291, 116372 (2023) (Impact Factor: 3.407)**
9. Debidatta Behera, Mumtaz Manzoor, Ramesh Sharma, Mostafa M. Salah, Ivan Stich and **Sanat Kumar Mukherjee**, A Comprehensive First-Principles Investigation of SnTiO3 Perovskite for Optoelectronic and Thermoelectric Applications, **Crystals, 13 408 (2023) (Impact Factor: 2.670)**
10. Debidatta Behera, Mumtaz Manzoor, Ramesh Sharma, Muhammad Waqas Iqbal, **Sanat Kumar Mukherjee**, First principle insight on structural, opto-electronic and transport properties of novel zintl-phase AMg2Bi2 (A=Sr, Ba), **Journal of Solid State Chemistry, 123860 (2023) (Article in Press) (Impact Factor: 3.6)**
11. Mumtaz Manzoor, Debidatta Behera, Ramesh Sharma, Muhammad Waqas Iqbal, **Sanat Kumar Mukherjee**, Rabah Khenata, Saleh S Alarfaji, Huda A Alzahrani, Investigation of the structural, mechanical, optoelectronic and, thermoelectric characteristics of cubic GeTiO3: An ab initio study**, Materials Today Communications 34 105053 (2023) (Impact Factor: 3.662)**
12. Debidatta Behera, Aparna Dixit, Binayaka Nahak, Anshuman Srivastava, Ramesh Sharma, R Khenata, S Bin-Omran, Shaimaa AM Abdelmohsen, Ashraf MM Abdelbacki, **Sanat Kumar Mukherjee**, Theoretical insight on the electronic band structure, mechanical, vibrational and thermodynamic characteristic of antiperovskites RE3InN (RE= Y and La**), Materials Today Communications 35 105618 (2023) (Impact Factor: 3.662)**
13. A Bajpai, **R Sharma** [Atmospheric pressure plasma jet: Formation of Wenzel’s model supportive surface modification on PMMA](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=YMB9zncAAAAJ&citation_for_view=YMB9zncAAAAJ:TFP_iSt0sucC) **Advances in Materials and Processing Technologies 9 (1), 332-350( 2023)**
14. N Sharma, S Mondal, HO Yadav, **R Sharma** [Graphene Oxide-Silver Nanocomposite Induced Apoptosis in Human Hepatoma (HepG2) Cells Through Oxidative Stress and Caspase Dependent Signalling Pathway](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=YMB9zncAAAAJ&citation_for_view=YMB9zncAAAAJ:JV2RwH3_ST0C) **Indian Journal of Engineering & Materials Sciences 30, 298-304(2023)**
15. A Bajpai, N Sharma, PK Dwivedi, **R Sharma** [Rapid Fabrication of Graphene Layers Over Polymeric Substrates Using Atmospheric Pressure Plasma Jet](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=YMB9zncAAAAJ&citation_for_view=YMB9zncAAAAJ:maZDTaKrznsC) **IEEE Transactions on Plasma Science 51 (3), 726-732(2023)**
16. S Chauhan, S Mandal, V Yadav, PK Jaiswal, **M Priya**, MD Shrimali, Machine learning based prediction of phase ordering dynamics**, Chaos: An Interdisciplinary Journal of Nonlinear Science 33 (6) (2023).**
17. D Ganguly, and **M Priya**,Host-Parasite Coevolution: **A Review of Statistical Models, Horizons in World Physics, Volume 310, Nova Science Publishers (2023).**
18. S Suvarna **and M Priya,** Cooperation: An Essential Coevolution Phenomenon, **Horizons in World Physics, Volume 310, Nova Science Publishers (2023).**