

## ❖ Publication in Journal

1. S. Karmakar, S. Sahoo, H.S. Mohanty, R. Boddhula, G Naresh Reddy, S.R. Mohapatra, K.K. Mahato, **Sk Anirban**, P. Nayak, G.R. Kumar, N. Deka, Unraveling electrical transport and dielectric relaxation in P2-Type  $\text{NaMg}_{0.25}\text{Mn}_{0.75}\text{O}_2$ : A promising layered oxide for high-temperature electronics, *Ceramics International*, 51 (2025) 32958–32966.
2. **Sk. Anirban\***, Samarendra Nath Saha, Rosni Roy, Rajib Mondal, Structural distortions tailor magnetic and magnetocaloric response in  $\text{Ho}_2\text{NiTiO}_6$ , *Materials Letters* 399 (2025) 138993.
3. **Sk. Anirban\***, Rajdip Roy, Rosni Roy, Rajib Mondal, Samarendra Nath Saha, Purna Chandra Barman, Unraveling the charge carriers conduction mechanism and dielectric properties of  $\text{Sm}_2\text{CuMnO}_6$  double perovskite, *Materials Science in Semiconductor Processing* 190 (2025) 109313
4. Samarendra Nath Saha, Purna Chandra Barman, N. Bedamani Singh, Rajkumar Mondal, **Sk. Anirban\***, Exploring the Electronic Structure and Magnetic Properties of  $\text{Sm}_2\text{MgMnO}_6$  Double Perovskite, *Electronic Materials Letters*, (2024) 20:745–755
5. Samarendra Nath Saha, Purna Chandra Barman, Rajdip Roy, N. Bedamani Singh, Rajkumar Mondal, Shuvankar Gupta, Rakesh Das, Shivam Shukla, S. K. Srivastava, and **Sk. Anirban\***, Structure, Electronic, Optical, Magnetic and Magnetocaloric Properties of  $\text{Sm}_2\text{CuMnO}_6$  Double Perovskite Nanomaterial, *ECS Journal of Solid State Science and Technology*, 13 (2024) 074003.
6. **Sk. Anirban\***, Rosni Roy, Rajib Mondal, Samarendra Nath Saha, Purna Chandra Barman, Charge transport mechanism, dielectric relaxations and relaxor ferroelectric properties of  $\text{Sm}_2\text{MgMnO}_6$  double perovskite, *Journal of Solid State Chemistry*, 329 (2024) 124422.
7. **Sk. Anirban\***, Rajdip Roy, Abhigyan Dutta, Structure, optical, charge transport mechanism, dielectric properties and leakage current analysis of  $\text{Sm}_2\text{MgMnO}_6$  double perovskite, *International Journal of Hydrogen Energy*, 50 (2024) 786-804.
8. **Sk. Anirban\***, Rajdip Roy, Abhigyan Dutta, Microstructure, charge carrier conduction mechanism model, dielectric properties and leakage current analysis of  $\text{Dy}_2\text{FeMnO}_6$  nanomaterial, *Ceramics International*, 49 (2023) 12334–12347.
9. **Sk. Anirban\***, Rajdip Roy, Abhigyan Dutta, Structure, charge carrier conduction, dielectric properties and leakage current density of  $\text{Dy}_2\text{CoMnO}_6$  double perovskite, *Journal of Alloys and Compound*, 928 (2022) 1671842.
10. **Sk. Anirban\***, Abhigyan Dutta, Impact of dielectric properties on ionic conductivity of  $\text{Ce}_{0.9}\text{Sm}_{0.1}\text{O}_{1.95}$  via defect interaction, *Materials Letters: X*, 12 (2021) 100111.
11. **Sk. Anirban\***, Abhigyan Dutta, Structure, ionic transport properties and ion dynamics of  $\text{Ce}_{0.8}\text{Y}_{0.2}\text{O}_{1.9}$  oxygen ion conductor: Understanding the impact of sintering temperature, *Journal of Solid State Chemistry*, 303 (2021) 122451.
12. **Sk. Anirban\***, Abhigyan Dutta, Structure, small polaron hopping conduction and relaxor behavior of  $\text{Gd}_2\text{NiMnO}_6$  double perovskite, *Journal of Physics and Chemistry of Solids*, 159 (2021) 110292.

13. **Sk. Anirban\***, Abhigyan Dutta, Structure, conductivity, dielectric properties, and charge-carrier dynamics of lead-free  $\text{Dy}_2\text{NiMnO}_6$  double perovskite, *J Mater Sci: Mater Electron*, 32 (2021) 17822–17836.
14. **Sk. Anirban\***, Abhigyan Dutta, Understanding the structure and charge transport mechanism of  $\text{Sm}_2\text{NiMnO}_6$  double perovskite prepared via low temperature auto-ignition method, *Physics Letters A*, 397 (2021) 127256.
15. **Sk. Anirban\***, Anindita Banerjee, Abhigyan Dutta, Synthesis route dependent structure, conductivity and dielectric properties of  $\text{Ce}_{0.8}\text{Gd}_{0.2}\text{O}_{1.9}$  oxygen ion conductor: A comparative approach, *International Journal of Hydrogen Energy*, 46 (2021) 8210-8225.
16. **Sk. Anirban\***, Abhigyan Dutta, Revisiting ionic conductivity of rare earth doped ceria: Dependency on different factors, *International Journal of Hydrogen Energy*, 45 (2020) 25139 – 25166.
17. **Sk. Anirban**, Proloy T. Das, Abhigyan Dutta\*, Effect of divalent cation addition on structure, conductivity and grain boundary properties in La doped ceria oxygen ion conductors, *Ceramics International*, 45 (2019) 5751–5760.
18. **Sk. Anirban\***, Abhigyan Dutta, Structure, Ionic Transport Properties and Scaling Behavior of Eu, Pr, and Sm Co-Doped Ceria Oxygen Ion Conductors, *Physica Status Solidi A*, 216 (2019) 1800352.
19. **Sk. Anirban**, Abhigyan Dutta\*, Structure and defect interaction mediated transport mechanism of mixed di-tri valent cation containing ceria-based Ionic conductors, *International Journal of Hydrogen Energy*, 43 (2018) 23418-23429.
20. **Sk. Anirban**, Abhigyan Dutta\*, An insight into the structure, conductivity and ion dynamics of Sr-Sm codoped ceria oxygen ion conductors: Effect of defect interaction, *Solid State Sciences*, 86 (2018) 69–76.
21. **Sk. Anirban**, Abhigyan Dutta\*, Structural and ionic transport mechanism of rare earth doped cerium oxide nanomaterials: Effect of ionic radius of dopant cations, *Solid State Ionics*, 309 (2017) 137-145.
22. **Sk. Anirban**, Abhigyan Dutta\*, Structural interpretation of optical properties and ion transport mechanism in mixed valent Pr containing nanoceria, *Materials Research Bulletin*, 86 (2017) 119-130.
23. **Sk. Anirban**, Abhigyan Dutta\*, Microstructural interpretation of conductivity and dielectric response of  $\text{Ce}_{0.9}\text{Eu}_{0.1}\text{O}_{1.95}$  oxygen ion conductors, *Ionics*, 23 (2017) 2579-2587.
24. **Sk. Anirban**, A. Sinha, S. Bandyopadhyay, Abhigyan Dutta\*, Microstructure correlated impedance spectroscopy studies of  $\text{Ce}_{0.8}\text{Y}_{0.2}\text{O}_{2-\delta}$ : Effect of grain growth, *AIP Conference Proceedings*, 1832 (2017) 110032.
25. A. Sinha, **Sk. Anirban**, S. Bandyopadhyay, Abhigyan Dutta\*, Effect of sintering temperature on structural, optical and electrical relaxation properties, of Gd-doped nickel-ferrites, *AIP Conference Proceedings*, 1832 (2017) 110021.
26. S. Bandyopadhyay, **Sk. Anirban**, A. Sinha, Abhigyan Dutta\*, Ionic conductivity of rare earth doped phase stabilized  $\text{Bi}_2\text{O}_3$ : Effect of ionic radius, *AIP Conference Proceedings*, 1832 (2017) 110020.

27. **Sk. Anirban**, Abhigyan Dutta\*, Dielectric relaxation and charge carrier mechanism in nanocrystalline Ce–Dy ionic conductors, RSC Advances, 6 (2016) 49852-49861.
28. **Sk. Anirban**, Abhigyan Dutta\*, Microstructure and charge carrier dynamics in Pr-Sm-Eu triple-doped nanocerium, Solid State Ionics, 295 (2016) 48-56.
29. S. Bandyopadhyay, **Sk. Anirban**, A. Sinha, S.K. Pradhan, and Abhigyan Dutta\*, Conductivity enhancement in mechanosynthesized Bi<sub>2</sub>O<sub>3</sub>, AIP Conference Proceedings, 1731 (2016) 110022.
30. **Sk. Anirban**, A. Sinha, S. Bandyopadhyay, Abhigyan Dutta\*, Defect association mediated ionic conductivity of rare earth doped nanocerium: Dependency on ionic radius, AIP Conference Proceedings, 1731 (2016) 110008.
31. **Sk. Anirban**, Abhigyan Dutta\*, Charge Carrier Dynamics in Nanocrystalline Dy Substituted Ceria Based Oxygen Ion Conductors, AIP Conference Proceedings, 1728 (2016) 020070.
32. **Sk. Anirban**, Abhigyan Dutta\*, Charge carrier dynamics in Gd-Y co-doped nanocrystalline ceria corroborated with defect interactions, RSC Advances, 5 (2015) 95736-95743.
33. **Sk. Anirban**, T. Paul, Abhigyan Dutta\*, Vacancy mediated ionic conduction in Dy substituted nano ceria: A structure-property correlation study, RSC Advances, 5 (2015) 50186-50195.
34. **Sk. Anirban**, T. Paul, Proloy T. Das, T.K. Nath, Abhigyan Dutta\*, Microstructure and electrical relaxation studies of chemically derived Gd-Nd co-doped nanocrystalline ceria electrolytes, Solid State Ionics, 270 (2015) 73-83.
35. **Sk. Anirban**, Abhigyan Dutta\*, Structural, Optical and Dielectric Properties of Ce<sub>0.9</sub>Nd<sub>0.1</sub>O<sub>1.95</sub> nanocrystalline oxygen ion conductors: Effect of Sintering Temperature, Journal Physics and Chemistry of Solids, 76 (2015) 178-183.
36. **Sk. Anirban**, Ankurava Sinha, Abhigyan Dutta\*, Synthesis and electrical transport properties of Gd doped nanocrystalline ceria, AIP Conference Proceedings, 1536 (2013) 157-158.

#### ❖ **Publication in Book**

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