

## List of publications (total) : 177

1. Gobinda Das Adhikary, Anil Adukkadan, Gudeta Jafo Muleta, Monika, Ram Prakash Singh, Digvijay Narayan Singh, Harvey Luo, Getaw Abebe Tina, Luke Giles, Stefano Checchia, John Daniels and **Rajeev Ranjan**  
Longitudinal strain enhancement and bending deformations in piezoceramics  
**Nature** Vol **637** 333 (2025)
2. Pooja Punetha, Vimlesh Chouhan, Gobinda Das Adhikary, Pavan Nukala, and **Rajeev Ranjan**  
Nature of the morphotropic phase boundary in the lead-free piezoelectric systems  
 $K_{1/2}Bi_{1/2}(M_{1/3}Nb_{2/3})_xTi_{1-x}O_3$  ( $M=Mg, Zn$ )  
**Phys. Rev. B** **110**, 224112 (2024).
3. Digvijay Narayan Singh, Ram Prakash Singh, Saswata Bhattacharyya, and **Rajeev Ranjan**,  
Critical analysis of the isosymmetric transition and phase diagram of BiFeO<sub>3</sub>-PbTiO<sub>3</sub>  
**Phys. Rev. B** **110**, 134112 (2024).
4. A. Anil, Deepak Sharma, Gudeta Jafo Muleta and **Rajeev Ranjan**  
Insights into pressure driven depolarization in PLZST based antiferroelectric ceramics  
**J. Eu. Ceram. Soc.** **45**, 116154 (2024).
5. Shubham Kumar Parate, Sandeep Vura, Subhajit Pal, Upanya Khandelwal, Rama Satya Sandilya Ventrapragada, Rajeev Kumar Rai, Sri Harsha Molleti, Vishnu Kumar, Girish Patil, Mudit Jain, Ambresh Mallya, Majid Ahmadi, Bart Kooi, Sushobhan Avasthi, **Rajeev Ranjan**, Srinivasan Raghavan, Saurabh Chandorka, Pavan Nukala  
Giant electrostriction-like response from defective non-ferroelectric epitaxial BaTiO<sub>3</sub> integrated on Si (100)  
**Nat. Comm.** **15**, 1428 (2024).
6. Soumyajyoti Mondal, Pooja Punetha, Binoy Krishna De, Gobinda Das Adhikary **Rajeev Ranjan**, Pavan Nukala,  
Giant electrostriction in bulk RE (III) substituted CeO<sub>2</sub>: Effect of RE-V $\bullet\bullet$ O interaction and RE concentration  
**Scri. Mat.** **248**, 116129 (2024).
7. Deepak Sharma, Gobinda Das Adhikary, Pooja Punetha, **Rajeev Ranjan**  
Interplay of local polarization, ionic size, and octahedral tilt in SrTiO<sub>3</sub> – Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>  
**Phys. Rev. B** **109**, 014107 (2024)
8. Getaw Abebe Tina, Pooja Punetha, Gobinda Das Adhikary, **Rajeev Ranjan**  
Simultaneous increase in piezoelectric response and Curie point in BaTiO<sub>3</sub> based Pb-free piezoceramic

**Scripta Mater.** 243, 115994 (2024)

9. Anil Adukkadan, **Rajeev Ranjan**, Viswanathan Kumar  
High pyroelectric performance and its dependence on the field-induced orientation in antiferroelectric PLZST system  
**J. Am. Ceram. Soc.** 107, 4147 (2024)
10. Gobinda Das Adhikary, Pooja Punetha Ram Prakash Singh , Vivek Dwij, Vasant Sathe, Anatoliy Senyshyn, Pavan Nukala, **Rajeev Ranjan**  
Negative and zero thermal expansion in K0.5Bi0.5TiO<sub>3</sub>  
**Phys. Rev. B** 108, L140104 (2023)
11. Gobinda Das Adhikary, Gudeta Jafo Muleta and **Rajeev Ranjan**  
Composition–electric field phase diagram of the Pb-free piezoelectric system Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub> – BaTiO<sub>3</sub>  
**Phys. Rev. B** 108, 224105 (2023)
12. Gobinda Das Adhikary, Digivijay Narayan Singh, Getaw Abebe Tina, Gudeta Jafo Muleta, and **Rajeev Ranjan**  
Ultrahigh electrostrain >1% in lead-free piezoceramics: Role of disk dimension  
**J. Appl. Phys.** 134, 054101 (2023).
13. Arnab De, Miguel A. Hernandez-Rodriguez, Albano N. Carneiro Neto, Vivek Dwij, Vasant Sathe, Luis D. Carlos, and **Rajeev Ranjan**  
Resonance/off-resonance excitations: implications on the thermal evolution of Eu<sup>3+</sup> photoluminescence  
**J. Mater. Chem. C** 11, 6095 (2023).
14. Gobinda Das Adhikary, Gudeta Jafo Muleta, Getaw Abebe Tina, Deepak Sharma, Bhoopesh Mahale, Lucas Lemos da Silva, Manuel Hinterstein, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*Structural insights into electric field induced polarization and strain responses in K<sub>0.5</sub>Na<sub>0.5</sub>NbO<sub>3</sub> modified morphotropic phase boundary compositions of Na<sub>0.5</sub>Bio<sub>0.5</sub>TiO<sub>3</sub>-based lead-free piezoelectrics*  
**Phys. Rev. B** 107, 134108 (2023)
15. Abhipshit Kumar, Sujoy Saha, Hariom Prakash, Bhoopesh Mahale, Ram Prakash Singh, Anil Adukkadan, **Rajeev Ranjan**, and Naveen Kumar  
*Role of sintering conditions in tuning the defect chemistry and influencing the electromechanical properties of a Pb-based piezoceramic*  
**J Mater Sci: Mater Electron** 34, 723 (2023)
16. Sujoy Saha, Ram Prakash Singh, Ashish Rout, Aditya Mishra, Amanat Ali, Himalay Basumatary, and **Rajeev Ranjan**  
*Inducing ferromagnetism and magnetoelectric coupling in the ferroelectric alloy system BiFeO<sub>3</sub>–PbTiO<sub>3</sub> via additives*

- J. Appl. Phys.** 133, 064101 (2023)
17. Ashutosh Upadhyay, Naveen Kumar, Gobinda Das Adhikary, Ram Prakash Singh, Anupam Mishra, and **Rajeev Ranjan**  
*A combination of large unipolar electrostrain and d33 in a non-ergodic relaxor ferroelectric*  
**J. Appl. Phys.** 132, 204102 (2022)
18. Arnab De, Anupam Mishra, Deepak Kumar Khatua, and **Rajeev Ranjan**  
*Optical temperature sensing by tuning photoluminescence in wide (visible to NIR) wavelength range in Eu-doped relaxor ferroelectrics*  
**Optics Lett.** 47, 489 (2022)
19. Arnab De, Vivek Dwij, Vasant Sathe, M. A. Hernandez-Rodriguez, Luis D Carlos, and **Rajeev Ranjan**  
*Synergistic use of Raman and photoluminescence signals for optical thermometry with large temperature sensitivity*  
**Physica B** 626, 413455 (2022)
20. Gobinda Das Adhikary, Deepak Sharma, Pooja Punetha, Gudeta Jafo, Getaw Abebe, Anupam Mishra, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*Preponderant influence of disordered-P4bm phase on the piezoelectricity of critical compositions of  $Na_{0.5}Bi_{0.5}TiO_3$ -based ferroelectrics*  
**Physical Review B** 104, 184102 (2021)
21. Gobinda Das Adhikary, Vivek Dwij, Anatoliy Senyshyn, Vasant Sathe, and **Rajeev Ranjan**  
*Large nonlinear electrostrain and piezoelectric response in nonergodic  $(Na, K)0.5Bi0.5TiO_3$ : Synergy of structural disorder and tetragonal phase in proximity to a morphotropic phase boundary*  
**Physical Review Materials** 5, 064414 (2021)
22. K. Datta, Naveen Kumar, A. Upadhyay, B. Mihailova, and **Rajeev Ranjan**  
*Microscopic origin of giant piezoelectricity in ferroelectric  $xBi(Ni_{0.5}Hf_{0.5})O_3-(1-x)PbTiO_3$  beyond the morphotropic phase boundary*  
**Physical Review B** 104, L140104 (2021)
23. Gobinda Das Adhikary, Bhoopesh Mahale, Badari Narayana Rao, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*Depoling phenomenon in  $Na_{0.5}Bi_{0.5}TiO_3$ - $BaTiO_3$ : A structural perspective*  
**Physical Review B** 103, 184106 (2021)
24. Sujoy Saha, Ram Prakash Singh, Ying Liu, Atal Bihari Swain, Amritesh Kumar, V. Subramanian, A. Arockiarajan, G. Srinivasan, and **Rajeev Ranjan**  
*Strain transfer in ferroelectric-ferrimagnetic magnetoelectric composite*  
**Physical Review B** 103, L140106 (2021)

25. Gobinda Das Adhikary, Bhoopesh Mahale, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*Relaxor ground state forced by ferroelastic instability in  $K_{0.5}Bi_{0.5}TiO_3-Na_{0.5}Bi_{0.5}TiO_3$*   
**Physical Review B** **102**, 184113 (2020)
26. Gobinda Das Adhikary and **Rajeev Ranjan**  
*Abrupt change in domain switching behavior within tetragonal phase regime of  $(x)Na_{1/2}Bi_{1/2}TiO_3-(1-x)K_{1/2}Bi_{1/2}TiO_3$*   
**Journal of Applied Physics** **128**, 204102 (2020) (**invited submission**)
27. **Rajeev Ranjan**  
 *$Na_{1/2}Bi_{1/2}TiO_3$ -based lead-free piezoceramics: a review of structure–property correlation* (**invited review**)  
**Current Science** **118**, 1507 (2020)
28. Arnab De and **Rajeev Ranjan**  
*Large structural heterogeneity in sub-micrometer  $BaTiO_3$  revealed via  $Eu+3$  photoluminescence study*  
**Journal of Applied Physics** **128**, 124104 (2020) (**This paper was among the Editor's pick**)
29. K. Datta , Kumar Brajesh, **Rajeev Ranjan**, and B. Mihailova  
*Adaptive dipolar correlation in ferroelectric  $x(Ba0.7Ca0.3)TiO_3-(1-x)Ba(Zr0.2Ti0.8)O_3$*   
**Physical Review B** **102**, 060102(R) (2020)
30. Sujoy Saha, Ram Prakash Singh, Avinash Kumar, Arnab De, Prafull Pandey, Bastola Narayan, Himalay Basumatary, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*Magnetic enhancement of ferroelectric polarization in a particulate multiferroic composite derived in situ via additive assisted sintering of a pseudo ternary alloy system  $BiFeO_3-PbTiO_3-DyFeO_3$*   
**Applied Physics Letters** **116**, 142902 (2020)
31. Naveen Kumar, Anupam Mishra, Arnab De, Uma Shankar and **Rajeev Ranjan**  
*Factors associated with the local polar-structural heterogeneity and ultrahigh piezoelectricity in Sm-modified  $Pb(Mg_{1/3}Nb_{2/3})O_3-PbTiO_3$*   
**J. Phys. D Appl. Phys.** **53**, 165302 (2020)
32. Arnab De and **Rajeev Ranjan**  
*Large temperature tuning of emission color of a phosphor by dual use of Raman and Photoluminescence signals*  
**Materials Horizons** **7**, 1101 (2020)
33. Gobinda Das Adhikary, Dipak Kumar Khatua, Anupam Mishra, Arnab De, Naveen Kumar, Sujoy Saha, Uma Shankar, Anatoliy Senyshyn, Badari Narayana Rao, and **Rajeev Ranjan**  
*Increasing intervention of nonferroelectric distortion and weakening of ferroelectricity at the morphotropic phase boundary in  $Na_{0.5}Bi_{0.5}TiO_3-BaTiO_3$*   
**Phys. Rev. B** **100**, 134111 (2019)
34. Anupam Mishra, Dipak Kumar Khatua, Gobinda Das Adhikary, Naveen Kumar, Uma Shankar and **Rajeev Ranjan**  
*Finite-size-effect on a very large length scale in NBT-based lead-free piezoelectrics*  
**J. Adv. Diel.** **9**, 1950035 (2019)

35. Uma Shankar, Naveen Kumar, Bastola Narayan, Diptikanta Swain, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*Large electromechanical response in ferroelectrics: Beyond the morphotropic phase boundary paradigm*  
**Phys. Rev. B** 100, 094101 (2019)
36. Dipak Kumar Khatua, Anupam Mishra, Naveen Kumar, Gobinda Das Adhikary, Uma Shankar, Bhaskar Majumdar, **Rajeev Ranjan**  
*A coupled microstructural-structural mechanism governing thermal depolarization delay in  $Na_0.5Bi0.5TiO_3$ -based piezoelectrics*  
**Acta Mater.** 179, 49-60 (2019)
37. Anomitra Sil, Devendra S. Negi, Mit H. Naik, Manish Jain, Ranjan Datta, **Rajeev Ranjan** and P. S. Anil Kumar  
*Large intrinsic magnetization in an epitaxial  $BiFeO_3/NdGaO_3$  system*  
**Eur. Phys. Lett.** 126, 57003 (2019)
38. Anupam Kumar Mishra, Dipak Kumar Khatua, Arnab De and **Rajeev Ranjan**  
*Off-stoichiometry, structural-polar disorder and piezoelectricity enhancement in pre-MPB lead-free  $Na_0.5Bi0.5TiO_3$  - $BaTiO_3$  piezoceramic*  
**J. Appl. Phys.** 125, 214101 (2019)
39. Gobinda Das Adhikary, Dipak Kumar Khatua, Anatoliy Senyshyn and **Rajeev Ranjan**  
*Random lattice strain and its relaxation towards the morphotropic phase boundary of  $Na_0.5Bi0.5TiO_3$ -based piezoelectrics: Impact on the structural and ferroelectric properties*  
**Phys. Rev. B** 99, 174112 (2019)
40. Amit Kumar, Avinash Kumar, Sujoy Saha, Himalay Basumatary and **Rajeev Ranjan**  
*Ferromagnetism in the multiferroic alloy systems  $BiFeO_3$ - $BaTiO_3$  and  $BiFeO_3$ - $SrTiO_3$ : Intrinsic or extrinsic?*  
**Appl. Phys. Lett.** 114, 022902 (2019)
41. Anupam Mishra, Dipak Kumar Khatua, Arnab De, Bhaskar Majumdar, Till Fromling and **Rajeev Ranjan**  
*Structural mechanism behind piezoelectric enhancement in off-stoichiometric  $Na_0.5Bi0.5TiO_3$  based lead-free piezoceramics*  
**Acta Mater.** 164, 761 (2019)
42. Gobinda Das Adhikary, Dipak Kumar Khatua, Anatoliy Sensyhyn and **Rajeev Ranjan**  
*Long-period structural modulation on the global length scale as the characteristic feature of the morphotropic phase boundaries in the  $Na_0.5Bi0.5TiO_3$  based lead-free piezoelectrics*  
**Acta Mater.** 164, 749 (2019)
43. Bhoopesh Mahale, Naveen Kumar, Rishikesh Pandey and **Rajeev Ranjan**

*High power density low-lead-piezoceramic-polymer composite energy harvester.*  
**IEEE Trans. Ultrason. Ferroelec. & Freq. Control**; **66**, 789-796 (2019)

44. Arnab De and **Rajeev Ranjan**  
*Synergistic role of poling in enhancing structural heterogeneity in perovskite piezoelectrics*  
**Phys. Rev. B** **98**, 094111 (2018)
45. Dipak Kumar Khatua, Abhishek Agarwal, Anupam Mishra, Gobinda Das Adhikary, Anatoliy Senyshyn, and **Rajeev Ranjan**  
*“Enhanced thermal stability of dielectric, energy storage, and discharge efficiency in a structurally frustrated piezoelectric system: Erbium modified  $Na_{0.5}Bi_{0.5}TiO_3$ - $BaTiO_3$ ”*  
**J. Appl. Phys.** **124**, 104101 (2018)
46. Alireza Akbarzadeh, Kumar Brajesh, Yousra Nahas, Naveen Kumar, Sergei Prokhorenko, Diptikanta Swain, Sergey Prosandeev, Raymond Walter, Igor Kornev, Jorge Íñiguez, Brahim Dkhil, **Rajeev Ranjan**, and L. Bellaiche  
*“Quantum-fluctuation-stabilized orthorhombic ferroelectric ground state in lead-free piezoelectric  $(Ba,Ca)(Zr,Ti)O_3$ ”*  
**Phys. Rev. B** **98**, 104101 (2018)
47. Alisa R. Paterson , Hajime Nagata , Xiaoli Tan , John E. Daniels, Manuel Hinterstein , Rajeev Ranjan , Pedro B. Groszewicz, Alisa R. Paterson , Hajime Nagata , Xiaoli Tan , John E. Daniels , Manuel Hinterstein , **Rajeev Ranjan** , Pedro B. Groszewicz , Wook Jo , and Jacob L. Jones  
*Relaxor-ferroelectric transitions: Sodium bismuth titanate derivatives*  
**MRS Bulletin** (invited review) **43**, 600 (2018)
48. Anomitra Sil, M. H Naik, **Rajeev Ranjan** and P. S. Anil Kumar  
*Tuning the crystallographic orientation and magnetic properties of multiferroic CuO epitaxial film on single crystalline SrTiO<sub>3</sub> substrates*  
**J. Appl. Phys.** **124**, 085303 (2018)
49. Rishikesh Pandey, Bastola Narayan, Dipak Kumar Khatua, Shekhar Tyagi, Ali Mostaed, Mulualem Abebe, Vasant Sathe, Ian M. Reaney and **Rajeev Ranjan**  
*High electromechanical response in non-MPB piezoelectrics*  
**Phys. Rev. B** **97**, 224109 (2018)
50. Bastola Narayan, Jaskaran Singh Malhotra, Rishikesh Pandey, Krishna Yaddanapudi, Pavan Nukala, Brahim Dkhil, Anatoliy Senyshyn and **Rajeev Ranjan**  
*“Electrostrain in excess of 1% in polycrystalline piezoelectrics”*  
**Nature Materials** **17**, 427 (2018)
51. Naveen Kumar, Dipak Kumar Khatua, Bhoopesh Mahale and **Rajeev Ranjan**  
*“Factors influencing the coupling between non-180° domain switching and lattice strain in perovskite piezoceramics”*

**Phys. Rev. B** **97**, 134113 (2018)

52. Mulualem Abebe, Kumar Brajesh, Jaskaran Singh Malhotra, and **Rajeev Ranjan**  
*Rayleigh analysis of domain dynamics across temperature induced polymorphic phase transitions in the lead-free piezoelectric  $(1-x)(BaTi_{0.88}Sn_{0.12})TiO_3 - x(Ba_{0.7}Ca_{0.3})TiO_3$*   
**J. Phys. D:** Applied Physics **51**, 185601 (2018)

53. Dipak Kumar Khatua, Abhishek Agarwal and **Rajeev Ranjan**  
*Investigating the electrical conduction and relaxation phenomena in rare earth erbium doped lead free  $0.94Na_0.5Bi_0.5TiO_3-0.06BaTiO_3$  by impedance spectroscopy*  
**J. Appl. Phys.** **123**, 074102 (2018)

54. Amit Kumar, Bastola Narayan, Rohit Pachat, and **Rajeev Ranjan**  
*Magnetically induced enhancement of ferroelectric polarization in a bulk ferroelectric-ferromagnetic multiferroic composite*  
**Phys. Rev. B** **97**, 064103 (2018)

55. Dipak Kumar Khatua, Abhishek Agarwal, Naveen Kumar and **Rajeev Ranjan**  
 Probing local structure of the morphotropic phase boundary composition of  $Na_{1/2}Bi_{1/2}TiO_3-BaTiO_3$  using rare-earth photoluminescence as a technique  
**Acta Mater.** **145**, 429 (2018)

56. Arun Singh Chouhan , Eashwer Athresh **Rajeev Ranjan** Srinivasan Raghavan Sushobhan Avasthi  
 $BaBiO_3$  : A potential absorber for all-oxide photovoltaics  
**Materials Research Letters** **210** 218 (2018)

57. . E. T. Dias, K. R. Priolkar, **Rajeev Ranjan**, A. K. Nigam, and S. Emura  
 Mechanism of magnetostructural transformation in multifunctional  $Mn_3GaC$   
**J. Appl. Phys.** **122**, 103906 (2017)

58. Bhupesh Mahale, Rishikesh Pandey, Naveen Kumar and **Rajeev Ranjan**  
 Grain-size dependent electric-field induced structural changes and its role in determining the piezoelectric response of 0-3 piezoceramic-polymer composite  
**J. Appl. Phys.** **122**, 154105 (2017)

59. . Mulualem Abebe, Kumar Brajesh, and **Rajeev Ranjan**  
 Correlation between structure and Rayleigh parameters in the lead-free piezoceramic  $(1-x)Ba(Ti_{0.88}Sn_{0.12})O_3 - x(Ba_{0.7}Ca_{0.3})TiO_3$   
**J. Appl. Phys.** **122** 034101 (2017)

60. Mulualem Abebe, Kumar Brajesh, Anupam Mishra, Anatoliy Senyshyn, and **Rajeev Ranjan**  
 Structural perspective on the anomalous weak-field piezoelectric response at the polymorphic phase boundaries of  $(Ba, Ca)(Ti, M)O_3$  lead-free piezoelectrics ( $M = Zr, Sn, Hf$ )  
**Phys. Rev. B** **96**, 014113 (2017)

61. Ramanpreet Kaur, Diptikanta Swain, Dipak Dutta Kumar Brajesh, Priyank Singh, Aninda J. Bhattacharyya, **Rajeev Ranjan**, Chandrabhas Narayana, Jürg Hulliger, and Tayur N. Guru Row  
 Proton Conduction in a Quaternary Organic Salt: Its Phase Behavior and Related Spectroscopic Studies  
**J. Phys. Chem. C** **121** 18317 (2017)

62. Anomitra Sil, P. S. Anil Kumar, **Rajeev Ranjan**  
 Tuning the magnetic characteristics of epitaxial BiFeO<sub>3</sub> films using structural control  
**Thin Solid Films** **642**, 117 (2017)
63. Anomitra Sil, Aditya A Wagh, Deepak Sharma, **Rajeev Ranjan** and P. S. Anil Kumar,  
 On the inter-layer magneto-electric coupling in BiFeO<sub>3</sub> /SrRuO<sub>3</sub> heterostructure  
**Applied Phys. Lett.** **111**, 102902 (2017)
64. Dipak Kumar Khatua,, Tarang Mehrotra, Anupam Mishra, Bhaskar Majumdar, Anatoliy Senyshyn  
 and **Rajeev Ranjan**  
 Anomalous influence of grain size on the global structure, ferroelectric and piezoelectric response of  
 Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>  
**Acta Materialia** **134**, 177 (2017)
65. Vitaly Yu. Topolov, Kumar Brajesh, **Rajeev Ranjan**, and Anatoly E. Panich  
 Plausible domain configurations and phase contents in two- and three-phase BaTiO<sub>3</sub>-based lead-free  
 ferroelectrics  
**J. Phys. D: Appl. Phys.** **50**, 065307 (2017)
66. Anupma Mishra, Bhaskar Majumdar and **Rajeev Ranjan**  
 A complex lead-free (Na, Bi, Ba)(Ti, Fe)O<sub>3</sub> single phase perovskite ceramic with a high energy-density  
 and high discharge-efficiency for solid state capacitor applications  
**J. Eur. Ceram. Soc.** **37**, 2379 (2017)
67. Bastola Narayan, Sangeeta Adhikari, Giridhar Madras, and **Rajeev Ranjan**  
 Trapping a Metastable Ferroelectric Phase by Size Reduction in Semiconducting  
 Ferroelectric BiFeO<sub>3</sub>-PbTiO<sub>3</sub> and Its Implications for Photocatalytic Response  
**Phys. Rev. Appl.** **7**, 024108 (2017)
68. Kumar Brajesh, Mulualem Abebe, and **Rajeev Ranjan**  
 Structural transformations in morphotropic-phase-boundary composition of the lead-free piezoelectric  
 system Ba(Ti<sub>0.8</sub>Zr<sub>0.2</sub>)O<sub>3</sub> – (Ba<sub>0.7</sub>Ca<sub>0.3</sub>)TiO<sub>3</sub>  
**Phys. Rev. B** **94**, 104108 (2016)
69. Bastola Narayan, Y. A. Sorb, B. Loukya, Atanu Samanta, Anatoliy Senyshyn, Ranjan Datta,  
 Abhishek Kumar Singh, Chandrabhas Narayana, and **Rajeev Ranjan**  
 Interferroelectric transition as another manifestation of intrinsic size effect in ferroelectrics  
**Phys. Rev. B** **94**, 104104 (2016)
70. Vitaly Yu. Topolov, Kumar Brajesh, **Rajeev Ranjan**  
 Composition driven ferroelectric transformations in lead-free Ba(Ti<sub>1-x</sub>Ce<sub>x</sub>)O<sub>3</sub> (0.02 <x <0.10)  
**Materials Chemistry and Physics** **179**, 152 (2016)
71. . Abhisek Basu, Rajesh Jana, **Rajeev Ranjan**, and Goutam Dev Mukherjee  
 Pressure effects on model ferroelectric BiFeO<sub>3</sub>-PbTiO<sub>3</sub>: Multiple phase transitions  
**Phys. Rev. B** **93**, 214114 (2016)
72. Anupama Gaur, Rahul Shukla, Kumar Brajesh, Arkadeb Pal, Sandeep Chatterji, **Rajeev Ranjan**,  
 Pralay Maiti

Processing and nanoclay induced piezoelectricity in poly(vinylidene fluoride-co-hexafluoro propylene) nanohybrid for device application

**Polymer** **97**, 362 (2016)

73. Dipak Kumar Khatua, Anatoliy Senyshyn and **Rajeev Ranjan**

Long-ranged modulated structure and electric field induced structural transformation in  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ -based lead-free piezoelectrics

**Phys. Rev. B** **93**, 134106 (2016) 32

74. Badari Narayana Rao, Anatoliy Senyshyn, Luca Olivi, Vasant Sathe, **Rajeev Ranjan**

Maintaining local displacive disorders in  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  piezoceramics by  $\text{K}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  substitution  
**J. Eur. Ceram. Soc.** **36**, 1961 (2016)

75. Badari Narayana Rao, Luca Olivi, Vasant Sathe, and **Rajeev Ranjan**

Electric field and temperature dependence of the local structural disorder in the lead-free ferroelectric  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ : An EXAFS study

**Phys. Rev. B** **93**, 024106 (2016)

76. Dipak Kumar Khatua, Abhijeet Kalaskar, and **Rajeev Ranjan**

Tuning photoluminescence response by electric field in electrically soft ferroelectrics

**Phys. Rev. Lett.** **116**, 117601 (2016)

77. Dipak Kumar Khatua, Lalitha K. V., Chris M. Fancher, Jacob L. Jones, and **Rajeev Ranjan**

Anomalous reduction in domain wall displacement at the morphotropic phase boundary of the piezoelectric alloy system  $\text{PbTiO}_3\text{-BiScO}_3$

**Phys. Rev. B** **93**, 104103 (2016)

78. K. V. L. V. Narayanachari, Hareesh Chandrasekar, Amiya Banerjee, K. B. R. Varma,

**Rajeev Ranjan**, Navakanta Bhat, and Srinivasan Raghavan

Growth stress induced tunability of dielectric permittivity in thin films

**J. Appl. Phys.** **119**, 014106 (2016)

79. Kumar Brajesh, Khagesh Tanwar, Mulualem Abebe and **Rajeev Ranjan**

Relaxor ferroelectricity and electric field induced structural transformation in the giant lead-free piezoelectric  $(\text{Ba,Ca})(\text{Ti, Zr})\text{O}_3$

**Phys. Rev. B** **92**, 224112 (2015)

80. V. Y. Topolov, Badari Narayana Rao, Rohini Garg and **Rajeev Ranjan**

Interrelationship between interphase boundaries and phase content near the critical compositions of lead-free ferroelectric  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3\text{-BaTiO}_3$

**Ferroelectrics** **482**, 22 (2015)

81. Lalitha K V, Chris M. Fancher, Jacob L. Jones and **Rajeev Ranjan**

Field induced domain switching as the origin of anomalous lattice strain along non-polar direction in rhombohedral  $\text{BiScO}_3\text{-PbTiO}_3$  close to the morphotropic phase boundary

**Appl. Phys. Lett.** **107**, 052901 (2015)

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