

Selected Papers (last 5 Years):

1. Gaurav Gupta, S.Bysakh, S. Balaji, S. Khan, K. Biswas, Amarnath R. Allu, and K. Annapurna, Influence of Ho_2O_3 on Optimizing Nanostructured $\text{Ln}_2\text{Te}_6\text{O}_{15}$ anti-glass Phases to Attain Transparent TeO_2 -based Glass-ceramics for Mid-IR Photonic Applications, *Adv. Eng. Mater.* **2020**, [1901357](#)
2. S. R. Keshri, V.V. Bodewad, A. A. Jagtap, N.Nasani, S.Balaji, K. Annapurna, Amarnath R. Allu, Influence of NaF on the ionic conductivity of sodium aluminophosphate glass electrolytes, *Mater. Lett.* **271 (2020)** [127763](#)
3. SakthiPrasad, AnuradhaJana, ShashiKant, P.K.Sinha, SuchetaTripathy, KavyaIllath, T.G.Ajithkumar, K.Annapurna, AmarnathR.Allu, K. Biswas, Elucidating the effect of CaF_2 on structure, biocompatibility and antibacterial properties of S53P4 glass, *J. Alloy. Comp.*, **831(5) 2020**, [154704](#)
4. P. Ranjith, S. Sreevalsa, J.Tyagi, K. Jayanthi, G. Jagannath, Pritha Patra, S. Ahmad, K. Annapurna, A. R. Allu, S. Das, Elucidating the structure and optimising the photoluminescence properties of $\text{Sr}_2\text{Al}_3\text{O}_6\text{F}:\text{Eu}^{3+}$ oxyfluorides for cool white-LEDs, *J. Alloy. Comp.* **826 (2020)** [154015](#)
5. G. Jagannath, B. Eraiah, K. Jayanthi, S. R.Keshri, S.Som, G. Vinitha, A.G. Pramod, K.N. Krishnakanth, G. Devarjulu, S. Balaji, S. V. Rao, K. Annapurna, S. Das, A. R. Allu, Influence of Gold Nanoparticles on Nonlinear Optical and Photoluminescence Properties of Eu_2O_3 Doped Alkali Borate Glasses, *Physical Chemistry Chemical Physics (2019)* DOI: [10.1039/C9CP05783H](#)
6. Sakthi Prasad, A.Gaddam, A. Jana, Shashi Kant, P. K. Sinha, S.Tripathy, K. Annapurna, JoséM. F. Ferreira, A. R. Allu, K. Biswas, Structure and Stability of High CaO- and P2O5-Containing Silicate and Borosilicate Bioactive Glasses, *The J. Phys. Chem. B*, **123 (35) 2019**, [7558-7569](#)
7. Gaurav Gupta, S. Balaji, K. Biswas, K. Annapurna, Enhanced luminescence at 2.88 and 2.04 μm from $\text{Ho}^{3+}/\text{Yb}^{3+}$ codoped low phonon energy $\text{TeO}_2-\text{TiO}_2-\text{La}_2\text{O}_3$ glass, *AIP Advances*, **9, (2019)** [045201](#)
8. Shuvamoy Bindai, Annapurna Kalyandurg, Anal Tarafder, Realization of phosphor-in-glass thin film on soda-lime silicate glass with low sintering temperature for high color rendering white LEDs, *Appl. Optics* **58(9), (2019)** [2372](#)
9. J. Ganaga, E. Bheemaiah, A. Gaddam, Hugo R. Fernandes, D. Brazete, J. Kumar, K. N. Krishnakanth, S. V. Rao, José M. F. Ferreira, K. Annapurna, and A. R. Allu, Structural and Femtosecond Third-Order Nonlinear Optical Properties of Sodium Borate Oxide Glasses: Effect of Antimony, *J. Phys. Chem. C*, **123(9), (2019)** [5591](#)
10. Gaurav Gupta, S. Balaji, K. Biswas, K. Annapurna, Frequency upconversion mechanism in $\text{Ho}^{3+}/\text{Yb}^{3+}$ -codoped $\text{TeO}_2-\text{TiO}_2-\text{La}_2\text{O}_3$ glasses, *Appl. Phys. B* **125(2) (2019)** [7139](#)
11. Sakthi Prasad S., S. Datta, T. Adarsh, P. Diwan, K. Annapurna, B. Kundu, K. Biswas, Effect of boron oxide addition on structural, thermal, in vitro bioactivity and antibacterial properties of bioactive glasses in the base S53P4 composition, *J. Non-Cryst. Solids*, **498 (2018)** [204](#)
12. Akila G.Prabhudessai, S.Balaji, K. Biswas, R. Dasgupta, P. Sarkar, K.Annapurna, Correlation between Raman spectroscopy and mechanical properties of As-Sb-S-I chalcogenide glasses, *J. Non-Cryst.Solids*, **507(1) (2019)** [56](#)
13. A. R. Allu, S. Balaji, K. Illath, C. Hareendran, T. G. Ajithkumar, K. Biswas, K. Annapurna, UndeStructural elucidation of NASICON $\text{Na}_3\text{Al}_2\text{P}_3\text{O}_{12}$ based glass electrolyte materials: effectiveinfluence of boron and gallium, *RSC Advances* **8(26) (2018)** [14422](#)
14. Gaurav Gupta, S. Balaji, K. Biswas, K. Annapurna, Mid-IR transparent $\text{TeO}_2-\text{TiO}_2-\text{La}_2\text{O}_3$ glass and its crystallization behavior for photonic applications, *J. Am. Ceram. Soc.*, **101 (2018)** [3900](#)
15. A. R. Allu, S.Balaji, K. Annapurna, Electrical and mechanical properties of $\text{Na}_2.8\text{Ca}_0.1\text{Al}_2\text{Ga}_0.5\text{P}_2.7\text{O}_{12}$ glass based electrolyte materials: Influence of Ag^+ ion-exchange, *J. Non-Cryst. Solids*, **498 (15) (2018)** [323](#)
16. Debarati Ghosh, K. Biswas, S. Balaji, K. Annapurna, Realization of warm white light from Ce-Eu-Tb doped zinc fluoroboro silicate glass for lighting applications, *J. Alloy. Comp.* **747 (2018)** [242](#)

17. Sakthi Prasad S, I. Ratha, T. Adarsh, A. Anand, P. K. Sinha, P. Diwan, K. Annapurna, K. Biswas , In vitro bioactivity and antibacterial properties of bismuth oxide modified bioactive glasses, J. Mater. Res., **33** (2) (2018) 178
18. Debarati Ghosh, S. Balaji, K. Biswas, K. Annapurna, Spectral downshifting in Cr³⁺-Yb³⁺-Nd³⁺ doped Ba-Al metaphosphate glass: Role of Nd³⁺ as bridging ion, Mater. Chem. Phys., **202** (1) (2017), 302
19. K. Biswas, P. Karmakar, S. Balaji, Gaurav Gupta, Debarati Ghosh, K. Annapurna, Structural modification associated with Al₂O₃ addition in oxyfluoride glasses: Thermal and mechanical properties, J Am Ceram Soc., **100**, (2017), 5490
20. Akila G. Prabhudessai, S. Balaji, K. Biswas, R. Dasgupta, P. Sarkar, K. Annapurna, Role of iodine in broadening the optical window of As—Sb—S—I chalcogenide glass system, J. Non-Cryst. Solids, **470**, (2017), 47
21. S. Balaji, D. Ghosh, K. Biswas, A. R. Allu, G. Gupta, K. Annapurna, Insights into Er³⁺↔Yb³⁺ energy transfer dynamics upon infrared ~1550 nm excitation in a low phonon fluoro-tellurite glass system, J. Lumin. **187**, (2017), 441
22. S. Balaji, A. R. Allu, K. Biswas, G. Gupta, D. Ghosh, K. Annapurna, Bandwidth enhancement of MIR emission in Yb³⁺/Er³⁺/Dy³⁺ triply doped fluoro-tellurite glass, Laser Phys. Lett., **14** (3), (2017), 035804
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24. Kaushik Biswas, S. Balaji, Debarati Ghosh, K. Annapurna, Enhanced near-infrared to green upconversion from Er³⁺-doped oxyfluoride glass and glass ceramics containing BaGdF₅ nanocrystals, Int J Appl Glass Sci., **8** (2017), 204
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27. S. Balaji, Gaurav Gupta, K. Biswas, Debarati Ghosh, K. Annapurna, Role of Yb³⁺ ions on enhanced ~2.9 μm emission from Ho³⁺ ions in low phonon oxide glass system, Scientific Reports, **6**, (2016), Article number: 29203
28. Debarati Mukherjee, Sourja Ghosh, S. Majumdar, K. Annapurna, Green synthesis of α-Fe₂O₃ nanoparticles for arsenic(V) remediation with a novel aspect for sludge management, J. Environmental Chemical Engineering, **4** (1), (2016), 639
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31. Kaushik Biswas, S. Balaji, Prantik Karmakar, K. Annapurna, Formation and spectral probing of transparent oxyfluoride glass-ceramics containing (Eu²⁺, Eu³⁺:BaGdF₅) nano-crystals, Opt. Mater., **39**, (2015), 153