PUBLICATIONS

Google Scholar Citation	Index
Total Citations	**1710**
h-index	**24**
i10-index	**46**

(i) Publications in International Journals

1. S Sinha, MK Mahata, K Kumar, 'Enhancing Upconversion Luminescence Properties of Er3+-Yb3+ Doped Yttrium Molybdate through Mg2+ Incorporation: Effect of Laser Excitation Power on Temperature Sensing and Heat …' New Journal of Chemistry, 43 (2019) 5960
2. PP Sukul, MK Mahata, UK Ghorai, K Kumar, 'Crystal phase induced upconversion enhancement in Er3+/Yb3+ doped SrTiO3 ceramic and its temperature sensing studies' Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 212 (2019) 78-8
3. A. Kumar, S. P. Tiwari, **K. Kumar**, and Joaquim CG Esteves da Silva. "Magnetic tuning in upconversion emission enhanced through Ag^{+} ions co-doped in GdF_3: Ho^{3+}/Yb^{3+} phosphor and a real-time temperature sensing demonstration." Journal of Alloys and Compounds (2018). **IF: 3.2**
4. S. K. Maurya, S. P. Tiwari, A. Kumar, and **K. Kumar**. "Plasmonic enhancement of upconversion emission in $Ag@NaYF_4:Er^{3+}/Yb^{3+}$ phosphor." Journal of Rare Earths (2018). **IF: 2.5**
5. A. Kumar, M. H. M Couto, S. P. Tiwari, **K. Kumar**, and Joaquim CG Esteves da Silva. "Effect of pH of Precursor on Up/Downconversion and Cathodoluminescence of $Gd_2O_3:Ho^{3+}/Yb^{3+}$ Phosphor and Magneto-Optic Studies." Chemistry Select 3, no. 38 (2018): 10566-10573. **IF: 1.5**
6. A. Kumar, S. P. Tiwari, J. C. G. E. da Silva, and **K. Kumar**. "Security writing application of thermal decomposition assisted $NaYF_4$: Er^{3+}/Yb^{3+} upconversion phosphor." Laser Physics Letters 15, no. 7 (2018): 075901. **IF: 2.2**
7. A. Kumar, S. P. Tiwari, A. Sardar, **K. Kumar**, and J. C. G E. da Silva. "Role of Ca^{2+} co-dopants on structural and optical properties of $YF_3:Tm^{3+}/Yb^{3+}$ upconversion phosphor for improved optical thermometry." Sensors and Actuators A: Physical 280 (2018): 179-187. **IF: 2.3**
8. S. Sinha and **K. Kumar**. "Studies on up/down-conversion emission of Yb^{3+} sensitized Er^{3+} doped $MLa_2(MoO_4)_4$ (M= Ba, Sr and Ca) phosphors for thermometry and optical heating." Optical Materials 75 (2018): 770-780. **IF: 2.8**
9. S. Sinha, A. Mondal, **K. Kumar**, and H. C. Swart. "Enhancement of upconversion emission and temperature sensing of paramagnetic $Gd_2Mo_3O_9$:

Er^{3+}/Yb^{3+} phosphor via Li^{+}/Mg^{2+} co-doping." Journal of Alloys and Compounds 747 (2018): 455-464. **IF: 3.2**

10. S. Sinha, M. K. Mahata, and **K. Kumar**. "Comparative thermometric properties of bi-functional Er^{3+}–Yb^{3+} doped rare earth (RE= Y, Gd and La) molybdates." Materials Research Express 5, no. 2 (2018): 026201. **IF: 1.2**
11. S. P. Tiwari, A. Kumar, S. Singh, and **K. Kumar**. "Synthesis, characterization and optical study of $CaYAl_3O_7$: Eu^{3+} phosphors for lighting application." Vacuum 146 (2017): 537-541. **IF: 2.1**
12. S. Sinha, M. K. Mahata, H. C. Swart, A. Kumar, and **K. Kumar**. "Enhancement of upconversion, temperature sensing and cathodoluminescence in the K^{+}/Na^{+} compensated $CaMoO_4$: Er^{3+}/Yb^{3+} nanophosphor." New Journal of Chemistry 41, no. 13 (2017): 5362-5372. **IF: 3.3**
13. P. P. Sukul, and **K. Kumar**. "Upconversion emission and phase transformation study in Yb^{3+}/Er^{3+} doped $SrTiO_3$ ceramics." Ferroelectrics 517, no. 1 (2017): 113-117. **IF: 0.77**
14. S. Sinha, M. K. Mahata, **K. Kumar**, S. P. Tiwari, and V. K. Rai. "Dualistic temperature sensing in Er^{3+}/Yb^{3+} doped $CaMoO_4$ upconversion phosphor." Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 173 (2017): 369-375. **IF: 2.9**
15. P. P. Sukul, M. K. Mahata, and **K. Kumar**. "NIR optimized dual mode photoluminescence in Nd doped Y_2O_3 ceramic phosphor." Journal of Luminescence 185 (2017): 92-98. **IF: 2.69**
16. S. Sinha, M. K. Mahata, and **K. Kumar**. "Up/down-converted green luminescence of Er^{3+}–Yb^{3+} doped paramagnetic gadolinium molybdate: a highly sensitive thermographic phosphor for multifunctional applications." RSC Advances 6, no. 92 (2016): 89642-89654. **IF: 3.29**
17. R. Dey, V. K. Rai, and **K. Kumar**. "Er^{3+}-Tm^{3+}-Yb^{3+} tri-doped $CaMoO_4$ upconverting phosphors in optical devices applications." Solid State Sciences 61 (2016): 185-194. **IF: 1.9**
18. M. K. Mahata, T. Koppe, **K. Kumar**, H. Hofsäss, and U. Vetter. "Demonstration of temperature dependent energy migration in dual-mode YVO_4:Ho^{3+}/Yb^{3+} nanocrystals for low temperature thermometry." Scientific reports 6 (2016): 36342. **IF: 5.2**
19. P. P. Sukul, and **K. Kumar**. "Near-infrared (808 and 980 nm) excited photoluminescence study in Nd-doped Y_2O_3 phosphor for bio-imaging." Methods and applications in fluorescence 4, no. 4 (2016): 044005.
20. P. P. Sukul and **K. Kumar**. "A fruitful demonstration in sensors based on upconversion luminescence of Yb^{3+}/Er^{3+} codoped Sb_2O_3-WO_3-Li_2O (SWL) glass-ceramic." Materials Research Express 3, no. 7 (2016): 076207.
21. A. Kumar, S. P. Tiwari, A. K. Singh, and **K. Kumar**. "Synthesis of Gd_2O_3: Ho^{3+}/Yb^{3+} upconversion nanoparticles for latent fingermark detection on difficult surfaces." Applied Physics B 122, no. 7 (2016): 190.
22. A. Kumar, S. P. Tiwari, **K. Kumar**, and V. K. Rai. "Structural and optical properties of thermal decomposition assisted Gd_2O_3:Ho^{3+}/Yb^{3+} upconversion

phosphor annealed at different temperatures." Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 167 (2016): 134-141. **IF: 2.9**

23. M. K. Mahata, T. Koppe, H. Hofsäss**, K. Kumar**, and U. Vetter. "Host sensitized luminescence and time-resolved spectroscopy of YVO_4: Ho^{3+} nanocrystals." Physics Procedia 76 (2015): 125-131.
24. S. P. Tiwari, **K. Kumar**, and V. K. Rai. "Latent fingermarks detection for La_2O_3:Er^{3+}/Yb^{3+} phosphor material in upconversion emission mode: A comparative study." Journal of Applied Physics 118, no. 18 (2015): 183109.
25. S. P. Tiwari, M. K. Mahata, **K. Kumar**, and V. K. Rai. "Enhanced temperature sensing response of upconversion luminescence in ZnO–$CaTiO_3$: Er^{3+}/Yb^{3+} nano-composite phosphor." Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 150 (2015): 623-630. **IF: 2.9**
26. S. P. Tiwari, **K. Kumar**, and V. K. Rai. "Plasmonic enhancement in upconversion emission of La_2O_3:Er^{3+}/Yb^{3+} phosphor via introducing silver metal nanoparticles." Applied Physics B 121, no. 2 (2015): 221-228. **IF: 2.2**
27. S. Sinha, S. P. Tiwari, **K. Kumar**, and V. K. Rai. "Synthesis and Upconversion Emission Study of Tm^{3+}/Yb^{3+} Co-Doped $CaMoO_4$ Nano-Phosphor." Advanced Science Letters 21, no. 8 (2015): 2603-2605.
28. M. K. Mahata, **K. Kumar**, and V. K. Rai. "Er^{3+}–Yb^{3+} doped vanadate nanocrystals: a highly sensitive thermographic phosphor and its optical nanoheater behavior." Sensors and Actuators B: Chemical 209 (2015): 775-780. **IF: 5.67**
29. M. K. Mahata, T. Koppe, T. Mondal, C. Brüsewitz, **K. Kumar**, V. K. Rai, H. Hofsäss, and U. Vetter. "Incorporation of Zn^{2+} ions into $BaTiO_3$:Er^{3+}/Yb^{3+} nanophosphor: an effective way to enhance upconversion, defect luminescence and temperature sensing." Physical Chemistry Chemical Physics 17, no. 32 (2015): 20741-20753. **IF: 3.9**
30. A. Pandey, S. Som, V. Kumar, V. Kumar, **K. Kumar**, V. K. Rai, and H. C. Swart. "Enhanced upconversion and temperature sensing study of Er^{3+}–Yb^{3+} codoped tungsten–tellurite glass." Sensors and Actuators B: Chemical 202 (2014): 1305-1312.
31. M. K. Mahata, S. P. Tiwari, S. Mukherjee, **K. Kumar**, and V. K. Rai. "YVO_4: Er^{3+}/Yb^{3+} phosphor for multifunctional applications." JOSA B 31, no. 8 (2014): 1814-1821.
32. A. K., V. K. Rai, and **K. Kumar**. "Yellow–orange upconversion emission in Eu^{3+}–Yb^{3+} codoped $BaTiO_3$ phosphor." Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 127 (2014): 98-101.
33. V. K. Singh, V. Kumar, J. Sharma, Y. Khajuria, and **K. Kumar**. "Importance of laser induced breakdown spectroscopy for biomedical applications: a comprehensive review." Materials Focus 3, no. 3 (2014): 169-182.
34. S. P. Tiwari, A. K. Singh, and **K. Kumar**. "Probing Er^{3+}/Yb^{3+} Doped La_2O_3 Upconversion Nano-Phosphor as Luminescent Device." Energy and Environment Focus 3, no. 2 (2014): 175-178.

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36. A. K. Singh, **K. Kumar**, and S. B. Rai. "Upconversion studies in rare earth ions-doped lanthanide materials." Pramana 82, no. 2 (2014): 409-412.
37. A. Pandey, V. K. Rai, and **K. Kumar**. "Influence of Li^{+} codoping on visible emission of Y_2O_3: Tb^{3+}, Yb^{3+} phosphor." Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 118 (2014): 619-623.
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40. A. P., V. K. Rai, R. Dey, and **K. Kumar**. "Enriched green upconversion emission in combustion synthesized Y_2O_3: Ho^{3+}–Yb^{3+} phosphor." Materials Chemistry and Physics 139, no. 2-3 (2013): 483-488.
41. A. K. Singh, **K. Kumar**, A. C. Pandey, S. B. Rai, and D. Kumar. "Multi-phonon assisted upconversion emission and power dependence studies in LaF_3:Er^{3+} phosphor." Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 106 (2013): 236-241.
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(ii) Publications in national/international proceedings papers

1. P. P. Sukul, and **K. Kumar**. "Photoluminescence study of Yb^{3+}/Er^{3+} co-doped Sb_2O_3-WO_3-Li_2O (SWL) ceramic phosphor for fingerprint detection in forensic science and security writing." In Optical Materials and Biomaterials in Security and Defence Systems Technology XV, vol. 10801, p. 108010E. International Society for Optics and Photonics, 2018.
2. S. K. Maurya, S. P. Tiwari, A. Kumar, and **K. Kumar**. "Latent fingermark detection for $NaYF_4$: Er^{3+}/Yb^{3+} upconversion phosphor synthesized by thermal decomposition route." In AIP Conference Proceedings, vol. 1942, no. 1, p. 050051. AIP Publishing, 2018.
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10. S. P. Tiwari, **K. Kumar**, and V. K. Rai. "Thermal decomposition assisted synthesis and upconversion property of Fe_3O_4@YPO_4: Tm/Yb hybrid nano-composite phosphor." In AIP Conference Proceedings, vol. 1665, no. 1, p. 050094. AIP Publishing, 2015.
11. A. K. Singh, **K. Kumar**, S. B. Rai, and D. K. Rai. "Upconversion studies in Gd_2O_3: Tm^{3+}/Yb^{3+} phosphor." In AIP Conference Proceedings, vol. 1536, no. 1, pp. 889-890. AIP, 2013.
12. A. Kumari, M. K. Mahata, V. K. Rai, and **K. Kumar**. "Upconversion emission studies of Er^{3+}, Yb^{3+} doped yttrium oxide phosphor." In

Proceedings of the national conference on advances in lasers and spectroscopy. 2012.

(iii) Publications in book chapters

1. Tiwari, S. P., A. Kumar, and **K. Kumar**. "Upconversion phosphor materials for beginners: synthesis and applications." Research Frontiers in Sciences (2016): 23-42.
2. **K. Kumar**, A. K. Singh, and A. C. Pandey, (2012), Photoacoustic Spectroscopy and Its Applications in Characterization of Nanomaterials, in Nanomaterials: Processing and Characterization with Lasers (eds S. C. Singh, H. Zeng, C. Guo and W. Cai), WileyVCH Verlag GmbH & Co. KGaA, Weinheim, Germany. doi: 10.1002/9783527646821.ch10.
3. **K. Kumar**, L. Sanguigno, F. Caussa, P. A. Netti, (2012), Fluorescence correlation spectroscopy of nano-materials In Book „Nanomaterials: Processing and Characterization with Lasers, (eds S. C. Singh, H. Zeng, C. Guo and W. Cai), WileyVCH Verlag GmBH, Germany.
4. **K. Kumar**, P. K. Singh, A. K. Singh and Avinash C. Pandey (2012), Rare-earths Doped Upconversion Materials: Synthesis, Characterization and Applications to Biosensing, In book "Synthesis, characterization and applications of Smart materials". Nova Science Publishers, USA, expected publication.
5. R. P. Singh, **K. Kumar**, Jeong-Woo and A. C. Pandey, (2012), Synthesis, characterization of Metal oxide based nanomaterials and its application in Biosensing, In book "Synthesis, characterization and applications of Smart materials".Nova Science Publishers, USA, expected publication.
6. S. K. Singh, N. K. Giri, Y. Dwivedi, **K. Kumar**, S. B. Rai Book Chapter: Spectroscopy and applications of combustion synthesized multifunctional nanophosphor, In Emerging Trends in Laser & Spectroscopy and Applications By A. K. Rai, I. M. L. Das, K. N. Uttam, University of Allahabad. Physics Dept, Allied Publishers, 2010.

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