

Publications

2019

1. Surfactant mediated solvothermal synthesis of CuSbS₂ nanoparticles as p-type absorber material, Bincy John, G. Genifer Silvena, Shamima Hussain, M. C. Santhosh Kumar & A. Leo Rajesh, *Indian Journal of Physics*, Indian J Phys., 93, 185-195
2. Properties of Au incorporated In₂O₃ films, Reshmi Krishnan, R., Kavitha, V.S., Santhosh Kumar, M.C., Gopchandran, K.G., Mahadevan Pillai, V.P, *Materials Science in Semiconductor Processing*, 93, 134-147

2018

3. Effect of Substrate Temperature and Oxygen Partial Pressure on RF Sputtered NiO thin films, Saheer Cheemadan, M.C. Santhosh Kumar, *Materials Research Express*, 5, 046401
4. Effect of Zn/Sn molar ratio on the microstructural and optical properties of Cu₂Zn_{1-x}Sn_xS₄ thin films prepared by spray pyrolysis technique, S Thiruvankadam, S Prabhakaran, Sujay Chakravarty, V Ganesan, Vasant Sathe, MC Santhosh Kumar, A Leo Rajesh, *Physica B: Condensed Matter*, 533, 22–27
5. Post-deposition thermal treatment of sprayed ZnO:Al thin films for enhancing the conductivity, Sebin Devasia, EI. Anila, M.C. Santhosh Kumar, *Physica B: Condensed Matter*, 533, 83–89
6. An investigation on the In doping of ZnO thin films by spray pyrolysis, Devika Mahesh, and M. C. Santhosh Kumar, *AIP Conference Proceedings* 1942, 080049 (2018); doi: 10.1063/1.5028883

2017

7. Control of exposure to hexavalent chromium concentration in shielded metal arc welding fumes by nano-coating of electrodes, S.P. Sivapirakasam, Sreejith Mohan, Ashley Thomas Paul, M.C. Santhosh Kumar, M. Surianarayanan, *International Journal of Occupational and Environmental Health*, 23, 128-142
8. Effect of Nb doping on the structural, morphological, optical and electrical properties of RF magnetron sputtered In₂O₃ nanostructured films, R. Reshmi Krishnan, Radhakrishna Prabhu, M. C. Santhosh Kumar, C. Sudarsanakumar and V. P.Mahadevan Pillai, *Phys. Status Solidi C* 14, 1600095, Impact Factor: 0.83
9. Role of oxygen interstitial defects in fabrication of UV photodiodes using vertically aligned (Al,Ga):ZnO nanowires, R. Amiruddin, M.C. Santhosh Kumar, *Nanosci. Nanotechnol. Lett.* 9, 488–494, Impact Factor: 1.007
10. Modeling of Fume Formation from Shielded Metal Arc Welding Process, S.P. Sivapirakasam, Sreejith Mohan, M.C. Santhosh Kumar, M. Surianarayanan, *Metallurgical and Materials Transactions B*, DOI: 10.1007/s11663-016-0904-6
11. Deposition rate dependant formation and properties of Sn₂S₃ and SnS thin films by co-evaporation, T. Srinivasa Reddy;M. C. Santhosh Kumar; S. Shaji, *Mater. Res. Express* 4 ,046404
12. Room temperature deposition of highly crystalline Cu-Zn-S thin films for solar cell applications using SILAR method, Edwin Jose, M.C. Santhosh Kumar, *Journal of Alloys and Compounds*, 712, 649-656

13. High-speed photoresponse properties of ultraviolet (UV) photodiodes using vertically aligned Al:ZnO nanowires, R. Amiruddin, M.C. Santhosh Kumar, *Phys. Status Solidi A*, 214, 1600658
14. Solution Processed p-Type Cu₂ZnSnS₄ Thin Films for Absorber Layer, G. Genifer Silvena¹ · Bincy John, R. Anne Sarah Christinal, M. C. Santhosh Kumar, Sujay Chakravarty, A. Leo Rajesh, *J Inorg Organomet Polym*, 27, Issue 5, 1556, Impact Factor – 1.55
15. Effect of annealing on the optical properties and photoconductivity of SnS thin film, T. Srinivasa Reddy, B. Hemanth Kumar and M. C. Santhosh Kumar, *AIP Conference Proceedings* 1832, (2017); 080043, doi: 10.1063/1.4980503

2016

16. Effect of surfactant addition on hydrophilicity of ZnO-Al₂O₃ composite and enhancement of flow boiling heat transfer, C.S. Sujith Kumar, S. Suresh, A.S. Praveen, M.C. Santhosh Kumar, Vishakh Gopi, *Experimental Thermal and Fluid Science*, 70, 325-334, Impact factor: 1.990 ISSN: 0894-1777
17. Highly transparent conducting CdO thin films by R.F. Magnetron sputtering for Optoelectronic applications, Saheer Cheemadan, R. Amiruddin, M.C. Santhosh Kumar, *J. Nanophoton.* 10(3), 033007, doi: 10.1117/1.JNP.10.033007, Impact factor: 1.686, E-ISSN: 1934-2608
18. Effect of substrate temperature on the physical properties of co- evaporated Sn₂S₃ thin films, T. Srinivasa Reddy, M.C. Santhosh Kumar, *Ceramics International* 42, 12262–12269, Impact factor: 2.758, ISSN: 0272-8842
19. Role of p-NiO electron blocking layers in fabrication of (P-N):ZnO/Al:ZnO UV photodiodes, R. Amiruddin, M.C. Santhosh Kumar, *Current Applied Physics* 16 , 1052- 1061, Impact factor: 2.144 ISSN: 1567-1739
20. Co-evaporated SnS thin films for visible light photodetector applications, T. Srinivasa Reddy, M.C. Santhosh Kumar, *RSC Adv.*, 6, 95680, Impact factor: 3.289
21. Room-temperature wide-range luminescence and structural, optical, and electrical properties of SILAR deposited Cu-Zn-S nanostructured thin films, Edwin Jose and M.C. Santhosh Kumar, *Proc. of SPIE*, Vol. 9929, (2016) 992917, doi: 10.1117/12.2236883
22. Pool boiling heat transfer enhancement using nano-CuO coating, Albin Joseph, Sreejith Mohan, Arun Mathew, S. P. Sivapirakam, M.C. Santhosh Kumar, M. Surianarayanan, *Proceedings of international conference on green technologies and energy efficiency, Sakarya, Turkey, 28th Sep- 1st Oct 2016*, page 15-19, ISBN 978-605-83155-0-1

2015

23. Flow boiling heat transfer enhancement on copper surface using Fe doped Al₂O₃-TiO₂ composite coatings, C.S. Sujith Kumar, S. Suresh C.R, Aneesh, M.C. Santhosh Kumar, A.S. Praveen, K. Raji, *Applied Surface Science* 334 , 102–109, Impact factor: 2.711, ISSN: 0169-4332
24. Investigation on P-N dual acceptor doped p-type ZnO thin films and subsequent growth of pencil-like nanowires, R. Amiruddin, Sebin Devasia, K. Mohammedali, M.

- C. Santhosh Kumar, *Semicond. Sci. Technol.* 30, 035009-035019, Impact factor: 2.190, ISSN: 0268-1242
25. Welding fumes reduction by coating of nano-TiO₂ on electrodes, Sreejith Mohan, S.P. Sivapirakasam, M.C. Santhosh Kumar, M. Surianarayanan, *Journal of Materials Processing Technology* 219, 237–247, Impact factor: 2.236, ISSN: 0924-0136
 26. Growth and characterization of near white light emitting Al-Ga:ZnO nanowires, R. Amiruddin, M.C. Santhosh Kumar, *Mater. Res. Express* 2, 075004, ISSN: 2053-1591
 27. Deposition and Characterization of Cu₂SnS₃ Thin Films by Co-evaporation for photovoltaic application, T. Srinivasa Reddy, R. Amiruddin, M.C. Santhosh Kumar, *Solar Energy Materials and solar cells*, 143, 128–134 impact factor: 5.018, ISSN: 0927-0248
 28. Welding Fume Reduction by Nano-Alumina Coating on Electrodes –Towards Green Welding Process, Sreejith Mohan, S.P. Sivapirakasam, M.C. Santhosh Kumar, M. Surianarayanan, *Journal of Cleaner Production*, 108, 131-144, Impact factor: 3.844, ISSN: 0959-6526.
 29. Realization of highly transparent conducting CdO thin films by R.F.Magnetron sputtering for Optoelectronic applications, Saheer Cheemadan, R. Amiruddin, M.C. Santhosh Kumar, *Proceedings of SPIE Vol. 9558*, (2015) 955816, doi: 10.1117/12.2190424

2014

30. Fabrication and Characterization of n-ZnO:Eu/p-ZnO:(Ag, N) homojunction by spray pyrolysis, R. Swapna, M. C. Santhosh Kumar, *Materials Research Bulletin* 49, 44–49, Impact factor: 2.288, ISSN: 0025-5408
31. Epitaxial Growth of Vertically Aligned Highly Conducting ZnO Nanowires by Modified Aqueous Chemical Growth Process, R. Amiruddin, M. C. Santhosh Kumar, *Ceramics International* 40, 11283–11290, Impact factor: 2.605, ISSN: 0272-8842
32. Enhanced visible emission from vertically aligned ZnO nanostructures, R. Amiruddin, M. C. Santhosh Kumar, *Journal of Luminescence* 155, 149–155, Impact factor: 2.719, ISSN: 0022-2313
33. Dual Acceptor Doping and Aging Effect of p-ZnO:(Na, N) Nanorod Thin Films by Spray Pyrolysis, R. Swapna, R. Amiruddin, M. C. Santhosh Kumar, *AIP Conference Proceedings* 1576 (2014) 167-170, ISSN: 0094-243X
34. Effect of Annealing Atmosphere on Structural and Optical Properties of Nd:ZnO Thin Films, T. Prasada Rao, S. Gokul Raj, M. C. Santhosh Kumar, *Procedia Materials Science* 6 (2014) 1631 – 1638, ISSN: 2211-8128

2013

35. Deposition of the low resistive Ag-N dual acceptor doped p-type ZnO thin films, R. Swapna, M.C. Santhosh Kumar, *Ceramics International*, 39, 1799–1806, Impact factor: 2.605, ISSN: 0272-8842
36. Growth and characterization of molybdenum doped ZnO thin films by spray pyrolysis, R. Swapna, M.C. Santhosh Kumar, *Journal of Physics and Chemistry of Solids*, 74, 418–425, Impact factor: 1.853, ISSN: 0022-3697

37. Microstructural, electrical and optical properties of ZnO:Mo thin films with various thickness by spray pyrolysis, R. Swapna, M. Ashok, G. Muralidharan, M. C. Santhosh Kumar, *Journal of Analytical and Applied Pyrolysis*, 102, 68–75, Impact factor: 3.564, ISSN: 0165-2370
38. Deposition of Na-N dual acceptor doped p-type ZnO thin films and fabrication of p-ZnO:(Na, N)/n-ZnO:Eu homojunction, R. Swapna, M. C. Santhosh Kumar, *Materials Science and Engineering B*, 178, 1032– 1039 Impact factor: 2.122, ISSN: 0921-5107
39. Aging and annealing effects on properties of Ag-N dual-acceptor doped ZnO thin films, R. Swapna, R. Amiruddin, and M. C. Santhosh Kumar, *AIP Conf. Proc.* 1512 (2013) 682-683, ISSN: 0094-243X

2012

40. Band gap variation in co-evaporated AgInSe₂ thin films with 1.26 MeV He⁺ ion irradiation, M.C. Santhosh Kumar, B. Pradeep, *Indian Journal of Physics*, 85, 401-409, Impact factor: 1.79, ISSN: 0973-1458
41. Realization of stable p-type ZnO thin films using Li–N dual acceptors, T Prasada Rao and M C Santhosh Kumar, *Journal of Alloys and Compounds* 509, 8676– 8682, Impact factor: 2.999, ISSN: 0925-8388

2011

42. Band gap variation in co-evaporated AgInSe₂ thin films with 1.26 MeV He⁺ ion irradiation, M.C. Santhosh Kumar, B. Pradeep, *Indian Journal of Physics*, 85 (2011) 401-409, Impact factor: 1.79, ISSN: 0973-1458
43. Realization of stable p-type ZnO thin films using Li–N dual acceptors, T Prasada Rao and M C Santhosh Kumar, *Journal of Alloys and Compounds* 509 (2011) 8676– 8682, Impact factor: 2.999, ISSN: 0925-8388
44. Effect of annealing on the structural, optical and electrical properties of ZnO thin films by spray pyrolysis, T Prasada Rao and M. C. Santhosh Kumar, *Indian J. Phys.*, 85, (2011) 1381-1391. Impact factor: 1.79, ISSN: 0973-1458

2010

45. Physical properties of ZnO thin films deposited at various substrate temperatures using spray pyrolysis, T. Prasada Rao, M. C. Santhosh Kumar, V. Ganesan, S. R. Barman, C. Sanjeeviraja, *Physica B: Condensed Matter* 405 (2010) 2226– 2231, Impact factor: 1.319, ISSN: 0921-4526
46. Effect of He⁺ ion irradiation on the structural and optical properties of vacuum evaporated AgInSe₂ thin films, M.C. Santhosh Kumar, B. Pradeep, *Journal of Alloys and Compounds*, 495 (2010) 284–287, Impact factor: 2.999 ISSN: 0925-8388
47. Effect of iron doping and annealing on structural and optical properties of cerium oxide nanocrystals, T. Dhannia, S. Jayalekshmi, M. C. Santhosh Kumar, T. Prasada Rao, A. Chandra Bose, *Journal of Physics and Chemistry of Solids* 71 (2010) 1020– 1025, Impact factor: 1.853, ISSN: 0022-3697
48. Physical properties of Ga - doped ZnO thin films by spray pyrolysis T Prasada Rao and M C Santhosh Kumar, *Journal of Alloys and Compounds* 506 (2010) 788–793, Impact factor: 2.999, ISSN: 0925-8388

49. Optical constants of co-evaporated Ag₂Se thin films with proton irradiation, M.C. Santhosh Kumar, B. Pradeep, *Journal of Ovonic Research* Vol. 6, No. 3, June 2010, p. 143 – 148, Impact factor: 0.54, ISSN 1584-9953

2009

50. Effect of thickness on structural, optical and electrical properties of ZnO thin films by Spray Pyrolysis, T. Prasada Rao, M.C. Santhoshkumar, *Applied Surface Science* 255 (2009) 4579–4584, Impact factor: 2.711, ISSN: 0169-4332
51. Highly Oriented (1 0 0) ZnO thin films by spray pyrolysis, T. Prasada Rao, M.C. Santhoshkumar, *Applied Surface Science* 255 (2009) 7212–7215, Impact factor: 2.711, ISSN: 0169-4332
52. Effect of H⁺ irradiation on the optical properties of vacuum evaporated AgInSe₂ thin films, M.C. Santhosh Kumar and B. Pradeep, *Applied Surface Science* 255 (2009) 8324–8327, Impact factor: 2.711, ISSN: 0169-4332
53. Effect of stress on optical band gap of ZnO thin films with substrate temperature by spray pyrolysis, T. Prasada Rao, M.C. Santhosh Kumar, S. Anbumozhi Angayarkanni, M. Ashok, *Journal of Alloys and Compounds* 485 (2009) 413–417, Impact factor: 2.999, ISSN: 0925-8388
54. Effect of aluminium doping and annealing on structural and optical properties of Cerium Oxide nanocrystals, T. Dhannia, S. Jayalekshmi, M. C. Santhosh Kumar, T. Prasada Rao, A. Chandra Bose *Journal of Physics and Chemistry of Solids* 70 (2009) 1443–1447, Impact factor: 1.853, ISSN: 0022-3697

Before 2009

55. Effect of annealing on structural and optical properties of aluminium doped Cerium Oxide nanocrystals, T. Dhannia, S. Jayalekshmi, M.C. Santhosh Kumar, T. Prasada Rao, *Proceedings of the 53rd DAE Solid state Physics Symposium (2008)*, BARC, Mumbai, page 415.
56. Effect of electron, proton and He⁺ irradiation on AgInSe₂ thin film, M.C. Santhosh Kumar and B. Pradeep, *Proceedings of International conference on optoelectronic materials and thin films for advanced technology (OMTAT - 2005)*, 4-27 october 2005, Cochin-22, page 452.
57. Formation and properties of silver indium selenide thin films by co-evaporation, M.C. Santhosh Kumar and B. Pradeep, *Vacuum* 72 (2004) 369 – 378, Impact factor: 1.858, ISSN: 0042-207X.
58. Photoelectrical properties of Silver Indium Selenide Thin Films. M.C. Santhosh Kumar and B. Pradeep, *Journal of Materials Science Letters*, 22, (2003) 287-291, Impact factor: 0.47, ISSN: 0261-8028
59. Structural electrical and optical properties of silver selenide thin films. M.C. Santhosh Kumar and B. Pradeep, *Semicond. Sci. Technol.* 17 (2002) 261-265, Impact factor: 2.190, ISSN: 0268-1242
60. Transport properties of silver selenide thin films from 100 K to 300K. M.C. Santhosh Kumar and B. Pradeep, *Mater. Lett.* 56 (2002) 491-495, Impact factor: 2.489, ISSN: 0167-577X

61. Preparation and electrical properties of silver selenide thin films by reactive evaporation. M.C. Santhosh Kumar and B. Pradeep, Bull. Mater. Sci. 25 (2002) 407-411, Impact factor: 1.017, ISSN: 0250-4707