Publications

Summary

★ Patents :– Four (granted), One (filed)

★ Papers (SCI journals) :– **56** [15 (After Ph.D.) + 41 (During Ph.D. research)].

★ Conference Proceedings/Posters :– **44** [29 (After Ph.D.) + 15 (During Ph.D. research)]
(Two "**BEST POSTER AWARD**" in 2009).

Patents (granted/filed)

Title:–: A process for continuous production of Magnesium Diboride based superconductors

Author:–: U. Syamaprasad, R. G. Abhilash Kumar, K. Vinod, R. P. Aloysius,
P. M. Sarun, S. Thennavarajan, and P. Guruswamy

US patent :–: No.: **US 7,456,134 B2**. Date of Patent: **Nov. 25, 2008**. (Granted)

UK patent :–: No.: **GB 2446976 A**. Date of Patent: **Aug. 27, 2008**. (Granted)

German patent :–: No.: **DE 112005003761 T5**, Date of Patent: **Apr. 4, 2009**. (Granted)

Japanese patent :–: No.: **JP 5123200 B2**, Date of Patent: **Jan. 16, 2013**. (Granted)

Indian patent :–: NFNO. 0185NF2005/IN, Filing Date: 25/11/2005, APN No. 3156DEL2005. (Filed)

List of Publications in SCI journals (After Ph. D.)

(a). Published

1.
2. Irshad Ahmad and **P. M. Sarun**, Electrical behaviour and current transfer length of Fe- and Cu-sheathed MgB2 superconducting single-core wires *IEEE Trans. Applied Superconductivity* vol. 29, pp. 6200106 2019.
3. S. K. Pandey, G. P. Pandey and **P. M. Sarun**, Design of Circularly Polarized Modified Minkowski Fractal Based Antenna for UHF RFID Reader Applications *Advanced Electromagnetics* vol. 7 (5), pp. 94-100 2018.
4. Snigdha Paramita Mantry, Abhinav Yadav, Mohd. Fahad and **P. M. Sarun**, Effect of vanadium substitution on the dielectric and electrical conduction properties of $SrTiO_3$ ceramics *Materials Research Express* vol. 5(3), pp. 036303 2018.
5. Abhinav Yadav, Snigdha Paramita Mantry, Mohd. Fahad and **P. M. Sarun**, Temperature dependent dielectric relaxation and ac-conductivity of alkali niobate ceramic studied by impedance spectroscopy, *Physica B: Condensed Matter* vol. 537 (11-12), pp. 290-295 2018.
6. Tanusree Mondal, Sayantani Das, T. P. Sinha and **P. M. Sarun**, Dielectric relaxation and study of electrical conduction mechanism in $BaZr_{0.1}Ti_{0.9}O_3$ ceramics by correlated barrier hopping model *Material Science-Poland* vol. 36(1), pp. 112-122 2018.
7. S. K. Pandey, G. P. Pandey and **P. M. Sarun**, Fractal based triple band high gain monopole antenna *Frequenz* vol. 71 (11-12), pp. 531-537 2017.
8. T. Mondal, B. P. Majee, S. Das, T. P. Sinha, T. R. Middya, T. Badapanda, **P. M. Sarun**, A comparative study on electrical conduction properties of Sr-substituted $Ba_{1-x}Sr_xZr_{0.1}Ti_{0.9}O_3$ (x = 0.00–0.15) ceramics, *Ionics*, vol. 23, Issue 9, pp. 2405-2416 2017.
9. T. Mondal, S. Das, T. Badapanda, T. P. Sinha, **P. M. Sarun**, Effect of Ca^{2+} substitution on impedance and electrical conduction mechanism of $Ba_{1-x}Ca_xZr_{0.1}Ti_{0.9}O_3$ ($0.00 \leq x \leq 0.20$) ceramics, *Physica B: Condensed Matter* vol. 508, pp. 124-135 2017.
10. A. Bobby, N. Shiwakoti, **P. M. Sarun,** S. Verma, K. Asokan, B. K. Antony, Swift heavy ion induced capacitance and dielectric properties of Ni/n-GaAs Schottky diode, *Current Applied Physics* vol. 15 (11), pp. 1500-15055 2015.
11. J. S. Hansdah, **P. M. Sarun**, Doping effect of nano-Ho_2O_3 and naphthalene in MgB_2 superconductor

prepared by powder-in-sealed-tube method, *Journal of Applied Physics* vol. 117 (11), pp. 113903 2015.

12. R. Shabana, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Impact of Y doping on the metal to insulator transition behavior of $Bi_{1.7}Pb_{0.4}Sr_2Ca_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *Energy and Environment Focus* vol. 3, pp. 167-174 2014.
13. A. Bobby, S. Verma, K. Asokan, **P. M. Sarun**, B. K. Antony, Phase transition induced double-Gaussian barrier height distribution in Schottky diode, *Physica B: Condensed Matter* vol. 431, pp. 6-107 2013.
14. J. B. Anooja, P. M. Aswathy, **P. M. Sarun**, and U. Syamaprasad, A novel low temperature synthesis route for $SmFeAsO_{1-x}F_x$ bulk superconductor with improved transport properties *Journal of Alloys and Compounds* vol. 514, pp. 1 2012.
15. S. Vinu, **P. M. Sarun**, R. Shabna, and U. Syamaprasad, Dissipative flux motion and flux flow resistivity analysis in La-doped (Bi, Pb)-2212 superconducting ceramics *J. Am. Ceram. Soc.* vol. 94, pp. 1634 2011.
16. P. M. Aswathy, J. B. Anooja, **P. M. Sarun**, and U. Syamaprasad, An overview on Iron based superconductors **[TOPICAL REVIEW]** *Supercond. Sci. Technol.* vol. 23, pp. 073001 2010.

(b). Under Revision

1. Snigdha Paramita Mantry and **P. M. Sarun**, Effect of vanadium substitution on the dielectric and electrical conduction properties of $SrTiO_3$ ceramics *Journal of Materials Science: Materials in Electronics* 2019.
2. Abhinav Yadav, Mohd. Fahad and **P. M. Sarun**, Effect of tantalum on the temperature dependent electrical characteristics of $NaNb_{1-x}Ta_xO_3$ ($0.0 \leq x \leq 0.3$) ceramics between 400 - 560 ^oC, *J. Alloy and Compounds* 2019.

(c). Under Preparation

1. Abhinav Yadav, Mohd. Fahad and **P. M. Sarun**, Effect of temperature on dielectric relaxation and conduction mechanism of Zr^{+4} modified sodium niobate ceramics *Solid State Commun.* 2019.
2. J. S. Hansdah and **P. M. Sarun**, Study on the flux-pinning properties of bulk MgB_2 superconductor by addition of rare-earth and carbon *Supercond. Sci. Technol.* 2019.
3. Irshad Ahmad and **P. M. Sarun**, Comparative study on the current transfer length of Cu-stablized MgB_2 monofilamentary wire *J. Appl. Phys.* 2019.
4. Mohd Fahad, Deepa Kathiravan, Bohr-Ran Huang, Adhimoorthy Saravanan, H. C. Tsai, Abhinav Yadav and **P. M. Sarun**, Simple synthesis of bio-waste sericin activated WS2 nanosheets and their fabricated nanostructures of WS2 sheeted ZNRs with highly enhanced hydrogen sensing properties, 2019.
5. Irshad Ahmad and **P. M. Sarun**, Temperature dependent structural, dielectric and electrical characteristics of vanadium substituted sodium niobate ceramics, 2019.

List of Publications in SCI journals (During Ph. D. research)

1. **P. M. Sarun**, S. Vinu, R. Shabna, J. B. Anooja, P. M. Aswathy and U. Syamaprasad, Structural and transport properties of $(Bi_{1.6}Pb_{0.5})(Sr_{2-x}Lu_x)Ca_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *IEEE Trans. Appl. Phys.*, vol. 20, pp. 61–65, 2010.
2. **P. M. Sarun**, S. Vinu, R. Shabna, and U. Syamaprasad, Suppression of dissipative flux-motion in a high-Tc (Bi,Pb)-2212 superconductor by Dy-doping *J. Alloy. and Compd.*, vol. 497, pp. 6–9, 2010.
3. **P. M. Sarun**, S. Vinu, R. Shabna, and U. Syamaprasad, Investigation of self-and in-field dependent n-value of Tb-doped (Bi,Pb)-2212 superconductor *J. Appl. Phys.*, vol. 106, pp. 043910–4, 2009.
4. **P. M. Sarun**, S. Vinu, R. Shabna, A. Biju, P. Guruswamy, and U. Syamaprasad, Effect of sintering temperature on the microstructural and flux pinning characteristics of $Bi_{1.6}Pb_{0.5}Sr_{1.8}La_{0.2}Ca_{1.1}Cu_{2.1}O_{8+\delta}$ ceramics *J. Am. Ceram. Soc.*, vol. 92, pp. 411–15, 2009.
5. **P. M. Sarun**, S. Vinu, R. Shabna, A. Biju, and U. Syamaprasad, Properties of superconducting, polycrystalline dysprosium-doped $Bi_{1.6}Pb_{0.5}Sr_{2-x}Dy_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ ($0 \leq x \leq 0.5$) *Mater. Res. Bull.*, vol. 44, pp. 1017–1021, 2009.
6. **P. M. Sarun**, S. Vinu, R. Shabna, A. Biju, P. Guruswamy, and U. Syamaprasad, Influence of Ho-doping on

the electromagnetic field-dependent E-J characteristics of (Bi,Pb)-2212 superconductor *IEEE Trans. Appl. Supercond.*, vol. 19, pp. 35–38, 2009.

7. **P. M. Sarun**, S. Vinu, R. Shabna, A. Biju, and U. Syamaprasad, Microstructural and superconducting properties of Yb-substituted (Bi,Pb)-2212 superconductor sintered at different temperatures *J. Alloys Compd.*, vol. 472, pp. 13–17, 2009.
8. **P. M. Sarun**, R. Shabna, S. Vinu, A. Biju, and U. Syamaprasad, Highly enhanced superconducting properties of Bi-2212 by Y and Pb co-doping *Physica B*, vol. 404, pp. 1602–1606, 2009.
9. **P. M. Sarun**, S. Vinu, R. Shabna, A. Biju, and U. Syamaprasad, Highly enhanced superconducting properties of Eu-doped (Bi,Pb)-2212 *Mater. Lett.*, vol. 62, pp. 2725–2728, 2008.
10. **P. M. Sarun**, A. Biju, P. Guruswamy, and U. Syamaprasad, Enhanced flux pinning of an Nd-added (Bi,Pb)-2212 superconductor *J. Am. Ceram. Soc.*, vol. 90, pp. 3138–3141, 2007.
11. **P. M. Sarun**, R. P. Aloysius, and U. Syamaprasad, Preparation of high performance (Bi,Pb)-2223 superconductor using a sol-gel synthesized amorphous precursor through controlled gelation *Mater. Lett.*, vol. 60, pp. 3797–3802, 2006.
12. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, P. Guruswamy, and U. Syamaprasad, Suppression of of flux-creep in (Bi,Pb)-2212 superconductor by holmium doping *Physica B*, vol. 405, pp. 4355–4359, 2010.
13. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, and U. Syamaprasad, Microstructure and transport properties of $Bi_{1.6}Pb_{0.5}Sr_{2-x}Lu_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *Mater. Chem. Phys.*, vol. 119, pp. 135–139, 2010.
14. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, and U. Syamaprasad, Enhancement of flux pinning and Anderson-Dew-Hughes pinning analysis in $Bi_{1.6}Pb_{0.5}Sr_{2-x}Tb_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *J. Alloys Compd.*, vol. 477, pp. L13–L16, 2009.
15. S. Vinu, **P. M. Sarun**, R. Shabna, and U. Syamaprasad, Analysis of thermo-magnetic fluctuations in $Bi_{1.6}Pb_{0.5}Sr_{2-x}Lu_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ ($0.000 \leq x \leq 0.125$) superconductor *J. Alloys Compd.*, vol. 487, pp. 1–4, 2009.
16. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, P. Guruswamy, and U. Syamaprasad, Influence of sintering temperature on microstructure, critical current density and pinning potential of superconducting $Bi_{1.6}Pb_{0.5}Sr_{1.8}Dy_{0.2}Ca_{1.1}Cu_{2.1}O_{8+\delta}$ ceramics *Solid Stat. Sci.*, vol. 11, pp. 1150–1155, 2009.
17. S. Vinu, **P. M. Sarun**, R. Shabna, and U. Syamaprasad, Analysis of thermo-magnetic fluctuations above the glass-transition temperature in $Bi_{1.6}Pb_{0.5}Sr_{2-x}Eu_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ ($0.000 \leq x \leq 0.180$) system *Solid Stat. Sci.*, vol. 11, no. 9, pp. 1530–1534, 2009.
18. S. Vinu, **P. M. Sarun**, R. Shabna, and U. Syamaprasad, Refinement of microstructure and highly improved electrical properties of $Bi_{1.6}Pb_{0.5}Sr_{1.925}Ho_{0.075}Ca_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *J. Appl. Phys.*, vol. 106, pp. 063920–6, 2009.
19. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, and U. Syamaprasad, Scaling of the vortex-liquid resistivity and temperature and magnetic field dependent activation energy in Ho-doped (Bi, Pb)-2212 superconductor *J. Appl. Phys.*, vol. 105, pp. 123901–4, 2009.
20. S. Vinu, **P. M. Sarun**, R. Shabna, and U. Syamaprasad, Erratum: Enhancement of critical current density and flux pinning properties of Gd-doped (Bi,Pb)-2212 superconductor (J. Appl. Phys. (2008) 104 (043905)) *J. Appl. Phys.*, vol. 105, pp. 129901–1, 2009.
21. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, and U. Syamaprasad, Enhancement of critical current density and flux pinning properties of Gd-doped (Bi,Pb)-2212 superconductor *J. Appl. Phys.*, vol. 104, pp. 043905–5, 2008.
22. S. Vinu, **P. M. Sarun**, A. Biju, R. Shabna, P. Guruswamy, and U. Syamaprasad, The effect of substitution of Eu on the critical current density and flux pinning properties of (Bi,Pb)-2212 superconductor *Supercond. Sci. Technol.*, vol. 21, p. 045001, 2008.
23. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, and U. Syamaprasad, The influence of sintering temperature on the microstructure and superconducting properties of $Bi_{1.7}Pb_{0.4}Sr_{1.8}Nd_{0.2}Ca_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *Supercond. Sci. Technol.*, vol. 21, p. 085010, 2008.
24. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, and U. Syamaprasad, Improved microstructure and flux pinning

properties of Gd-substituted (Bi,Pb)-2212 superconductor sintered between 846 and 860 ^{o}C *Mater. Lett.*, vol. 62, pp. 4421–4424, 2008.

25. S. Vinu, **P. M. Sarun**, R. Shabna, A. Biju, P. Guruswamy, and U. Syamaprasad, Effect of Dy substitution at the Sr site on the critical current density and flux-pinning properties of (Bi,Pb)-2212 superconductor *J. Am. Ceram. Soc.*, vol. 91, pp. 3585–3589, 2008.
26. R. Shabna, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Superconductor-metal-insulator crossover in $Bi_{1.7}Pb_{0.4}Sr_{2.1}Ca_{1.1}Cu_{2.1}O_{8+\delta}$ ($0.2 \leq x \leq 0.6$) sintered between 845 °C $\leq x \leq$ 865 °C *Mater. Sci. Engg. B*, vol. 172, pp.196–200, 2010.
27. R. Shabna, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Charge carrier localization and metal to insulator transition in cerium substituted (Bi,Pb)-2212 superconductor *J. Alloys Compd.*, vol. 493, pp. 11–16, 2010.
28. R. Shabna, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Structural and electrical properties of $Bi_{1.7}Pb_{0.4}Sr_{2-x}Ho_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ system across the metal to insulator transition *J. Alloys. Compd.*, vol. 481, pp. 797–801, 2009.
29. R. Shabna, **P. M. Sarun**, S. Vinu, A. Biju, and U. Syamaprasad, Doping controlled metal to insulator transition in the (Bi,Pb)-2212 system *Supercond. Sci. Technol*, vol. 22, p. 045016, 2009.
30. R. Shabna, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Doping dependent metal to insulator transition in (Bi,Pb)-2212 system: The evolution of structural and electronic properties with europium substitution *Chinese Phys. B*, pp. 4000–4004, 2009.
31. R. Shabna, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Transport Properties near the metal to insulator transition in samarium substituted (Bi,Pb)-2212 system *J. Appl. Phys.*, vol. 105, pp. 113925–6, 2009.
32. R. Shabna, **P. M. Sarun**, S. Vinu, A. Biju, P. Guruswamy, and U. Syamaprasad, Metal-insulator transition and conduction mechanism in dysprosium doped $Bi_{1.7}Pb_{0.4}Sr_2Ca_{1.1}Cu_{2.1}O_{8+\delta}$ system *J. Appl. Phys.*, vol. 104, p. 013919, 2008.
33. A. Biju, **P. M. Sarun**, R. P. Aloysius, and U. Syamaprasad, Flux pinning properties of Yb substituted (Bi,Pb)-2212 superconductor *J. Alloys Compd.*, vol. 454, pp. 46–51, 2008.
34. A. Biju, **P. M. Sarun**, R. P. Aloysius, and U. Syamaprasad, Comparison of superconducting properties of Ce added (Bi,Pb)-2212 with other rare earth additions *J. Alloys Compd.*, vol. 433, p. 68, 2007.
35. A. Biju, **P. M. Sarun**, R. P. Aloysius, and U. Syamaprasad, Structural and superconducting properties of neodymium added $(Bi,Pb)_2Sr_2CaCu_2O_y$ *Mater. Res. Bull.*, vol. 42, pp. 2057–2066, 2007.
36. A. Biju, K. Vinod, **P. M. Sarun**, and U. Syamaprasad, Highly enhanced flux pinning in Pb and rare earth co-doped Bi-2212 *Appl. Phys. Lett.*, vol. 90, pp. 072505–3, 2007.
37. A. Biju, **P. M. Sarun**, S. Vinu, P. Guruswamy, and U. Syamaprasad, Critical current density and flux pinning in a $Bi_{1.7}Pb_{0.4}Sr_{2-x}La_xCa_{1.1}Cu_{2.1}O_y$ system *Supercond. Sci. Technol.*, vol. 20, pp. 781–784, 2007.
38. A. Biju, **P. M. Sarun**, R. P. Aloysius, and U. Syamaprasad, Superconductivity and flux pinning in Dy added (Bi,Pb)-2212 superconductor *Supercond. Sci. Technol.*, vol. 19, pp. 1023–1029, 2006.
39. A. Biju, R. Shabna, **P. M. Sarun**, S. Vinu, and U. Syamaprasad, Carrier induced Effect of Yb, Gd and Nd substitution at the Sr site on the metal-insulator transition of the (Bi,Pb)-2212 system *Inter. J. Appl. Ceram. Technol.*, vol. 7[S1], E16 2010.
40. K. Vinod, R. G. Abhilashkumar, A. Biju, **P. M. Sarun**, and U. Syamaprasad, Flux pinning properties of magnesium diboride added (Bi,Pb)-2212 superconductors *J. Alloys Compd.*, vol. 439, pp. L1–L4, 2007.
41. V. G. Prabitha, A. Biju, R. G. Abhilashkumar, **P. M. Sarun**, R. P. Aloysius, and U. Syamaprasad, Effect of Sm addition on (Bi,Pb)-2212 superconductor *Physica C*, vol. 433, pp. 28–36, 2005.

Conference Proceedings/Posters (After Ph. D.)

1. S. P. Mantry, A. Yadav, M. Fahad and **P. M. Sarun**, Studies of Dielectric and electrical conduction properties of strontium titanate ceramics, *National Conference on Advanced Materials and Nanotechnology (AMN-2018), organized by Jaypee Institue of information Technology, Noida, Utter Pradesh (India), 15-17 March*, 2018 (Scheduled).
2. Abhinav Yadav, Mohd. Fahad, Snigdha Paramita Mantry and **P. M. Sarun**, Investigation on the complex

permittivity of transition metal ion doped sodium niobate ceramics between 313-373 K, *National Conference on Advanced Materials and Nanotechnology (AMN-2018), organized by Jaypee Institue of information Technology, Noida, Utter Pradesh (India), 15-17 March*, 2018 (Scheduled).

3. Irshad Ahmad and **P. M. Sarun**, Current transfer length of monofilamentary ex-situ MgB_2:Al:Cu superconducting wires, *National Conference on Advanced Materials and Nanotechnology (AMN-2018), organized by Jaypee Institue of information Technology, Noida, Utter Pradesh (India), 15-17 March*, 2018 (Scheduled).
4. Shashi Kant Pandey, Ganga Prasad Pandey, **P. M. Sarun**, Gain enhancement of I-cross antenna using parasitic fractal patches for UWB Applications, *National Conference on Advanced Materials and Nanotechnology (AMN-2018), organized by Jaypee Institue of information Technology, Noida, Utter Pradesh (India), 15-17 March*, 2018 (Scheduled).
5. Irshad Ahmad and **P. M. Sarun**, Estimation of current transfer length of MgB_2/Nb/Ti superconducting wires, *National Conference on Advances In Spectroscopic Techniques and Materials (ASTM-2018), organized by Department of Applied Physics, IIT(ISM), Dhanbad, Jharkhand (India) 14-16 March*, 2018 (Scheduled).
6. Abhinav Yadav, S.P. Mantry, Mohd. Fahad, S.N. Singh and **P. M. Sarun**, Frequency dependence dielectric and modulus studies of alkali niobate ceramic, *National Conference On Advances In Spectroscopic Techniques And Materials (ASTM-2018), organized by Department of Applied Physics, IIT(ISM), Dhanbad, Jharkhand (India) 14-16 March*, 2018 (Scheduled).
7. S. P. Mantry, Ritika Agarwal, A. Yadav, M. Fahad and **P. M. Sarun**, Frequency and temperature dependent dielectric and electrical conductivity behavior of strontium titanate ceramics, *National Conference On Advances In Spectroscopic Techniques And Materials (ASTM-2018), organized by Department of Applied Physics, IIT(ISM), Dhanbad (India) 14-16 March*, 2018 (Scheduled).
8. S. P. Mantry, A. Yadav, M. Fahad and **P. M. Sarun**, Study of structural and dielectric behavior of strontium titanate ceramics, *Recent Advances in Materials for Sustainable Energy (RAMSE-2018), organized by Department of Applied Physics, IIT(ISM), Dhanbad (India), 03-05 March*, 2018 (Scheduled).
9. Abhinav Yadav, S.P. Mantry, Mohd. Fahad, **P. M. Sarun**, Structural and electrical properties of lead-free ABO_3 perovskite using complex impedance spectroscopy, *2nd Meghnad Saha Memorial International Symposium-cum-Workshop on Laser Induced Breakdown Spectroscopy, (MMISLIBS-II 2018), organized by Department of Physics (UGC Centre of Advanced Studies), University of Allahabad, Allahabad (India) 19-21 February*, 2018.
10. S. P. Mantry, A. Yadav, M. Fahad and **P. M. Sarun**, Investigation of electrical conduction properties of strontium titanate ceramic using impedance spectroscopy, *2nd Meghnad Saha Memorial International Symposium-cum-Workshop on Laser Induced Breakdown Spectroscopy, (MMISLIBS-II 2018), organized by Department of Physics (UGC Centre of Advanced Studies), University of Allahabad, Allahabad (India) 19-21 February*, 2018.
11. Tanusree Mondal, Sayantani Das, T. P. Sinha, **P. M. Sarun**, Effect of Ca^{2+} substitution on the structural and transport properties of BaZr0.1Ti0.9O3 ceramic, *National Conference on Recent Trends in Condensed Matter Physics (RTCMP-2017), organized by Bose Institute, Kolkata, WB (India), 31th October-3rd November*, 2017.
12. A. Yadav and **P.M. Sarun**, Investigations on dielectric and impedance behavior of lead-free $NaNb_{0.95}Zr_{0.05}O_3$ ceramic, *National Conference on Recent Trends in Condensed Matter Physics (RTCMP-2017), organized by Bose Institute, Kolkata, WB (India), 31th October-3rd November*, 2017.
13. A. Yadav, T. Mondal, S.P. Mantry, **P.M. Sarun**, Temperature dependence dielectric behaviour of $NaNbO_3$ ceramics, *International Conference on Emerging Materials and Applications, An initiative for emergence of next generation technologies (ICEMA-2017), Organized by Physics Department, University of Allahabad, Allahabad-211 002 (India), 20-22 February*, 2017.
14. Irshad Ahmad and **P. M. Sarun**, Theoretical estimation of current transfer length of Ni/Fe/MgB_2 superconducting monofilamentary wires, Recent trends in condensed matter physics (RTCMP-2017), *National Conference on Recent Trends in Condensed Matter Physics, organized by Bose Institute, Kolkata, WB (India), 31th October-3rd November*, 2017.

15. S. P. Mantry, Abhinav Yadav, and **P. M. Sarun**, Effect of temperature on the dielectric properties of strontium titanate ceramics, *National Conference on Recent Trends in Condensed Matter Physics (RTCMP-2017), organized by Bose Institute, Kolkata, WB (India), 31th October-3rd November*, 2017.
16. Abhinav Yadav, Tanusree Mondal, Snigdha Paramita Mantry, **P. M. Sarun**, Structural and dielectric properties of sodium niobate ceramic, *National Conference on Liquid Crystals (NCLC-2016), organized by Department of Applied Physics, IIT(ISM), Dhanbad, Jharkhand, 07-09 December*, 2016.
17. Irshad Ahmad and **P. M. Sarun**, Theoretical estimation of current transfer length of Cu/Ti/MgB_2 superconducting monofilamentary wires, *National Conference on Liquid Crystals (NCLC-2016), organized by Department of Applied Physics, IIT(ISM), Dhanbad, Jharkhand, 07-09 December*, 2016.
18. Tanusree Mondal, Bishnu Pada Majee, Tapas Ranjan Middya, **P. M. Sarun**, Structural and dielectric relaxation behaviour of $Ba_{0.8}Sr_{0.2}Zr_{0.1}Ti_{0.9}O_3$ ceramics, *International Conference on Advances in Materials & Manufacturing applications, organized by Amrita Vishwa Vidyapeetham University, Bangalore, (India), 14-16 July*, 2016.
19. Tanusree Mondal, Bishnu Pada Majee, Tapas Ranjan Middya, Tanmaya Badapanda, **P. M. Sarun**, A comparative study on electrical conduction properties of Sr substituted $Ba_{1-x}Sr_xZr_{0.1}Ti_{0.9}O_3$ (x = 0.00 - 0.15) ceramics, *15th Asian Conference on Solid State Ionics, Indian Institute of Technology, Patna, Bihar (India), 27-30 November*, 2016.
20. J. S. Hansdah, H. B. Nayak and **P. M. Sarun**, Structural and superconducting Characterization of bulk MgB_2 superconductor, *Topical Conference on Charge Particle Collisions and Electronic Process in atoms, molecules and materials (q-PACE-2016), 9-11 January*, 2016.
21. T. Mondal, B. P. Majee, T. R. Middya, **P. M. Sarun**, Structural and dielectric relaxation behaviour of $Ba_{0.8}Sr_{0.2}Zr_{0.1}Ti_{0.9}O_3$ ceramic, *IOP Conference Series: Materials Science and Engineering* 149 (1), 012168 2016.
22. T. Mondal, **P. M. Sarun**, S. Das, T. P. Sinha, Investigation of dielectric properties of $La_{0.33}NbO_3$ ceramics, *AIP Conference Proceedings* 1665 (1), 1100431 2015.
23. J. S. Hansdah, **P. M. Sarun**, Structural and AC loss study for pure and doped MgB_2 superconductor, *AIP Conference Proceedings* 1665 (1), 130052 2015.
24. J. S. Hansdah and **P. M. Sarun**, Influence of Carbon-Doping on AC loss of MgB_2 Superconductors, *International Conference on Magnetic Materials and Applications (ICMAGMA-2014), organized by the Pondicherry University, Pondicherry (India), 15-17 September*, 2014.
25. J. S. Hansdah and **P. M Sarun**, Structural And AC Loss Study For Pure And Doped MgB_2 Superconductor, *59th DAE Solid State Physics Symposium-2014, held at VIT University, Vellore, Tamil Nadu (India), 16-20, December*, 2014.
26. Tanusree Mondal, **P. M. Sarun**, Sayantani Das, T. P. Sinha, Investigation of Dielectric properties of $La_{0.33}NbO_3$ ceramics, *59th DAE Solid State Physics Symposium, VIT University, Vellore, Tamil Nadu (India); 16-20 December*, 2014.
27. S. Ash, S. Sarkar, J. S. Hansdah and **P. M. Sarun**, Barrier effect on Cu sheathed MgB_2 wires for superconducting applications, *Presented at International conference on Structural and Physical Properties of Solids, Indian School of Mines, Dhanbad, Jharkhand (India); November 18-20*, 2013.
28. J. S. Hansdah, S. Ash and **P. M. Sarun**, Doping effect of nano-Carbon and nano-SiO_2 on superconducting properties of MgB_2 bulk prepared by PIST method, *Presented at International conference on Structural and Physical Properties of Solids, Indian School of Mines, Dhanbad, Jharkhand (India); November 18-20*, 2013.
29. S.H. Jasabanta and **P. M Sarun**, Structural characterization of magnesium boride superconductor by Rietveld refinement, *Presented at National Conference on Advances in Lasers and Spectroscopy (ALS-2012), Indian School of Mines, Dhanbad, Jharkhand (India); November 01-03*, 2012.

Conference Proceedings/Posters (During Ph. D. research)

1. Structural and Superconducting properties of Gd-substituted $(Bi,Pb)_2Sr_2Ca_1Cu_2O_{8+\delta}$ superconductor *Presented at 21th Kerala Science Congress, Kollam, January 29-31*, ("BEST POSTER AWARD"), 2009.

2. Transport property near the metal to insulator transition in samarium substituted (Bi,Pb)-2212 system *Presented in International Conference on Advanced Functional materials (ICAFM-2009), Trivandrum, December, 9-10*, vol. ("BEST POSTER AWARD"), 2009.
3. Microstructural and flux pinning characteristics of $Bi_{1.6}Pb_{0.5}Sr_{1.8}La_{0.2}Ca_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor sintered at different temperatures *Presented in International Conference on Advanced Functional materials (ICAFM-2009), Trivandrum, December, 9-10*, 2009.
4. Thermo-magnetic fluctuations above the glass-transition temperature in Eu-doped (Bi,Pb)-2212 superconductor *Presented in International Conference on Advanced Functional materials (ICAFM-2009), Trivandrum, December, 9-10*, 2009.
5. Impact of Europium substituted on the metal to insulator transition phenomenon in (Bi,Pb)-2212 superconductor *Presented at 21th Kerala Science Congress, Kollam, January 29-31*, 2009.
6. Metallic, Superconducting and Semiconducting properties of Praseodymium substituted (Bi,Pb)-2212 system *Presented at Special Purpose, Strategic and Futuristic Materials for High Technology Sectors, Trivandrum, October 16-17*, 2008.
7. Critical current density and flux pinning properties of $Bi_{1.6}Pb_{0.5}Sr_{2-x}Eu_xCa_{1.1}Cu_{2.1}O_y$ superconductor *Presented at Special Purpose, Strategic and Futuristic Materials for High Technology Sectors, Trivandrum, October 16-17*, 2008.
8. Critical current density and flux pinning properties of $Bi_{1.7}Pb_{0.4}Sr_{2-x}Gd_xCa_{1.1}Cu_{2.1}O_{8+\delta}$ superconductor *Presented at 53rd DAE Solid State Physics Symposium, BARC, Mumbai, December 16-20*, 2008.
9. Superconductivity to Semiconductivity - An insight into the dependence of structural and electrical properties of (Bi,Pb)-2212 on a rare-earth modification *Presented at 20th Kerala Science Congress, Trivandrum, January 28-31*, 2008.
10. Metal-Insulator transition in $Bi_{1.7}Pb_{0.4}Sr_2Ca_{1.1}Cu_{2.1}Dy_xO_{8+\delta}$ system *Presented at 52nd DAE-Solid State Physics Symposium 2007, Mysore, December 27-31*, 2007.
11. Enhanced Flux pinning in La substituted (Bi,Pb)-2212 superconductor *Presented at 52nd DAE-Solid State Physics Symposium, Mysore, December 27-31*, 2007.
12. Fabrication of high J_e (Bi,Pb)-2223/Ag multifilamentary tapes using a powder and wire-in-tube method *Presented at International Conference on Advanced Materials and Composites (ICAMC-2007), Trivandrum, October 24-26*, 2007.
13. Pinning force density of Y-added (Bi,Pb)-2212 superconductor *Presented at International Conference on Advanced Materials and Composites (ICAMC-2007), Trivandrum, October 24-26*, 2007.
14. Investigation on Metal-Insulator transition in $Bi_{1.7}Pb_{0.4}Sr_2Ca_{1.1}Cu_{2.1}Y_xO_{8+\delta}$ superconductor *Presented in International Conference on Advanced Materials and Composites (ICAMC-2007), Trivandrum, October, 24-26*, 2007.
15. Enhanced critical current density and flux pinning properties of $Bi_{1.6}Pb_{0.5}Sr_{2-x}Eu_xCa_{1.1}Cu_{2.1}O_y$ superconductor *Presented at International seminar on mineral processing technology, Trivandrum, April 22-24*, 2008.