

## Dr. Pradip Das

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Department of Pure and Applied Physics  
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### Education Background:

- 2009 Ph. D. Department of Physics, Indian Institute of Technology Bombay
- 2002 M.Sc. (Physics) Department of Physics, Indian Institute of Technology Roorkee
- 2000 B. Sc. (Physics Hons.) University of Burdwan, Burdwan
- 2001 National Eligibility Test (NET)
- 2003 Graduate Aptitude Test in Engineering (GATE)
- 2003 Joint Entrance Screening Test (JEST)

### Postdoctoral & Faculty Job Experience

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| August 2012 - till date       | Assistant Professor, Guru Ghasidas University, Bilaspur,  |
| January 2010 - July 2012      | Postdoctoral Fellow, Institute of Materials Science,<br>University of Tsukuba, Tsukuba, Japan   |
| February 2009 - December 2009 | Research Associate, Dept. of Condensed Matter Physics &<br>Materials Sciences, Tata Institute of Fundamental<br>Research, Mumbai, India |

### Projects

- 2014- 2017 DST-SERB Fast Track Research Project: “Synthesis of topological insulators and Investigation of their topological properties by transport, magnetization, Hall Measurements” (22 lakh)
- 2018-2021 IUAC, New Delhi, “Weak antilocalization and quantum oscillations in topological insulator using ion irradiation” (6 lakh)
- 2018-2021 UGC DAE CSR, Indore, “Topological insulator based energy efficient and thermoelectric power generation materials” (1.5 lakh)

### Ph. D Guided

Name of Scholar: Dr. Priyanath Mal, Date of Award: 31<sup>st</sup> August 2021.

Topic: “Structural and Electronic Transport Properties of 3D Topological Insulators”.

### Research Interests

Topological Insulators, Weyl Semimetal, Dirac Semimetal, Multiferroic materials, Superconductivity, Magnetism

## Papers in Refereed Journals

1. Observation of 2D Transport in Sn-and In-doped  $\text{Bi}_{2-x}\text{Sb}_x\text{Te}_{3-y}\text{Se}_y$  topological insulator, Priyanath Mal, Bipul Das, G. Bera, P. Rambabu, G. R. Turpu, C. V. Tomy, and **Pradip Das**, **J. Appl. Phys.** **129**, 095702 (2021). IF 2.546
2. Comparative fermiology study of  $\text{PbBi}_2\text{Te}_4$  and  $\text{SnBi}_2\text{Te}_4$  3D topological insulators, Priyanath Mal, Bipul Das, G. Bera, G. R. Turpu, C. V. Tomy, and **Pradip Das**, **J Mater Sci: Mater Electron** (2021) DOI: 10.1007/s10854-021-06350-2. IF 2.478
3. Transport evidence of linear Dirac dispersion of non-trivial surface states in Fe-substituted  $\text{PbBi}_2\text{Te}_4$  3D topological insulator, Priyanath Mal, Bipul Das, Archana Lakhani, G. Bera, G.R. Turpu, C.V. Tomy, **Pradip Das**, **Physica E: Low-dimensional Systems and Nanostructures** **130**, 114672 (2021). IF 3.382
4. Structural, magnetic, dielectric and  $^{57}\text{Fe}$  Mössbauer spectroscopic studies on  $\text{Fe}_{1-x}\text{Ce}_x\text{VO}_4$ : a type-II multiferroic material, Ganesh Bera, Akash Surampalli, P. Mal, V. R. Reddy, Kranti Kumar, Archana Sagdeo, Parasmani Rajput, **Pradip Das** & G. R. Turpu, **J Mater Sci: Mater Electron** **32**, 7399(2021) IF 2.478
5. Spin splitted topological surface states in  $\text{PbBi}_4\text{Te}_7$ , Priyanath Mal, Bipul Das, G Bera, P Rambabu, G R Turpu, C V Tomy and Pradip Das, **J. Phys. D: Appl. Phys.** **53** 484003 (2020) IF 3.207
6. Vibrational spectra and optical properties of  $\text{Fe}_{1-x}\text{Cr}_x\text{VO}_4$  solid solutions: With a group theory analysis Ganesh Bera, P Mal, V.R.Reddy, U Deshpande, **Pradip Das**, G. Padmaja, G. R. Turpu, **Spectrochimica Acta Part A**, **227**, 117668 (2020) IF 4.098
7. Rapid photodegradation of methylene blue dye by rGO-  $\text{V}_2\text{O}_5$  nano composite A.Mishra, A.Panigrahi, P.Mal, S.Penta, G.Padmaja, G.Bera, P.Rambabu, **P.Das** and G.R.Turpu **Journal of Alloys and Compounds** **842**, 155746 (2020) IF 5.316
8. Methylene blue dye degradation by bulk, nano  $\text{FeVO}_4$  and rGO- $\text{FeVO}_4$  G Bera, A Mishra, P Mal, P Das, G Padmaja, P Rambabu, GR Turpu AIP Conference Proceedings 2220, 080070 (2020)
9. Unusual Conductance Fluctuations and Quantum Oscillation in Mesoscopic Topological Insulator  $\text{PbBi}_4\text{Te}_7$ , P.Mal, B.Das, A.Lakhani, G.Bera, G.R.Turpu, J.C.Wu, C.V.Tomy, **Pradip Das**, **Scientific Reports**, **9** 7018 (2019) IF 4.379
10. Vibrational Spectra of  $\text{Pb}_2\text{Bi}_2\text{Te}_3$ ,  $\text{PbBi}_2\text{Te}_4$  and  $\text{PbBi}_4\text{Te}_7$  Topological Insulators: Temperature Dependent Raman and Theoretical Insight from DFT Simulations, Priyanath Mal, G. Bera, G. R. Turpu, S. K. Srivastava, A. Gangan, B. Chakraborty, Bipul Das and **Pradip Das**, **Phys. Chem. Chem. Phys.** **21**, 15030-15039 (2019) IF 3.676
11. Magneto-Lattice Coupling, Magnetic Frustration and Magneto-Electric Effect in Cr doped  $\text{FeVO}_4$  Multiferroic Material and their correlation with Structural Phase Transitions, G.Bera, A.Surampally, A.Mishra, P.Mal, V.R.Reddy, A. Banerjee, A.Sagdeo, **P. Das**, G. R. Turpu, **Phys. Rev. B** **100** 014436 (2019) IF 4.036
12. Comparative electrochemical analysis of rGO-  $\text{FeVO}_4$  nanocomposite and  $\text{FeVO}_4$  for supercapacitor application, A.Mishra, G.Bera, P.Mal, P.Sen, B.Chakraborty, **P. Das**, G.Padmaja and G.R.Turpu, **App. Surf. Sci.** **488** 221 (2019) IF 6.707
13. Low temperature synthesis of  $\text{FeVO}_4$  through mechano - milling assisted solid state reaction method, G. Bera, V.R.Reddy, P. Rambabu, P. Mal, **P. Das**, G.Padmaja, and G. R. Turpu, **AIP Conf. Proceedings** **2115** 030110 (2019)
14. Multifunctionality of Partially Reduced Graphene Oxide - $\text{CrVO}_4$  Nano-Composite: Electrochemical and Photocatalytic Studies with Theoretical Insight from Density Functional

- Theory, G. Bera, A. Mishra, P. Mal, A. Sankarakumar, P. Sen, A. Gangan, B. Chakraborty, **P. Das** and G.R.Turpu, **J. Phy. Chem C.** **122** 21140 (2018) IF 4.126
15. Synthesis and photocatalytic degradation study of methylene blue dye under visible light irradiation by  $\text{Fe}_{1-x}\text{Bi}_x\text{VO}_4$  solid solutions ( $0 \leq x \leq 1$ ) G. Bera, V.R.Reddy, P. Mal, **P. Das** and G. R. Turpu **AIP Conf. Proceedings** **1953** 080026 (2018)
  16. Synthesis and temperature dependent Raman studies of large crystalline faces topological  $\text{GeBi}_4\text{Te}_7$  single crystal, P. Mal, G. Bera, G. R. Turpu, S.K.Srivastava and **P. Das**, **AIP Conf. Proceedings** **1953** 70022 (2018)
  17. Electronic, magnetic and spectroscopic properties of doped  $\text{Mn}_{(1-x)}\text{A}_x\text{WO}_4$  (A = Co, Cu, Ni and Fe) multiferroic: an experimental and DFT study, P. Mal, G Bera, P Rambabu, G R Turpu, B.Chakraborty, L. M Ramaniah, R P Singh, P. Sen, **P. Das Journal of Physics: Cond. Matter** **29** 075901 (2017) IF **2.333**
  18. Triclinic – monoclinic – orthorhombic (T–M–O) structural transitions in phase diagram of  $\text{FeVO}_4$  - $\text{CrVO}_4$  solid solutions, G.Bera, V.R.Reddy, P. Rambabu, P. Mal, **P. Das**, N. Mohapatra, G. Padmaja, G. R. Turpu, **Journal of Applied Physics** **122** 115101(2017 ) IF **2.546**
  19.  $\text{CoFe}_2\text{O}_4$ -decorated carbon nanotubes for the dehydration of glucose and fructose, Kalluri V. S. Ranganath, MahendraSahu, Melad Shaikh, Pramod Kumar Gavel, Kiran Kumar Atyam, SantimoyKhilaric and **Pradip Das**, **New J. Chem** **40** 4468 (2016) IF 3.591
  20.  $\text{rGO-SnO}_2$  composites for super capacitor applications, P. Rambabu, S.K.Srivastava, **P. Das** and G.R.Turpu, **IOP Conf. Series: MSE** **159** 012169 (2016)
  21. Structural characterization of  $\text{FeVO}_4$  synthesized by co-precipitation method. G.Bera, Sourav Sinha, P. Rambabu, **P. Das**, A. K. Gupta, G. R. Turpu, **AIP Conf Proceedings** **1728** 020284 (2016)
  22. Energy band gap and spectroscopic studies in  $\text{Mn}_{1-x}\text{Cu}_x\text{WO}_4$  ( $0 \leq x \leq 0.125$ ). P. Mal, P.Rambabu, G. R. Turpu, A. K. Gupta, B.Chakraborty, P.Sen, **P. Das**, **AIP Conf Proceedings** **1728** 020323 (2016)
  23. DNA Engineered Tri-Functional Ni–Au Nano-Chain: Understanding of Its Formation and Novel Magnetic Properties, Bipul Das, Debasish Sarkar, **Pradip Das**, Madhuri Mandal **J. Nanosci. Nanotechnol.** **14(3)** 2599 (2014) IF 1.354
  24. Anomalous quadrupole feature in the mixed state of  $\text{YNi}_2\text{B}_2\text{C}$ , **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover, **Physica C** **484** 81-85 (2013) IF 1.241
  25. Magnetostatic interaction in two dimensional arrays of Cobalt nanowires. Bipul Das, K. Mandal, PintuSen, AshisBakshi, **Pradip Das**, **Physica B** **407** 3767–3773 (2012) IF 2.436
  26. Role of Cu-doping in topological insulator  $\text{Bi}_2\text{Se}_3$  studied by angle-resolved photoemission spectroscopy Y. Tanaka, K. Nakayama, S. Souma, T. Sato, N. Xu, P. Zhang, H. Ding, Y. Suzuki, **P. Das**, Kazuo Kadowaki, and T. Takahashi, **Physical Review B** **85** 125111(2012) IF 4.036
  27. Pairing Symmetry and Magnetic Relaxation in Topological Superconductor  $\text{Cu}_x\text{Bi}_2\text{Se}_3$ , **Pradip Das**, Yusuke Suzuki, Masashi Tachiki and Kazuo Kadowaki, **J. Phys.: Conf. Ser.** **400** 113917 (2012)
  28. Pinning mechanism in iron chalcogenide superconductor  $\text{FeSe}_{0.5}\text{Te}_{0.5}$  Ajay D Thakur, Anil K Yadav, **P Das**, CV Tomy, MR Lees, G Balakrishnan, S Ramakrishnan, AK Grover, **AIP Conference Proceedings** **1447 (1)** 897-898 (2012)
  29. Magnetization hysteresis and time decay measurements in  $\text{FeSe}_{0.50}\text{Te}_{0.50}$ : Evidence for fluctuation in mean free path induced, **P. Das**, Ajay. D. Thakur, Anil K. Yadav, C. V. Tomy, M.R. Lees, G. Balakrishnan, S. Ramakrishnan, A. K. Grover, **Phys. Rev. B** **84** 214526 (2011) IF IF 4.036
  30. Spin-triplet vortex state in the topological superconductor  $\text{Cu}_x\text{Bi}_2\text{Se}_3$ , **Pradip Das**, Yusuke Suzuki, Masashi Tachiki, and Kazuo Kadowaki, **Phys. Rev. B. Rapid Communication**, **83** 220513(R) (2011) IF 4.036 (Cited in Physics spotlight exceptional research by American Physical Society (<http://physics.aps.org/synopsis-for/10.1103/PhysRevB.83.220513>))

31. Anisotropy in the vortex phase diagram and the pinning force density in the basal plane of  $\text{YNi}_2\text{B}_2\text{C}$  **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover **Physica C** **469** 151(2009) IF 1.241
32. Peak effect phenomena, surface superconductivity and paramagnetic Meissner effect in a spherical single crystal of niobium., **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover **J. Phys.: Conf. Ser.** **150** 052041(2009)
33. Thermo-magnetic history effects in the vortex state of  $\text{YNi}_2\text{B}_2\text{C}$  superconductor, **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover, **J. Phys.: Conf. Ser.** **150** 052042 (2009)
34. Peak effect phenomena, surface superconductivity and positive field cooled magnetization in a spherical single crystal of niobium, **Pradip Das**, C.V. Tomy, S.S. Banerjee, H. Takeya, S. Ramakrishnan and A.K. Grover, **Phys. Rev. B.** **78** 214504 (2008) IF 4.036 Appeared as **focus new item in Nature India section of Nature Magazine** <http://www.nature.com/nindia/2008/081228/full/nindia.2008.342.html>
35. Growth of textured nanocrystalline cobalt ferrite thin films by pulsed laser deposition, L. Aditya, A. Srivastava, S. K. Sahoo, **P. Das**, C. Mukherjee, Abha Misra, V.R. Reddy, R. S. Shinde, Ajay Gupta, Shiva Prasad, I. Samajdar, R. V. Nandedkar, and N. Venkataramani, **J. Nanosci. Nanotechnol** **8** 4135 (2008) IF 1.354
36. Spin compensation in  $\text{YbSr}_2\text{RuO}_6$  Ravi P. Singh, **Pradip Das**, C.V. Tomy **AIP Proceedings** **1003** 151(2008)

### Conference Proceedings

1. Observation of the Fishtail Effect and the magnetic relaxation measurements in single crystal of the superconductor  $\text{FeSe}_{0.5}\text{Te}_{0.5}$ , **P Das**, AK Yadav, CV Tomy, G Balakrishnan, S Ramakrishnan, AK Grover Proceedings of the DAE solid state physics symposium. V. 54 (2009)
2. Observation of surface superconductivity and paramagnetic Meissner effect in a spherical single crystal of Nb **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover Solid State Physics (India) 53, 917 (2007)
3. Dynamical response of Flux line lattice: a ramp rate dependence magnetic isotherm study in single crystal  $\text{YNi}_2\text{B}_2\text{C}$  **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover Solid State Physics (India) 52, 817 (2007).
4. Magnetization Reversal in  $\text{YbSr}_2\text{RuO}_6$  Ravi P. Singh, **Pradip Das**, C.V. Tomy Solid State Physics (India) 52, 1037 (2007).
5. Study of Pulsed Laser Deposition of Nanocrystalline  $\text{GaFeO}_3$  thin film on single crystal YSZ (100) substrate as a function of temperature **Pradip Das**, Ravi P. Singh, Devang A. Joshi, C.V. Tomy, D. S. Misra Proceedings of the Advance Nano Materials, p. 299 (2007).
6. Synthesis of High Purity Multi walled carbon nanotube using ferrocene as catalyst in thermal chemical vapor deposition Pawan K. Tyagi, Abha Misra, Padmnabh Rai, Dipti Ranjan Mahapatro, **Pradip Das**, E. Titus, D.S. Misra, Jay Ghatak, P.V. Satyam Proceedings of the Advance Nano Materials p. 64 (2007).
7. Magnetic Properties of  $\text{RNi}_3\text{FeGa}$  compound (R = Y, La and Gd) Devang A. Joshi, Ravi P. Singh, **Pradip Das**, C.V. Tomy and S. K. Malik Solid State Physics (India) 51, 921 (2006).
8. Single crystalline nickel nanorods encapsulated inside carbon nanotubes Pawan K. Tyagi, Abha Misra, Manoj K. Singh, **Pradip Das**, D.S. Misra, Jay Ghatak, P.V. Satyam Solid State Physics (India) 49, 201 (2004).
9. Anisotropy Study by Torque Measurements and the Magnetic Relaxation Measurements in a Single Crystal of the Superconductor  $\text{FeSe}_{0.5}\text{Te}_{0.5}$ , **Pradip Das**, presented as an poster presentation at the “7th International Symposium on Intrinsic Josephson Effects and Plasma Oscillations in High-Tc Superconductors”, April 29th – May 2nd, Hirosaki University, Aomori, Japan.
10. Synthesis and Study of FeP Single Crystals, A. Nozawa, T. Goya, H. Yamaguchi, Y. Jono, Y. Suzuki, **P. Das**, S. Hashimoto, T. Yamamoto, T. Kashiwagi and K. Kadowaki, presented as poster presentation at the “4th AEARU Advanced Materials Workshop on Artificial and Self-Organized Nanostructure Sciences and Nano-Technologies for the Sustainable World”, held in August 29th - September 3rd, 2010, in University of Tsukuba, Tsukuba, Japan

11. Single Crystal Growth of Topological Insulator  $Cu_xBi_2Se_3$ , Y. Suzuki, **P. Das**, S. Hashimoto, T. Goya, Y. Jono, T. Yamamoto, H. Yamaguchi, A. Nozawa, T. Kashiwagi and K. Kadowaki, presented as poster presentation at the “4th AEARU Advanced Materials Workshop on Artificial and Self-Organized Nanostructure Sciences and Nano-Technologies for the Sustainable World”, held in August 29th - September 3rd, 2010, in University of Tsukuba, Tsukuba, Japan
12. Synthesis and Physical Properties of  $BaFe_2(As_{1-x}Px)_2$  Single Crystals, Y. Jono, S. V. Chong, T. Goya, H. Yamaguchi, **P. Das**, T. Yamamoto, S. Hashimoto, Y. Suzuki, A. Nozawa, T. Kashiwagi, R. Yoshizaki and K. Kadowaki, presented as poster presentation at the “4th AEARU Advanced Materials Workshop on Artificial and Self-Organized Nanostructure Sciences and Nano-Technologies for the Sustainable World”, held in August 29th - September 3rd, 2010, in University of Tsukuba, Tsukuba, Japan.
13. Single Crystal Growth of Iron Based Superconductors by Vertical Bridgeman Method, H. Yamaguchi, T. Goya, Y. Jono, **P. Das** and K. Kadowaki, presented as poster presentation at the “4th AEARU Advanced Materials Workshop on Artificial and Self-Organized Nanostructure Sciences and Nano-Technologies for the Sustainable World”, held in August 29th - September 3rd, 2010, in University of Tsukuba, Tsukuba, Japan.
14. Topological Insulator  $Cu_xBi_2Se_3$  and  $CaxBi_{2-x}Se_3$ , **P. Das**, Y. Suzuki, S. Hashimoto, T. Goya, T. Yamamoto and K. Kadowaki, presented as poster presentation at the “4th AEARU Advanced Materials Workshop on Artificial and Self-Organized Nanostructure Sciences and Nano-Technologies for the Sustainable World”, held in August 29th - September 3rd, 2010, in University of Tsukuba, Tsukuba, Japan.
15. Synthesis and Physical Properties of 122 System of Iron-Based Superconductors, Touhei Jono, Tomoki Goya, Hisato Yamaguchi, **Pradip Das**, Shinya Hashimoto, Yusuke Suzuki, Akihiko Nozawa and Kazuo Kadowaki, presented at the 3rd International Symposium on Interdisciplinary Materials Science (ISIMS-2011)” held at Tsukuba International Congress Center (EPOCHAL), Tsukuba, Ibaraki, Japan, March 9-11, 2011.
16. Synthesis and Characterization of Prototype iron Based Superconductors, Akihiko Nozawa, Tomoki Goya, Hisato Yamaguchi, Yohei Jono, Yusuke Suzuki, **Pradis Das**, Shinya Hashimoto, Takashi Yamamoto, Takanari Kashiwagi, Ryozo Yoshizaki and Kazuo Kadowaki, presented at the “3rd International Symposium on Interdisciplinary Materials Science (ISIMS-2011)” held at Tsukuba International Congress Center (EPOCHAL), Tsukuba, Ibaraki, Japan, March 9-11, 2011.
17. Single Crystal Growth and Physical Properties of Topological Insulator  $Bi_2Se_3$ , Y. Suzuki, **P. Das**, H. Yamaguchi, T. Goya, Y. Jono, A. Nozawa, S. Hashimoto, T. Yamamoto, R. Yoshizaki, T. Kashiwagi and K. Kadowaki, presented at the “3rd International Symposium on Interdisciplinary Materials Science (ISIMS-2011)” held at Tsukuba International Congress Center (EPOCHAL), Tsukuba, Ibaraki, Japan, March 9-11, 2011.
18. Magnetization Studies in a Topological Insulator  $Cu_xBi_2Se_3$  Single Crystal, **Pradip Das**, Y. Suzuki, M. Tachiki and K. Kadowaki, presented at the “3rd International Symposium on Interdisciplinary Materials Science (ISIMS-2011)” held at Tsukuba International Congress Center (EPOCHAL), Tsukuba, Ibaraki, Japan, March 9-11, 2011.
19. Topological Insulator  $Cu_xBi_2Se_3$  and  $CaBi_{2-x}Se_3$ , **Pradip Das**, S. Hashimoto, T. Goya, Y. Suzuki, T. Yamamoto, K. Kadowaki, 2010 Fall Meeting of the Physical Society of Japan (Osaka Prefecture 中百舌島 held at the campus), September 23, 2010, 8 iron-arsenic superconductor region (23pWH-8), the third volume, Volume 65 Number 2 Physical Society of Japan Abstracts pp502.
20. High-resolution ARPES in  $Cu_xBi_2Se_3$  superconductors, Y. Tanaka, K. Umezawa, Keisuke Koji Nakayama, old Soma, 宇史 Sato, Yusuke Suzuki, **Pradip Das**, K. Kadowaki, T. Takahashi, Fall Meeting of the Physical Society of Japan 2011 (University of Toyama campus), September 21 to 24, 2011.
21. Doping dependence of superconductivity in  $Cu_xBi_2Se_3$ , Y. Suzuki, **Pradip Das**, M. Tachiki and K. Kadowaki, Fall Meeting of the Physical Society of Japan 2011 (University of Toyama campus), September 21 to 24, 2011.
22. Anomalous quadrupole feature in the mixed state of  $YNi_2B_2C$ , **Pradip Das**, C.V. Tomy, H. Takeya, S. Ramakrishnan and A.K. Grover, ISS 2011 (Tower Hall Funabori, Tokyo, Japan, Oct. 24-26, 2011)
23. Conductance Fluctuations and Quantum Oscillation in Topological Insulator  $PbBi_4Te_7$  1<sup>st</sup> International Conference on Advance in Nanomaterials and Device for Energy and Environment, ABV-IIITM Gwalior 27-29 Jan, 2019
24. Conductance Fluctuations and Quantum Oscillation in Topological Insulator National seminar on Recent Trends in Physics Bidhan Chandra College Asansol 19<sup>th</sup> January, 2019 Bulk and surface transport

- properties of  $\text{PbBi}_2\text{Te}_4$  topological insulator National Conference on Graphene and Functional Materials CSIR-Central Mechanical Engineering Research Institute 23-24 Feb, 2018
25. Spectroscopic, electronic and magnetic properties of doped  $\text{Mn}_{1-x}\text{A}_x\text{WO}_4$  (A=Co, Cu, Ni & Fe) International Conference on Emerging Materials and Applications, University of Allahabad 20-22 Feb, 2018
  26. Synthesis and Transport Properties of the Topological Insulator  $\text{Bi}_{1-x}\text{Sb}_x\text{Te}_{1-y}\text{Se}_y$  &  $\text{Cu}_x\text{Bi}_2(\text{Se}_{1-y}\text{Te}_y)_3$  National conference on Environmental Radiation and Functional Materials, Department of Physics, Osmania University, Hyderabad February 28- March 1, 2015
  27. Synthesis and Raman study of topological insulators  $\text{Bi}_2\text{Te}_3$ ,  $\text{Bi}_2\text{Se}_3$ ,  $\text{PbBi}_2\text{Te}_4$  and  $\text{PbBi}_4\text{Te}_7$  single crystal
  28. International Conference on condensed matter & Applied Physics, Department of Physics, Govt. Engineering College Bikaner 30-31 October, 2015
  29. Structural and Spectroscopic Properties of Multiferroic  $\text{Mn}_{1-x}\text{Co}_x\text{WO}_4$  18<sup>th</sup> National Seminar on Ferroelectrics and Dielectrics Department of Physics, Manipur University 3-5 Nov 2014