

Publications In International Journal

1. **Abhishek Singh**, R. Singh, T. Patel, G. Okram, A. Lakhani, V. Ganeshan, A. Ghosh, S. Jha, S. Patil, and S. Chatterjee, “Tuning of carrier type, enhancement of Linear magnetoresistance and inducing ferromagnetism at room temperature with Cu doping in Bi_2Te_3 Topological Insulators,” *Materials Research Bulletin*, vol. 98, pp. 1-7, 2018.
2. **Abhishek Singh**, P. Shahi, A. Ghosh, J. Cheng, and S. Chatterjee, “Enhancement in power factor due to anti-correlation between electrical conductivity and thermoelectric power and induced magnetic ordering in high mobility Zn doped Bi_2Te_3 topological insulator,” *Journal of Alloys and Compounds*, vol. 731, pp. 297-302, 2018.
3. **Abhishek Singh**, A. Ghosh, and S. Chatterjee, “Antiferromagnetic Ordering at Room Temperature in Co-Doped Sb_2Te_3 Topological Insulators,” *Journal of Superconductivity and Novel Magnetism*, vol. 31, no. 2, pp. 299-305, 2018.
4. R. Singh, V. K. Gangwar, D. Daga, **Abhishek Singh**, A. Ghosh, M. Kumar, A. Lakhani, R. Singh, and S. Chatterjee, “Unusual negative magnetoresistance in $\text{Bi}_2\text{Se}_{3-y}\text{S}_y$ topological insulator under perpendicular magnetic field,” *Applied Physics Letters*, vol. 112, no. 10, pp. 102401, 2018.
5. K. K. Shukla, A. Pal, **Abhishek Singh**, R. Singh, J. Saha, A. Sinha, A. K. Ghosh, S. Patnaik, A. Awasthi, and S. Chatterjee, “Hidden transition in multiferroic and magnetodielectric CuCrO_2 evidenced by ac-susceptibility,” *EPL (Europhysics Letters)*, vol. 118, no. 2, pp. 27008, 2017.

6. Distinguishing Bulk state from Surface state by simultaneous SdH and dHvA oscillations in $\text{Sb}_{1.90}\text{Cu}_{0.10}\text{Te}_3$ Topological Insulator, **Abhishek Singh**, V. K. Gangwar, R. Singh, P. Shahi, A. K. Ghosh, J.G. Cheng and S. Chatterjee (Under Review)
7. Giant mobility and large power factor in Zn doped Bi_2Te_3 Topological Insulators, **Abhishek Singh**, P. Shahi, J.-G. Cheng, A. K. Ghosh, S. Chatterjee (Under review)
8. High temperature spin-freezing transition in Pyrochlore $\text{Eu}_2\text{Ti}_2\text{O}_7$: A new observation from ac-susceptibility, A. Pal, **Abhishek Singh**, Anup K. Ghosh, S.Chatterjee (under Review)
9. Magnetic and Magneto-transport study of $\text{Bi}_2\text{Cu}_x\text{Te}_{3-x}$ ($x=0, 0.03, 0.09$) Topological Insulators, **Abhishek Singh**, V. K. Gangwar, R. Singh, S. Kumar, E. F. Schwier, K.Shimada, T.Matsumura, A. Lakhani, A. K. Ghosh, and S. Chatterjee (To be communicated)
10. Structural and Transport property of Zn doped Sb_2Te_3 Topological Insulator, **Abhishek Singh**, P. Shahi, J.-G. Cheng, A. K. Ghosh, S. Chatterjee) (To be communicated)
11. Thermoelectric power, Electrical Conductivity and Magnetic analysis of Co doped Sb_2Te_3 Topological Insulator, **Abhishek Singh**, R. Singh, S. Kumar, P. Shahi, E. F. Schwier, K.Shimada, T.Matsumura, J.-G. Cheng, A. K. Ghosh, S. Chatterjee) (To be communicated)

12. Study of Structural, Thermopower and Magneto-transport Property of Cu doped Sb_2Te_3 Topological Insulator, **Abhishek Singh**, V. K. Gangwar, R. Singh, P. Shahi, A. K. Ghosh, J.G. Cheng and S. Chatterjee (To be communicated)

Conference proceeding

1. **Abhishek Singh**, A. Kumar, A. Pal, A. Tripathi, A. Tiwari, S. Chatterjee, Structural, Optical and Magnetic properties of $(\text{Zn}_{0.98}\text{Mn}_{0.02}\text{O})/\text{Graphene}$ nanocomposites, International conference on Nanotechnology for Better Living, NBL-2016, NIT Srinagar, (Vol.3, No.1, p.51 doi:10.3850/978-981-09-7519-7nbl16-rps-51), 2016.
2. A. Pal, **Abhishek Singh** and S. Chatterjee, Inducing ferromagnetism in pyrochlore $\text{Eu}_2\text{Ti}_2\text{O}_7$ by Fe and Mn doping and establishing ferroelectricity in $\text{Eu}_2\text{Ti}_2\text{O}_7$, International conference on Nanotechnology for Better Living, NBL -2016, NIT Srinagar (Vol. 3, No. 1, p.141, doi:10.3850/978-981-09-7519-7nbl16-rps-141) 2016.
3. A. Kumar, G.D. Dwivedi, **Abhishek Singh**, R. Singh, K.K. Shukla, H.D. Yang, A.K. Ghosh and S. Chatterjee, Signature of Griffith phase in $(\text{Tb}_{1-x}\text{Ce}_x)\text{MnO}_3$, AIP Conference Proceedings 1731, 130060 (p.130060 (1-3) doi: 10.1063/1.4948166), 2016).

Poster presentation

- 1- **Abhishek Singh**, A. Kumar, S. Kumar, A. K. Ghosh, P. Maiti, S. Kumar, Sandip Chatterjee, Synthesis and Optical Properties of Functionalized Graphene-

- $Zn_{0.98}Mn_{0.02}O$ Nanocomposite, International Conference on Frontiers of Spectroscopy –Dep. of Physics BHU- (Jan 10-12, 2015).
- 2- K. K. Shukla, P. Shahi, A. Kumar, R. Singh, **Abhishek Singh**, Gopal S, A.K. Ghosh, A. K. Nigam, A. Das, S. Chatterjee, Neutron diffraction of Credenrite $CuMn_{1-x}Fe_xO_2$ (with $x=0, 0.05$), 5Th conference on neutron scattering-BARC Mumbai- (Feb2-4, 2015).
 - 3- **Abhishek Singh**, A. Kumar, S. Kumar, A. K. Ghosh, P. Maiti, S.Kumar, Sandip Chatterjee, Synthesis and Characterization of Functionalized Graphene- $Zn_{0.98}Mn_{0.02}O/G$ Nanocomposite 2th national workshop on advanced ceramic and nanotechnology(Theme Electroceramics), Dep. of Ceramic Engineering and Technology, IIT-(BHU)Varanasi, (Dec 4-5, 2015).
 - 4- **Abhishek Singh**, Shiv Kumar, Arkadeb Pal, A. K. Ghosh, Sandip Chatterjee, Synthesis and Characterization of $Zn_{0.96}Fe_{0.04}O/Graphene$ nanocomposites International Conference on "Advances in Biological Systems and Materials Science in Nano World" ICABSMSN- Dep. of Physics, IIT-(BHU)Varanasi, (Feb 19-23, 2017).
 - 5- **Abhishek Singh**, A. Pal , A.K. Ghosh, S. Chatterjee, Synthesis, Optical and Magnetic Characterization of $ZnO / Graphene$ Nanocomposite, Fourth International Symposium on Semiconductors materials and devices(ISSMD), Jadavpur, Univeristy, Kolkata, (March 8-10, 2017).
 - 6- **Abhishek Singh**, Rahul Singh, T. Patel, G. S. Okram, A. Lakhani, S. N. Jha and S. Chatterjee, Giant enhancement of linear magnetoresistance and inducing ferromagnetism at room temperature with Cu doping in Bi_2Te_3 Topological

Insulators”- 45th National Seminar on Crystallography, SMST, IIT-(BHU)Varanasi, (July 9-12, 2017).

- 7- **Abhishek Singh**, S. Kumar, E. F. Schwier, K. Shimada, T. Matsumura, A. Lakhani, A. K. Ghosh, and S. Chatterjee, Cu-doped Bi_2Te_3 Topological Insulators studied by Laser-based Angle-resolved Photoemission Spectroscopy and Magneto-transport, The 8th International Symposium on Surface Science, Tsukuba, Japan (Oct 22-26, 2017).

Oral Presentation

- 1- **Abhishek Singh**, Rahul Singh, V.K. Gangwar, A. Lakhani, T. Patel, G. S. Okram, V. Ganeshan, A. K. Ghosh and S. Chatterjee, Tuning of carrier type, Large magnetoresistance and room temperature ferromagnetism in Cu doped Bi_2Te_3 Topological Insulators, International Conference on "Advances in Biological Systems and Materials Science in NanoWorld" ICABSMSN, Dep. of Physics- IIT-(BHU)Varanasi, (Feb 19-23, 2017).

Workshop Attended

- 1- Workshop on Characterization and functionalization of nanomaterials (CFN-2015), Department of Physics, BHU, (March 9-13- 2015).
- 2- Workshop on Advanced nanomaterials characterization and applications (WANCA-2015), Department of Physics, BHU, (Nov 2-8, 2015).
- 3- 20th Symposium and workshop on Thermal analysis (Thermans 2016) (Jan 18-22, 2016) Department of Physics, IIT-(BHU)Varanasi, (Jan 18-22, 2016).