

CURRICULUM-VITAE



Name – Prof. Trilok Chandra Upadhyay

Father's Name – Shri Kabul Chandra Upadhyay

Date of Birth - 20/06/1963

Address – Vill & P.O. Badogal- Bhogpur, Dist. Dehradun 153 A, Upper Bhaktiyana, Near Devi Kali Mata Temple, Pauri Road, Srinagar (Garhwal) U.K.

Designation – Professor, Head & Convener

Department/ Univ.- Physics Dept., H.N.B. Garhwal University, Srinagar (Garhwal) U.K.-246174

Qualifications-

- High School (1979), UP Board, Allahabad
- Intermediate (1981), UP Board, Allahabad
- B.Sc. Physics (1983), Garhwal University Srinagar Garhwal
- M.Sc. Physics (1985), Garhwal University Srinagar Garhwal
- DPhil/ Ph.D. Physics (1992), H.N.B. Garhwal University Srinagar Garhwal
- Worked as Junior Research Fellow in U.G.C. Research Project

Teaching Experience-

S.No.	Designation	From to	Inst.
	Lecturer (Ad hoc/Daily Wages Irregular)	17/11/1986 to 24/12/1986	Garhwal University
		4/02/1988 to 15/03/1988	Garhwal University
		3/09/1988 to 15/03/1988	Garhwal University
		12/03/1990 to 31/03/1990	Garhwal University
		16/08/1990 to 15/10/1990	Garhwal University
		17/10/1990 to 16/12/1990	Garhwal University
		18/12/1990 to 17/02/1991	Garhwal University
		18/02/1990 to 30/04/1991	Garhwal University

1.	Lecturer	15/05/1991 to 14/05/2000	Garhwal University, Srinagar
2.	Reader	15/05/2001 to 14/05/2008	H.N.B. Garhwal University, Srinagar
3.	Professor	15/05/2008 to till date	H.N.B. Garhwal University, Srinagar

Teaching Experience- Approximately 30 years, 11 months.

Administrative Experience-

Worked as: (i) Assistant Dean Student Welfare

(ii) Campus Head- Physics, Srinagar Campus

Working as: Head & Convener- Physics

D.Phil./ Ph.D. Guidance-

(1) Scholars Awarded = 19 (2* with Prof. B.S. Semwal)

(2) Thesis Submitted = 01

(3) Registered (working) = 01

(1) Dr. Dinesh Chandra Bhatt, *Dr. Bishan Singh Bisht, *Dr. Ramendra Singh Bhandari
Dr. Subodh Gairola, Dr. Balkrishna Kandpal, Dr. Deepak Joshi, Dr. Kalika Prasad Semwal,
Dr. Sandeep Sharma, Dr. Mayank Joshi, Dr. Pramod Sati, Dr. Ashish Nautiyal
Dr. Arvind Rawat, Dr. Deepali Raturi, Dr. Anubhuti Mamgain, Dr. Aanchal Rawat,
Dr. Prabhat Khanduri, Dr. Naveen Kohli, Dr. Muzaffar Iqbal Khan, Dr. Pawan Singh

(2) Mr. Kuldeep Kumar

(3) Mr. Nitin Bahuguna

Book Authored: -

Introduction to Modern Physics (Anmol Publication New Delhi, 1999)

Chapter of Book Written: -

“General Introduction to Ferroelectrics” (M.I. Khan & T.C. Upadhyay), Intechopen (2021), DOI-
(<https://doc.doi.org/10.572/intechopen97720>.)

Book Edited: -

Elementary Solid-State Physics, UOU, Haldwani-2018, Bsc PH 203 (Authors- Dr. Madan Singh, Dr. Mahipal Singh, Dr. Girish Chandra)

Research Papers Published in Journals = 102 (list enclosed, from serial No. 8 are part of scholar's Ph.D. Thesis)

1. Soft mode dynamics of perovskite type crystals (N.S. Panwar, T.C. Upadhyay & B.S. Semwal) *Pramana* 33, 603 (1989)
2. Temperature dependence of dielectric Constant and loss tangent at microwave frequencies in perovskite type crystals (N.S. Panwar, T.C. Upadhyay & B.S. Semwal) *Ind. J. Pure & Appl. Phys.* 27,765 (1989).
3. Stabilisation of Paraelectric phase by strong cubic and quartic phonon anharmonicities in KDP crystal (T.C. Upadhyay, N.S. Panwar & B.S. Semwal) *International J. Modern Physics B*, 9,45 (1995)
4. Effect of Lattice anharmonicity on Debye-Waller factor in KDP type crystals (T.C. Upadhyay & B.S. Semwal) *Indian J. Theor. Physics* 45, 223 (1997).
5. Effect of electric field on soft mode frequency, dielectric constant and tangent loss in KDP-type crystals (T.C. Upadhyay & B.S. Semwal) *Indian J. Theor. Phys.* 49, 53 (2001)
6. Microwave dielectric tangent loss. in KDP and DKDP crystals (T.C. Upadhyay & B.S. Semwal) *Pramana*,60,525 (2003).
7. Temperature dependence of dielectric loss tangent in KDP and DKDP crystals at microwave frequencies (T.C. Upadhyay & B.S. Semwal) *Ind. J. Pure & Appl. Phys.* 40,615 (2002)
8. Dielectric properties of KDP-type ferroelectric crystals in presence of external electric field (T.C. Upadhyay, R. Singh & B.S. Semwal). *Pramana* 67, 547-552 (2006)
9. Temperature dependence of dielectric constant and loss tangent in layered antiferroelectric squaric acid crystal (T.C. Upadhyay) *Ind. J. Pure & Appl. Phys.* 45, 157 (2007).
10. Temperature dependence of microwave loss in Rochelle salt crystal (T.C. Upadhyay & B.K. Kandpal) *Ind. J. Pure & Appl. Phys* 47, 134 (2009).
11. Temperature dependence of microwave losses in ADP-type crystals. (T.C. Upadhyay) *Ind. J. Pure & Appl. Phys.* 47, 66 (2009)
12. Temperature dependence of microwave loss in squaric acid crystal (T.C. Upadhyay) *Ind J. Pure & Appl. Phys.* 47,119 (2009)

13. Microwave absorption in PbHPO_4 crystal (T.C. Upadhyay & S. Gairola) *Ind. J. Pure & Appl. Phys.* 46, 727(2008)
14. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in PbHPO_4 crystal in presence of electric field. (T.C. Upadhyay & Mayank Joshi) *Ind. J. Pure & Appl. Phys.* 48, 550 (2010).
15. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in Rochelle salt crystal in presence of electric field (T.C. Upadhyay & KP. Semwal) *Ind. J. Pure & Appl. Phys.* 47,883 (2009).
16. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in deuterated SQA crystal (T.C. Upadhyay) *Ind. J. Pure & Appl. Phys.* 49, 635(2011).
17. Microwave absorption in antiferroelectric tin chloride dihydrate crystal (T.C. Upadhyay & Pramod Kumar) *Ind. J. Pure & Appl. Phys.* 49,686 (2011).
18. Temperature dependence of antiferroelectric soft mode frequency, dielectric constant and loss tangent of ADP crystal in presence of external electric field (T.C. Upadhyay & Deepak Joshi) *Ind. J. Pure & Appl. Phys.* 50, 167(2012).
19. Theoretical study of ferroelectric and dielectric properties of novel pyroelectric material TGS crystal (T.C. Upadhyay & Sandeep Sharma), *Mindshare (Int'l refereed journal)* Vol 1, Issue 1 Nov-Dec 2010 pp 73-82 ISSN. 2229, 4872 (Lucknow & Dubai).
20. Temperature and electric field dependent dielectric, acoustic and thermal properties of TGS crystal (T.C. Upadhyay & A. Nautiyal). *Lucknow J. of Sciences* (ISSN 0974-8121 Vol. 8, No. 1. pp 497-509 (2011).
21. Ferroelectric phase transition and dielectric properties of TGS crystal and its isomorphs (T.C. Upadhyay & Sandeep Sharma). *Asian J. Chemistry*, Vol. 23, No 12 pp 5629-5631 (2011).
22. Theoretical study of anti- ferroelectric and dielectric properties of $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ crystal (T.C. Upadhyay & P. Sati) *Asian J. Chemistry* Vol 23, No 12 pp 5617-5621 (2011).
23. Electric conductivity permittivity, acoustic loss and quality factors of TGS crystal (isomorphs) with external biasing (T.C. Upadhyay & A. Nautiyal) *Asian J. Chem.* Vol 23, No 11 (2011) pp 5587-5594.

24. Theoretical study of anti-ferroelectric and dielectric properties of $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ crystal and similar crystals, (T.C. Upadhyay & P. Sati) Lucknow J. Science, Vol 8, No 1 (2011), pp 524-534.
25. Temperature and electric field dependent dielectric, acoustic and thermal properties of TGS crystal (T.C. Upadhyay & A. Nautiyal) Lucknow J. of Science, Vol. 8, No. 1, pp 497-509.
26. Ferroelectric properties of TGS crystal in external electric field. (T.C. Upadhyay & A. Nautiyal) Int'l J. of Innov. Res. in Sci. & Techniques. Vol. 2, No. 2, July Dec. (2011), pp 101-108, Gurgaon (Haryana 30) ISSN: 2229-3116.
27. Effect of electric field on dielectric properties of ferroelectric crystal lead hydrogen mono phosphate (T.C. Upadhyay & M. Joshi) J. of Int'l Acad. of Phys. Sci. Vol. 15 (3 pp 421-426 (2011) ISSN. 6974- 9373. Special Issue.
28. Vibrational pseudospin solution (Triglycine sulphate crystal) for Computing Technology (T.C. Upadhyay & A. Nautiyal) Int'l J. of Adv. in Sci. & Techn., Vol 4, No 2, pp 75-82 (2012) Feb. issue, ISSN 2225-52 16 (U.K.).
29. Dielectric properties of quasi one-dimensional PbHPO_4 crystal in presence of external electric field (T.C. Upadhyay & M. Joshi) J. Metall. & Mat. Sci, Vol 54, No 3, July-Sept (2012) pp 209-218, CSIR lab, Jamshedpur-831007, India, ISSN No 972-4257
30. A Theoretical study of doped stannous chloride dihydrate TGS crystal, (T.C. Upadhyay, P Kumar & A. Nautiyal), The African Review of Physics (2012) 7:008, pp 57-66.
31. Theory of Iron doped deuterated TGS crystal (A. Nautiyal & T.C. Upadhyay) Int'l J. of chemical Sci. & Appl. Vol 4, Issue ,1, (2013), pp 401-410, ISSN.0976-2590.
32. Theoretical study of ferroelectric TGS crystal in external electric field (T.C. Upadhyay & A. Nautiyal), Int'l Letters of Chemistry, Physics & Astronomy, Vol. 6 (2013) 54-65, ISSN.2299-3843.
33. A Theoretical study of Hydrogen bonded ferroelectric Nd-TGS crystal (T.C. Upadhyay & A. Nautiyal), Proceed. Nat'l Acad. Sci. (India) Oct.-Nov. (2012) 82 (4):335.
34. Application of lattice vibration model (Pseudospin model) for La-TGS ferroelectric crystal (A. Nautiyal & T.C. Upadhyay), Shekhar (New series) Int'l J. of Sci. & Techn, (ISSN 2277-8152) Vol.1 Issue, 11 June (2012) pp 43-50.

35. Ferroelectric & Dielectric properties of TGS crystal (T.C. Upadhyay & S. Sharma), Lucknow J. of Sciences, Vol.8, No 1. pp 448-455 (2011). ISSN 0974-8121.
36. Effect of ultrasonic pressure near T_c in pure and doped (CuSO_4) TGS crystal at phase transition (A. Nautiyal, T.C. Upadhyay, S.K. Srivastava, P. Raj, S. Srivastava, M. Joshi & Pramod Sati), Int'l J. Theoretical & Appl. Phys., Vol.2, No 11, (Dec 2012), pp.11-30. (ISSN. 2250-0634).
37. Theoretical study of second order phase transition in TGS crystal (T.C. Upadhyay & A. Nautiyal), J. Metall. & Mat. Sci. 55(3), 165-181 (2013), CSIR lab, Jamshedpur.
38. Green's function theory of ferroelectric phase transition in TGS crystal and its isomorphs (T.C. Upadhyay & S. Sharma), Mindshare (Int'l J. Res. & Develop.) Vol.1, No1 (March, 2011), pp 139-142 (Lucknow & Dubai).
39. Soft mode and acoustic mode ferroelectric properties of deuterated TGS crystal (A. Nautiyal & T.C. Upadhyay), Bull. Mat. Sci. 37(1) 133-140 (2014).
40. Ferroelectric properties of biased TGSe crystal (A. Nautiyal & T.C. Upadhyay), Contemporary Materials III (2012) pp 38-50.
41. Theoretical study of second order phase transition in hydrogen bonded order-disorder type pyroelectric Ce doped TGS crystal (A. Nautiyal & T.C. Upadhyay), Sri Lankan J. of Physics Accepted (2012).
42. Vibrational pseudospin solution (TGS crystal) for computing Technology (T.C. Upadhyay & A. Nautiyal), Int'l J. Adv. in Science & Technology, Vol.4, No2, (2012) pp75-84.
43. Dielectric properties of ferroelectric crystal PbHPO_4 (T.C. Upadhyay & M. Joshi), Int'l Trans.in Appl. Sci. 4(1) 115-120 (2012).
44. Thermal variation of vibrational frequency, dielectric constant and loss tangent and spontaneous polarization in DTGFB crystal (P.C. Khanduri & T.C. Upadhyay), Chem. Sci. Trans. 5(3), pp755-759 (2016).
45. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in DKDP crystal (A.M. and T.C. Upadhyay), Chem. Sci. Trans. 5(1) 197-201 (2016).

46. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in DTGSe crystal (P.C. Khanduri & T.C. Upadhyay), Chem. Sci. Trans. 5(1)145-148 (2016).
47. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in deuterated PbHPO_4 crystal (Aanchal Rawat & T.C. Upadhyay), Chem. Sci. Trans. 5(1) 253-257(2016).
48. Temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent in deuterated RbH_2PO_4 crystal (Deepali Raturi and T.C. Upadhyay), Chem. Sci. Trans.5(1) 218-222 (2016).
49. Temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent in DTGS crystal (Naveen Kohli and T.C. Upadhyay), Chem. Sci. Trans. 5(2) 291-294 (2016).
50. Temperature dependence of dielectric constant and loss tangent in MASD alum (Arvind Kumar Rawat & T.C. Upadhyay), Ind. J. Pure & Appl. Phys. 54, 183-187 (2016).
51. Study of dielectric constant and loss tangent of AFeSD alum. (Arvind Kumar Rawat & T.C. Upadhyay) Chem, Sci., Trans. 51) 30-34 (2016).
52. Study of ferroelectric and dielectric properties of TGSe crystal (Arvind Kumar Rawat, Aanchal Rawat and T.C. Upadhyay), Chem. Sci. Trans. 5(3), 627-632 (2016)
53. Temperature dependence of dielectric constant and loss tangent in MASD alum (Arvind Kumar Rawat, Aanchal Rawat & T.C. Upadhyay), Chem Sci., Trans. 5(3), 720-726 (2016).
54. on ferroelectric and dielectric properties of PbHASO_4 crystal (Arvind Kumar Rawat, Aanchal Rawat & T.C. Upadhyay), Int'l J. of Emerging Tech. & Adv. Engg., 512, 333-338(2013)
55. Study of dielectric constant and loss tangent in Rochelle salt crystal (B.K. Kandpal & T.C. Upadhyay), Chem-Sci. Trans., 5 (1) 924-929 (2016)
56. Ferroelectric phase transition in PbHASO_4 crystal (Arvind Kumar Rawat, Aanchal Rawat & T.C. Upadhyay) Sri Lankan J, Phys. 17, 19-28 (2016).

- 57.** Dielectric properties of TGSe crystal (Arvind Kumar Rawat, Aanchal Rawat & T.C. Upadhyay) Ind. J. Pure & Appl. Phys. 54, 713-719(2016).
- 58.** Dielectric constant & loss tangent in KH_2AsO_4 & Deuterated KH_2AsO_4 crystals (Deepali Raturi & T.C. Upadhyay), Ind J. Pure & Appl. Phys. 629-633 (2016). 541
- 59.** Dielectric constant and loss tangent in CsH_2PO_4 and CsD_2PO_4 crystals (A. Mamgain & T.C. Upadhyay) Ind. J. Pure & Appl - Phys. 54, 771-776(2016).
- 60.** Dielectric constant and dielectric loss tangent for Rochelle salt crystal (B.K. Kandpal. & T.C. Upadhyay) I.O.S.R. J. of Appl. Phys., 8, 53-59 (2016). e-ISSN. 2278-4561
- 61.** Study of ferroelectric mode frequency, dielectric constant and loss tangent in TGS Crystal (N. Kohli & T.C. Upadhyay), J. of Pure, Applied & Industrial Phys., Bhopal, 7(1) 10-17 (2017)
- 62.** Thermal variation of vibration & frequency, dielectric constant and loss tangent in TGSe crystal (P.C. Khanduri & T.C. Upadhyay), J. of Pure, App & Ind. Phys, 7(2), 29-31 (2017)
- 63.** Effect of electric field on dielectric constant, loss tangent in ADP crystal (Deepak Joshi & T.C. Upadhyay), Chem. Sci. Trans., 6(2), 288-292 (2017).
- 64.** Effect of electric field on ferroelectric and dielectric properties of Rochelle salt crystal (K.P. Semwal & T.C. Upadhyay), Chem. Sci. Trans., 6(3), 466-472.
- 65.** Study of ferroelectric phase transition and spontaneous polarisation in lead hydrogen phosphate type crystals (S. Gairola & T.C. Upadhyay), J. of Pure Applied and Industrial Physics, Bhopal, 7(4), 149-155 (2017). ISSN 0976-5727 9319
- 66.** Dependence of dielectric constant and loss tangent on electric field in antiferroelectric squaric acid crystal (P.C. Khanduri and T.C Upadhyay), J. of Metall. & Mat. Sci. 58(4) pp 213- 220 (2016).
- 67.** Temperature dependence of soft mode frequency, dielectric constant and loss tangent of Rochelle salt crystal (Aanchal Rawat & T.C Upadhyay), J. of Pure, Appl. & Ind. Phys. 7(5) 184-191 (2017)

- 68.** Temperature dependence of soft mode frequency, dielectric constant and loss tangent in Ammonium. iron alum (Arvind Kumar Rawat, Aanchal Rawal and T.C. Upadhyay), *Ind. J. Pure & Appl. Phys.* 55,683- (2017)
- 69.** Study of ferroelectric lead mono- hydrogen phosphate type crystals (Aanchal Rawat & T.C. Upadhyay), *Int'l J. Mod. Phys. B* 31, 175026-1 -11, 2017.
- 70.** Study of Dielectric constant and loss tangent in KH_2PO_4 crystal (Anubhuti Mamgain & T.C. Upadhyay), *J. of Metallurgy & Mat. Sci., CSIR, lab, Jamshedpur, Vol 59 Issue 2 pp 59-66 (2017)* ISSN0972-4257.472)
- 71.** Temperature dependence of soft mode frequency, dielectric constant and loss tangent of deuterated Rochelle salt crystal. (Aanchal Rawat and T.C. Upadhyay) *Ind. J. Pure & Appl. Phys.* 57,144-146 (2019)
- 72.** Dynamical disorder of LHP influence of electric field (M. Joshi and T.C. Upadhyay), *J. Science & Technological Researches*, Vol 11, No 4. Oct-Dec (2017) e-ISSN-2456-7701 (Published, 10/1/2017.
- 73.** Temperature dependence of soft mode frequency, dielectric constant and loss tangent of deuterated Rochelle salt (Aanchal Rawat & T.C. Upadhyay), *Ind. J. Pure & Appl. Phys.*, 57, 144-146(2019)
- 74.** Theoretical study of Dielectric behaviors of CsH_2PO_4 crystal (Naveen Kohli & T.C. Upadhyay) *Int'l J. Enverging Techno. & Adv. Engg.* Vol 7 Issue 7 (July 2017), pp 416-420.
- 75.** Changes in ferroelectric properties of MASD alum along with temperature by using PLCM model (Anubhuti Mamgain & T.C. Upadhyay), *J. of Mountain Research*, 14(2), 37-45 (2019).
- 76.** Phase transition thermal dependence. of ferroelectric and dielectric properties in H-bonded PbHPO_4 (LHP) crystal (Muzaffar Iqbal Khan and T.C Upadhyay), *Appl. Physics A*, 126, 881 (2020)

- 77.** Investigation of some temperature dependent ferroelectric properties of RDP crystal using PLCM model (Pawan Singh, Muzaffar Iqbal Khan & T.C. Upadhyay), Appl. Innov. Res. Vol. 2, pp 213-216 (2020)
- 78.** Theoretical Investigation of Structural phase transition and microwave dielectric properties in TGS crystal (Muzaffar Iqbal Khan, Pawan Singh & T.C. Upadhyay), App. Innov. Res. (NISCAIR), 1, 208-212, 2020.
- 79.** Temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent in KDP crystal (Pawan Singh & T.C. Upadhyay), Materials Today Proceedings (Elsevier), 28, 146-148 (2020).
- 80.** Theoretical investigation of temperature and frequency dependent ferroelectric properties in R.S. crystal (Muzaffar Iqbal Khan & T.C. Upadhyay), Materials Today Proceedings, 28, 19-23 (2020)
- 81.** Study of phase transition in Rochelle salt crystal (Muzaffar Iqbal Khan & T.C. Upadhyay) Appl. Innov. Res. (NISCAIR), Vol. 2, pp 28-31 (2020),
- 82.** Study of ferroelectric and dielectric properties of KDP crystal (Pawan Singh & T.C. Upadhyay) by Appl. Innov. Res. (NISCAIR), Vol. 2, pp 32-35 (2020).
- 83.** Theoretical Investigation of Cochran's mode frequency, and electrical permittivity of KDA crystal by using Zubarev's Green's function technique (Kuldeep Kumar & T.C. Upadhyay), Materials Today Proceedings (Elsevier), 49, 2360-2364 (2022)
- 84.** Theoretical investigation of ferroelectric phase transition and tangent delta in CDA crystal. (Kuldeep Kumar & T.C. Upadhyay), Materials Today Proceedings (Elsevier), 49, 2345-2351 (2022).
- 85.** Phase transition in H-bonded deuterated Rochelle salt (DRS) crystal (Muzaffar Iqbal Khan & T.C. Upadhyay), The European Physical Journal Plus (EPJP), 136(1), 1-14 (2021)
- 86.** Theoretical study of temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent properties in hydrogen bonded Triglycine Sulphate crystal (TGS), (Muzaffar Iqbal

- Khan & T.C. Upadhyay), AIP Conference Proceedings, 2220, 040040 (2020). (<https://doi.org/10.1063/5.001141>).
- 87.** Phenomenological explanation of spontaneous polarization. and onset ferroelectric phase transition in RbH_2ASO_4 crystal (Kuldeep Kumar, T.C. Upadhyay & A. Joshi), J. Phys. Conf series, IOP. Publishing 2070, 012059 (2021)
- 88.** Investigation of spontaneous polarisation and phase transition Phenomenon in KH_2PO_4 type crystals by Green's function approach (Kuldeep Kumar and T.C. Upadhyay), Journal of Low Temp. Phys. (Springer), 2022. (<https://doi.org/10.1007/s10909-022-02714-y>)
- 89.** Study of ferroelectric phenomena and other related properties in $\text{NaKC}_4\text{H}_4\text{O}_6 \cdot 6\text{H}_2\text{O}$ Crystal (Muzaffar Iqbal Khan and T.C. Upadhyay), The European Physical Journal D 75;211 (2021)
- 90.** Phase transition study of thermal dependence of soft mode frequency, dielectric constant and loss tangent properties in CDP and DCDP crystals (Muzaffar Iqbal Khan & T.C. Upadhyay) J. Low Temp. Phys. 203, 401-418 (2021).
- 91.** Investigation of KDP and RDP crystals dielectric properties by Green's function technique (Pawan Singh, T.C. Upadhyay & M.I. Khan), AIP Proceedings, 2357,020002 (2022). (<https://doi.org/10.1063/5.0080889>)
- 92.** First order ferroelectric phase transition phenomena in alkali phosphate crystal by using Green's Function approach (Kuldeep Kumar and T.C Upadhyay), Materials Today Proceedings, 66, (4) 2541-2546 (2022).
- 93.** Temperature dependence of dielectric properties in Potassium dihydrogen arsenate crystal (Pawan Singh, T.C. Upadhyay & Muzaffar Iqbal Khan), Materials Today Proceedings (Elsevier), 2021, Volume 46, Part 20, Pages 10698-10701. (<https://doi.org/10.1016/j.matpr.2021.01.453>)
- 94.** Dielectric properties of hydrogen bonded CDP type ferroelectric crystals (Muzaffar Iqbal Khan, Pawan Singh. & T.C. Upadhyay), Ferroelectrics 587, 198-206 (2022).
- 95.** Study of ferroelectric Properties of RDA crystal (P Singh, T.C Upadhyay, M.I. Khan & s Kashyap), J.

of Mountain Research, 16 (2), 245-251 (2021).

96. Investigation of KDP and RDP crystal: Dielectric properties by modified Hamiltonian and Green's function technique (Pawan Singh, T.C. Upadhyay & Muzaffar Iqbal Khan), AIP Proceedings, 2357, 020002-1-020002-6.

97. Ferroelectric effect investigation in some lead hydrogen phosphate type crystals (Mayank Joshi, B.K. Kandpal & T.C. Upadhyay), J. of Mountain Res., 16(2), Special Issue, 211-220 (2021).

98. Phase transition dielectric properties in order-disorder antiferroelectric $\text{NH}_4(\text{H}_2\text{PO}_4)$ (ADP) crystal (Muzaffar Iqbal Khan, Riya Upadhyay, Km Dhooma, Majahid UL Islam, Rayees Ahmad Zargar, Feroz Ahmad Mir, Pawan Singh, Trilok Chandra Upadhyay), Computational Condensed Matter (Elsevier), 2023. (<https://doi.org/10.1016/j.cocom.2022.e00780>)

99. Dielectric properties of ammonium iron sulphate-dodecahydrate alum crystal (Muzaffar Iqbal Khan, Riya Upadhyay, Rayees Ahmad Zargar, Majahid UL Islam, Feroz Ahmad Mir, Trilok Chandra Upadhyay), Material Plus, 2022. (<https://doi.org/10.37256/mp01010005>)

100. Dielectric properties of ferroelectric methylammonium aluminium sulphate alum (MASD) crystal (Muzaffar Iqbal Khan, Riya Upadhyay, Rayees Ahmad Zargar, Pawan Singh, Trilok Chandra Upadhyay), Computational Condensed Matter (Elsevier), 2022. (<http://doi.org/10.1016/j.cocom.2022.e00768>)

101. Explanation of onset Ferroelectric transition and anomalous tangent delta in H-bonded RDP crystal (Kuldeep Kumar & T.C. Upadhyay), J. of Mountain Res., 2, 39-47 (2021).

102. Thermal dependence of soft mode frequency, dielectric constant, and tangent loss in lead hydrogen phosphate (LHP) crystal (Nitin Bahuguna, Kuldeep Kumar & Trilok Chandra Upadhyay), Materials Today Proceedings (Elsevier), 2023. (<https://doi.org/10.1016/j.matpr.2023.01.295>)

Research Papers presented at Seminars/ Conferences = 141 (few by me and largely by scholars, list enclosed).

1. Frequency response function and dielectric properties of KDP- type ferroelectrics (B.S. Semwal, **M.P. Thapliyal**, T.C. Upadhyay & S.C. Bhatt)
Paper Presented at IV Nat'l Seminar on Ferroelectrics & Dielectrics, I.I.T Kharagpur (W.B.), Dec.22-24(1986)
2. Temperature dependence of shift, width and loss tangent in perovskite type crystals (**N.S. Panwar**, T.C. Upadhyay & B.S. Semwal)
Paper Presented at II Nat'l Seminar on Defects in Insulating Solids, I.I.T Madras, Feb 22-27(1988)
3. Theory of KDP-type ferroelectrics (**B.S. Semwal**, N.S. Panwar & T.C. Upadhyay)
Paper presented at VI Nat'l Seminar on Ferroelectrics & Dielectrics, Kakatiya University, Warangal (A.P), Dec.17-19(1990)
4. Theory of Order-Disorder Ferroelectrics (**T.C. Upadhyay** & B.S. Semwal)
Paper presented at VII Nat'l Seminar on Ferroelectrics & Dielectrics, H.N.B. Garhwal Univ., Srinagar (Garhwal), U.K., Oct., 3-5 (1992)
5. Theory of Phase transition in Order-Disorder Ferroelectrics (T.C. Upadhyay & **B.S. Semwal**), II Int'l Conf. on Different Disordered systems, Allahabad, Dec.1-3(2000), Kanha Shyam Hotel, Allahabad Proceed. pp. 126-131
6. Isotope effect in isotopically disordered ferroelectrics (B.S. Semwal & **T.C. Upadhyay**), II Int'l Conf. on Different Disordered systems, Allahabad, Dec.1-3(2000), Kanha Shyam Hotel, Allahabad Proceed. pp. 132-138
7. Theory of phase transition in LHP-Type Ferroelectrics (**T.C. Upadhyay** & B.S. Semwal), Paper presented at XI Nat'l Seminar on Ferroelectrics & Dielectrics, Jammu Univ, Jammu, Nov. 1-3(2000).
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9. Dynamical structure factor and central peak in order-disorder ferroelectrics (**T.C. Upadhyay** & B.S. Semwal), Paper presented at XI Nat'l Seminar on Ferroelectrics & Dielectrics, Jammu Univ, Jammu, Nov. 1-3(2000).
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120. Study of ferroelectric phase transition and dielectric properties of one-dimensional hydrogen bonded crystals (**A. Rawat** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
121. Investigation of Dielectric properties of Triglycine Fluoberrylate crystal (**Prabhat Chandra Khanduri** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
122. Study of ferroelectric & dielectric properties of TGS & CDP crystals (**Naveen Kohli** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
123. By using PLCM model variation of ferroelectric properties of ammonium iron alum along with temperature (**Anubhuti Mangain** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
124. Investigation of ferroelectric transition in PbHPO_4 crystal (**Subodh Gairola** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.

125. Study of ferroelectric and dielectric properties of Rochelle salt (RS) crystal (**M.I. Khan** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
126. Study of ferroelectric & dielectric properties of potassium di-hydrogen phosphate (KDP) crystal (**Pawan Singh** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
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132. Investigation of KDP and RDP crystals-Dielectric properties of model Hamiltonian and Green's function Technique (**Pawan Singh** & T.C. Upadhyay), Nat'l conf. on Adv. & Appl. Sci. & Math. (NCASM-2020), Sept. 24-25, 2020, Dept., Appl. Sci., Chitkara Univ., Punjab.
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135. Investigation of ferroelectric transition and dielectric properties in RDP crystal (**Pawan Singh** & T.C. Upadhyay), UCOST, Dehradun, Congress, 27-29 Feb. 2020.
136. Phenomenological explanation of Spontaneous Polarisation and onset ferroelectric phase transition in RbH₂AsO₄ crystal (**Kuldeep Kumar** & T.C. Upadhyay), ICAPSM, Coimbatore, Tamil Naidu, 12-13 Aug. 2021.
137. Explanation of onset ferroelectric phase transition and tangent delta in H-bonded Rubidium Di-hydrogen Phosphate crystal (**Kuldeep Kumar** & T.C. Upadhyay), H.N.B. Garhwal University & Maldevta, Dehradun (15-16 May 2021).

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139. Thermal dependence of dielectric constant and tangent loss in Rochelle Salt crystal (**Nitin Bahuguna** & T.C. Upadhyay), 2nd Int'l conf. on Aerosols, Air quality and climate change (AAC-2022), over Himalayan region of Uttarakhand, Nov.4-6, (2022) Phys. Dept., H.N.B.G.U., Srinagar Garhwal, As Poster.
140. Theory of Dielectric properties of Rochelle salt type classic ferroelectric crystals (Colemanite), (**B.K. Kandpal** & T.C. Upadhyay), 2nd Int'l conf. on Aerosols, Air quality and climate change (AAC-2022), over Himalayan region of Uttarakhand, Nov.4-6, (2022) Phys. Dept., H.N.B.G.U., Srinagar Garhwal, As Poster.
141. Thermal dependence of soft mode frequency, dielectric constant and tangent loss in Lead Hydrogen Phosphate (LHP) crystal (**Nitin Bahuguna** & T.C. Upadhyay), 4th Int'l Conf. on Recent Advance in Materials and Manufacturing (ICRAMM-2022) ,08-09 Dec. 2022, Erode, Tamil Naidu, India.

Orientation & Refresher Courses Attended-

- Attended orientation programme at Lucknow University, 4/03/1999 to 31/03/1999
- Refresher course at AMU, Aligarh, 10/04/2001 to 9/05/2001
- Refresher course at HP University, Shimla, 10/07/2001 to 4/08/2001

Membership of Academic Societies-

1. Indian Physics Association
2. Indian Association of Physics Teachers
3. Indian Science Congress Association
4. Institute of Theoretical Physics
5. International Disordered Systems Society

Convener/Co-Convener of few National/International Conferences/Events