School of Physics, DAVV, Indore

Information for annual report on Project 2021-22

From Prof. (Dr.) A. Mishra:

1.	Susheel Patel, Pallavi Saxena, P. Choudhary, A. Yadav, V. N. Rai, **A. Mishra**	Effect of Li^+ Ion Substitution on Structural and Dielectric Properties of $Bi_{0.5}Na_{0.5-x}Li_xTiO_3$Nanoceramics	Journal of Inorganic and Organometallic Polymers and Materials (2021) 31:851–864, https://doi.org/10.1007/s10904-020-01818-w, Springer.
2.	Niketa Bajpai, M. Saleem, and **Ashutosh Mishra**	Effect of bismuth (Bi^{3+}) substitution on structural, optical, dielectric and magnetic nature of La2CoMnO6 double perovskite.	J Mater Sci: Mater Electron (2021) 32:12890–12902, https://doi.org/10.1007/s10854-020-04348-w, Springer.
3.	A. Rammaiya, N. Parsai, P. Sharma, **A. Mishra**	XRD Analysis of Copper (II) Mixed Ligand Complexes with 3-hydroxypicolinamide and Determination of Crystallite Size and Lattice Parameters.	International Journal of Interdisciplinary Research and Innovations, Vol. 8, Issue 4, pp: (29-32), Month: October - December 2020, Available at: www.researchpublish.com, ISSN 2348-1218 (print), ISSN 2348-1226 (online).
4.	Pallavi Saxena, **Ashutosh Mishra**	Structural and electrical properties of $YMnO_3$ manganites: Influence of Cr ion doping.	Journal of Solid State Chemistry, 301 (2021), 122364. https://doi.org/10.1016/j.jssc.2021.122364 Received 4 April 2021; Received in revised form 9 June 2021; Accepted 16 June 2021 Available online 18 June 2021 0022-4596/© 2021 Elsevier Inc. All right.
5.	Niketa Bajpai, Mohd. Saleem, **Ashutosh Mishra**	Effect of samarium (Sm^{3+}) doping on structural, optical, dielectric and magnetic nature of $La_{1.95}Y_{0.05}NiMnO_6$ double perovskite	Applied Physics A (2021) 127:723 https://doi.org/10.1007/s00339-021-04874-2. Published online 30 August 2021, Springer.
6.	Niketa Bajpai, M. Saleem and **A. Mishra**	Analysis of structural and dielectric behaviour of $La_{1.95}Y_{0.05}NiMnO_6$ and $La_{1.9}Y_{0.05}Sm_{0.05}NiMnO_6$ double perovskites.	AIP Conference Proceedings 2369, 020190 (2021); https://doi.org/10.1063/5.0062432 2369, 020190, Published by AIP Publishing. 978-0-7354-4121-7/$30.00. Published Online: 13 September 2021. National Conference on Physics and Chemistry of Materials
7.	Madhuri Soni1, M. Saleem, **A. Mishra**	$Ba_{0.67}Na_{0.33}TiO_3$ Perovskite: A Study of Structural, Optical and Electrical Properties.	AIP Conference Proceedings 2369, 020191 (2021); https://doi.org/10.1063/5.0064379 2369, 020191, Published by AIP

			Publishing. 978-0-7354-4121-7/$30.00. Published Online: 13 September 2021. National Conference on Physics and Chemistry of Materials
8.	Kaliram Patil, S. Phadke and **A. Mishra**	Effect of D-block element Co 2+ substitution on structural and vibrational properties of spinel ferrites.	AIP Conference Proceedings 2369, 020015 (2021); https://doi.org/10.1063/5.0064379 2369, 020191, Published by AIP Publishing. 978-0-7354-4121-7/$30.00. Published Online: 13 September 2021. National Conference on Physics and Chemistry of Materials
9.	Jyoti Shukla, Supriya Bisen, Mehjabeen Khan, **Ashutosh Mishra**	Ba/Zr Co-substituted h-YMnO3 manganite: study of its structural, optical and electrical properties.	Applied Physics A (2021) 127:764 https://doi.org/10.1007/s00339-021-04913-y. Received: 22 June 2021 / Accepted: 8 September 2021. Published online 15 September 2021, Springer.
10.	Kaliram Patil, S. Phadke, **A. Mishra**	A study of structural and dielectric properties of Zn^{2+} doped $MnFe_2O_4$ and $NiFe_2O_4$ spinel ferrite.	Materials Today: Proceedings Volume 46, Part 6, 2021, Pages 2226-2228, https://doi.org/10.1016/j.matpr.2021.03.392.
11.	Jyoti Shukla, Mehjabeen Khan, Supriya Bisen, **Ashutosh Mishra**,	Study of structural, vibrational and ferroelectric properties of Y0.95Ba0.05Mn0.90Ti0.10O3 ceramic.	AIP Conference Proceedings 2369, 020005 (2021); https://doi.org/10.1063/5.0060844 Published Online: 13 September 2021. National Conference on Physics and Chemistry of Materials AIP Conf. Proc. Published by AIP Publishing. 978-0-7354-4121-7/$30.00
12.	Kritika Shukla, Pradeep Sharma and **Ashutosh Mishra**	Synthesis, characterization and structural studies of Cu(II) complex derived from aniline derivative.	AIP Conference Proceedings 2369, 020039 (2021); https://doi.org/10.1063/5.0061459 Published Online: 13 September 2021. National Conference on Physics and Chemistry of Materials AIP Conf. Proc. Published by AIP Publishing. 978-0-7354-4121-7/$30.00
13.	Jagrati Dwivedi, Mukul Gupta, V R Reddy, **Ashutosh Mishra**, Ajay Gupta	Structure and thermal stability of amorphous $Co_{23}Fe_{60}B_{17}$ film on Si substrate.	Applied surface science advances, 5, (2021), 100113.

14.	Prabhav Joshi, M. Saleem , S. Tiwari, J. Shukla, **A. Mishra**	Diffraction data analysis, microstructure and dielectric studies of transition metal doped $LaCoO_3$.	Materials Today: Proceedings, 2021, https://doi.org/10.1016/j.matpr.2021.11.206. 2214-7853/ 2021 Elsevier Ltd. All rights reserved. journal homepage: www.elsevier.com/locate/matpr.
15.	K. Patil, S. Phadke, M. Das and A. Mishra,	Synthesis and characterization of Cr substituted Mn–Zn nanoferrites with improved dielectric, electrical conductivity and impedance properties for electronic device applications	Journal of the Korean Ceramic Society 2022
16.	Kaliram Patil, S. Phadke, A. Mishra	Structure and ac conductivity of (Cu/Co) Fe2O4 spinel materials	Materials Today: Proceedings 2022 https://doi.org/10.1016/j.matpr.2022.05.496

From Prof. (Dr.) S. N. Kane,

Publications from 1st April 2021 to 30th June2022

01. "Thermal Annealing Time Assisted Modification of Structural Properties of Mg nano ferrite"
R. Verma, S. S. Modak, A. Ghosh, ***S. N. Kane***
AIP Conf. Proc., 2352 (2021) 040006-1–040006-5, https://doi.org/10.1063/5.0052432.

02. "Compositional Dependence Of Structural Properties And Bandgap Of Mg-Co Spinel Nanoferrite",
R. Verma, S. S. Modak, U. P. Deshpande, ***S. N. Kane***
AIP Conf. Proc., 2352 (2021) 040018-1–040018-5, https://doi.org/10.1063/5.0052442.

03. "Impact of Cd content on properties of $Ni_{1-x}Cd_xFe_2O_4$ nano ferrites prepared without post-preparation thermal treatment"
R. Verma, ***S. N. Kane***, U. P. Deshpande, F. Mazaleyrat,
Materials Today: Proceedings 46 (2021) 2205 – 2211, https://doi.org/10.1016/j.matpr.2021.03.204.

04. "Study of medium range ordering for metal-metalloid glasses near crystallization temperature"
K. Gehlot, M. N. Singh, A. K. Sinha, ***S. N. Kane***
AIP Conference Proceedings 2369 (2021) 020098-1 - 020098- 5, https://doi.org/10.1063/5.0064305

05. "^{57}Fe Mössbauer study of $CoCr_xFe_{2-x}O_4$ nano ferrite"
P. Tiwari, R. Verma, S. S. Modak, V. R. Reddy, F. Mazaleyrat, ***S. N. Kane***
Hyperfine Interactions 242 (2021) 1-15, https://doi.org/10.1007/s10751-021-01781-z

06. "In-field ^{57}Fe Mössbauer study of $Mg_xZn_{1-x}Fe_2O_4$ prepared by green synthesis method"
P. Tiwari, R.Verma, S. S. Modak, V. R. Reddy, ***S. N. Kane***
Hyperfine Interactions (2022) 243:7, https://doi.org/10.1007/s10751-022-01794-2

07. "Si^{9+} Ion-Irradiation Induced Modification of Structural and Magnetic Properties of Zn-Nanoferrite"
C. Parmar, R. Verma, S. S. Modak, F. Mazaleyrat, ***S. N. Kane***
ECS J. of Solid State Sci. and Tech. 11 (2022) 053015-1 - 053015-9, https://doi.org/10.1149/2162-8777/ac6f1b

08. Synthesis and characterization of thermally treated $Co_{1-x}Fe_{2+x}O_4$ (x = 0.0 - 0.8) spinel nano ferrite
C Parmar, R Verma, S S Modak, F Mazaleyrat and ***S N Kane***
IOP Conf. Series: Materials Science and Engineering 1258 (2022) 012009, doi:10.1088/1757-899X/1258/1/012009

Prof. (Dr.) Y. Choyal Publication:

1. Navin Kumar Sharma, Shikha Misra, Priti Pal, Ravindra Kumar, Alok Misra, Mahendra Singh, Ram Prakash Lamba, Murali M Pandey, Yaduvendra Choyal and Udit Narayan Pal, *"Discharge Analysis and Characterization of Cold Atmospheric Pressure Plasma Jet Sources for Potential Biomedical Applications",* in 37th National Symposium on Plasma Science and Technology" (PLASMA-2022), organised by Department of Physics, Indian Institute of Technology Jodhpur in association with Plasma Science Society of India held during 12-14 Dec. 2022.

2. Surbhi Bidawat, Navin Kumar Sharma, Ram Prakash Lamba, Mahendra Singh, Alok Mishra, Yaduvendra Choyal and Udit Narayan Pal, "*Simulation and Experimental Analysis of Kr/Cl_2 based 222 nm Far UV-C Excimer Source*", in in 37th National Symposium on Plasma Science and Technology" (PLASMA-2022), organised by Department of Physics, Indian Institute of Technology Jodhpur in association with Plasma Science Society of India held during 12-14 Dec. 2022.

3. Navin Kumar Sharma, Ram Prakash Lamba, Udit Narayan Pal and Yaduvendra Choyal "*Theoretical investigation on impact ionization of Argon gas filled cavities*", in National Conference on Emerging Trends in Vacuum Electronic Devices & Applications, 19-21 January 2023.

4. Navin Kumar Sharma, Priti Pal, Vishali Singh, Ravindra Kumar, Alok Misra, Mahendra Singh, Ram Prakash Lamba, Murali M Pandey, Yaduvendra Choyal and Udit Narayan Pal "*Development of Cold Atmospheric Pressure Plasma Jet Sources for biomedical application*", in National Conference on Emerging Trends in Vacuum Electronic Devices & Applications, 19-21 January 2023.

5. Navin Kumar Sharma, Yaduvendra Choyal, Udit Narayan Pal and Ram Prakash Lamba. "*Simulation of High Frequency Short Pulse Excitation of Co-axial Xenon Excimer Source for Generation of 172 nm radiation*", in National Conference on Emerging Trends in Vacuum Electronic Devices & Applications, 19-21 January 2023.

6. Surbhi Bidawat, Navin Kumar Sharma, R P Lamba, Mahendra Singh, Alok Mishra Yaduvendra Choyal and Udit Narayan Pal, "*Analysis and Characterization of Kr/Cl_2 based 222 nm Far UV-C Excimer source*", in National Conference on Emerging Trends in Vacuum Electronic Devices & Applications, 19-21 January 2023.