

PUBLICATIONS

1. Calorimetric and Susceptibility measurements of Aluminosilicate glasses, Gary W. Hunter, Mazhar Rana, L. E. Wenger and D. Wallace, *J. Appl. Phys.* 61, 3642 (1987).
2. On the limits of fiber optics Fan-in/Fan-out for opto-electronics logic, R. Arrathoon, Mazhar Rana, and T. Wang, *Proc. Soc. of Photo. Inst. En g.* 936,37, 1988.
3. Fiber optics based dynamic optical interconnects for digital signal processing, Mazhar Rana, and Zakria Arif, *J. of Research (Science)*, Vol.5, No.1, 39-42, 1991.
4. Low field ac Magnetic susceptibility measurements of Alumino silicate glasses Mazhar Rana, M.A. Chaudhry and Tahir Abbas, *Modern Phys.Lett. B*, Vol.5, Nos.24 & 25, 1669-1678, 1991.
5. Magnetic interaction in Aluminosilicate glasses containing Manganese ions, Mazhar Rana, *Modern Phys. Lett. B*, Vol. 7, No. 23, 1511-1516, (1993).
6. Radio activity in some wades of southern Punjab, Afsar Mian, S. Tajammal Warsi and Mazhar Rana, *Pakistan J. Zool.*, Vo..26(1), 85-86, (1994).
7. Radial distribution function for Co-B and Cu-Ti alloys, Mazhar Rana, Tasmia Manzoor and Mushtaq Ahmad, *J. Natural Sc. and Mathematics*, Vol.34, No.2, 127-135, (1994).
8. Magnetic susceptibility and dc resistivity of Zn-substituted spinal ferrites, Mazhar Rana, Misbah ul-Islam and Tahir Abbas, *Turkish J. of Phys.* Vol.19, No.9, 1137-1144, (1995).
9. Magnetic interaction in Zn-substituted Manganese ferrites, Mazhar Rana, Misbah-ul-Islam and Tahir Abbas, *Solid State Comm.*, Vol.99, No.1, 43-45, (1996).
10. Empirical estimates of physical parameters from electrical resistivity measurements on ferrites, Misbah-ul-Islam, M. Shakeel Bilal, Tahir Abbas and Mazhar Rana, *Modern Phys. Letts. B*, Vol.10, Nos.7, 229-233, (1996).
11. Magnetic properties and Y.K. angles in Cu-Zn ferrites, Mazhar Rana, Misbah-ul-Islam, I. Ahmad and Tahir Abbas, *Proc. 5th International Symposium on Advanced Materials* 283-287, (1997).
12. Determination of Y.K. angles and magnetic properties of Cu-Zn-Fe-O system, Mazhar Rana, Misbah-ul-Islam, I. Ahmad and Tahir Abbas, *JMMM*, 187(2),242-

246, (1998).

13. Study of Magnetic interactions in Co-Zn-Fe-O system Misbah-ul-Islam, Mazhar Rana, and Tahir Abbas, *Mat. Chem. and Phy.* 57, 190-193, (1998).
14. Cation distribution in Cu-substituted Manganese ferrites, Mazhar Rana, Misbah-ul-Islam and Tahir Abbas, *Materials Letts.* 41 (1999) 52-56.
15. Cation distribution and magnetic interaction in Zn-substituted CuFe₂O₄ ferrites, Mazhar Rana, Misbah-ul-Islam and Tahir Abbas, *Mat. Chem. & Phys.* 65/3, (2000) 345-349
16. Magneto-resistance and Magnetic properties measurements of Zn-substituted CuFe₂O₄ ferrites, Mazhar Rana, Tahir Abbas and F.A. Khawaja, *Materials Letters* 52 (2002) 389-393.
17. Measurement of exchange interaction in Ti-substituted Ni –ferrites, M.U.Islam, Kashif A. Hashmi, M. U. Rana and Tahir Abbas, *Solid State Comm.* 121 (2002)51-54.
18. The effect of Zn substitution on microstructure and magnetic properties of Cu_{1-x}Zn_xFe₂O₄ ferrite, Mazhar U. Rana, Tahir Abbas, *J. of Mag. & Mag. Mat.* 246/1-2 (2002)110-114.
19. Electrical behaviour of w-type Ba_xCo_{3-x}Fe₁₆O₂₇ hexagonal ferrites, Mazhar Rana, M.U. Islam, Bilal A. Butt, T. Abbas and M.A.Chaudhry, *J. of Research* vol.12, 72-77 (2002).
20. Ac Susceptibility and Magnetic Interaction in Mg-Ni-Fe-O system, Mazhar U. Rana and Tahir Abbas, *Materials Letters*, 57 (2002) 925-928.
21. X-Ray diffraction and site preference analysis of Ni-substituted Magnesium ferrites, Mazhar U. Rana, Misbah-ul-Islam and Tahir Abbas, *Pak.J. Appl Sciences* 2(12):1110-1114, 2002.
22. Magnetic Interaction in Cu-substituted Manganese ferrites, Mazhar U. Rana, M.U.Islam and Tahir Abbas, *Solid State Communications*, 126(2003) 129-133
23. The effect of Cu substitution on microstructure and magnetic properties of MnFe₂O₄, Mazhar U. Rana, M.U.Islam and Tahir Abbas, *J. Mat. Sci.* 38(2003)2037-2041.
24. ESR studies on NiFe₂O₄ ferrites, Y.Koseoglu, O. Burucu, M.Kumru, F.Yildiz, M.U.Rana and B.Aktas, *Moscow International Symposium on Magnetism* June 25-30 (2005) 261-264
25. Magnetic Properties of Cd-substituted Copper Ferrites, M.U.Islam, T.Abbas and M.U.Rana, *International Journal of Mod. Physics*, Vol.20, No.6(2006) 725-735.
26. Fabrication and Characterization of W-Type Hexa-Ferrites, Mazhar U.Rana. Misbah ul-Islam, Uzma Qadri and Shahida Begum Niazi, *J. of Research (Science)*, Vol.17, No.4, (2006) 219-224.

27. Electrical transport properties of CoZn ferrite–SiO₂ composites prepared by co-precipitation technique, M.U. Islam, Faiza Aein, Shahida B. Niazi, M. Azhar Khana, M. Ishaque, T. Abbas and M.U. Rana, *Mat.Chem and Phys* 109 (2008) 482-487.
28. Effect of Mg⁺² substitutions on the structural and magnetic properties of Co-Mg W-type hexagonal ferrites, *J. of Mod. Physics* Vol. 25, No, 8 (2011) 1149-1160.
29. Dielectric and Magnetic Behavior of BaCd_{2-x}Sr_xFe₁₆O₂₇ W-type Hexagonal Ferrites, G. Murtaza, Faiza Aein, M.U.Islam and M.U. Rana, *J. Alloys and Compound* Vol. 509, No 14(2011) 4793-4796.
30. Effect of Ho on the Magnetic and Electrical properties of Ba-based W-type Hexa ferrites, Faiza Aein, Mukhtar Ahmed, M.U. Islam and M.U. Rana, *Ceramics International*, Vol 37, No.7 (2011)1725-1729
31. Structural, physical, magnetic and electrical properties of La-substituted W-type hexagonal ferrites, Mukhtar Ahmed, M.U.Islam and M.U. Rana, *Ceram. Intern.*, 37 (2011) 3691-3696.
32. Role of Ce-Mn substitution on structural, electrical and magnetic properties of W-type strontium hexaferrites, Imran Khan, Imran Sadiq, Muhammad Naeem Ashiq and Mazhar U. Rana, *J. Alloy. Comp.* 509, 31(2011) 8042-8046.
33. Electrical transport properties of Bi₂O₃(1-3)%-doped CoFe₃O₄ and Co Ho_{0.02}Fe_{1.98}O₄, Hasan M. Khan, M.U.Islam, Irshad Ali, Mazhar U. Rana, *Materials Science and applications*, 2011,2, 1083-1089
34. Structural and magnetic properties of holmium substituted cobalt ferrites synthesized by chemical co-precipitation method, Irshad Ali, M.U. Islam, M. Ishaque, Hasan M. Khan, Muhammad Naeem Ashiq, M.U. Rana, *J. Magn. Magn. Mater.*, Volume 324 (2012) 3773-3777.
35. Effect of sintering temperature on magnetic and electrical properties of nano-sized Co₂W hexaferrites, Mukhtar Ahmad, Ihsan Ali, Faiza Aein, M.U. Islam, Muhammad Naeem Ashiq, Shabbar Atiq, Waheed Ahmad, M.U. Rana, *Ceram. Intern.*, 38 (2012) 1267-1273.
36. Magnetic and microwave attenuation behavior of Al-substituted Co₂W hexaferrites synthesized by sol-gel autocombustion process, Mukhtar Ahmad, R. Grössinger, M. Kriegisch, F. Kubel, M.U. Rana, *Curr. Appl. Phys.* 12 (2012)1413-1420.
37. Effect of Ce substitution on structural and electrical properties of W-type strontium hexaferrite nanomaterials, Khan, I., Ashiq, M.N., Sadiq, I., Qureshi, A.M., Rana, M.U. *Journal of the Chemical Society of Pakistan* 34 (3) , pp. 579(2012)
38. Influence of rare earth Ce³⁺ on structural, electrical and magnetic properties of Sr²⁺ based W-type hexagonal ferrites, Imran Sadiq, Imran Khan, Faiza Aein, M.U. Islam, M.U. Rana *Physica B:Condensed Matter*, 407(2012)1256-1261.
39. The role of Ga substitution on magnetic and electromagnetic properties of nano-sized W-type hexagonal ferrites, Faiza Aein, Mukhtar Ahmad, M.U. Rana, *Curr. Appl. Phys.*, 13 (2013) 41-46.

40. Preparation and properties of sol-gel synthesized Mg-substituted Ni₂Y hexagonal ferrites, Asmat Elahi, Mukhtar Ahmad, Ihsan Ali, M.U. Rana, *Ceram. Intern.* 39 (2013) 983-990.
41. Structural, infrared, magnetic and microwave absorption properties of rare earth doped X-type hexagonal nanoferrites, Imran Sadiq, Imran Khan, Evgeny V. Rebrov, Muhammad Naeem Ashiq, Shahzad Naseem, M.U. Rana, *J. Alloy. Compds.*, 570 (2013) 7-13.
42. Characterization of Sr-substituted W-type hexagonal ferrites synthesized by sol-gel autocombustion method, Mukhtar Ahmad, R. Grössinger, M. Kriegisch, F. Kubel, M.U. Rana, *J. Magn. Mater.* 332 (2013) 137-145.
43. Effects of divalent ions substitution on the microstructure, magnetic and electromagnetic parameters of Co₂W hexagonal ferrites synthesized by sol-gel method, Mukhtar Ahmad, Ihsan Ali, R. Grössinger, M. Kriegisch, F. Kubel, M.U. Rana, *J. Alloy Compds.* 579 (2013) 57-64.
44. Synthesis and characterization of Al-substituted W-type hexagonal ferrites for high frequency applications, Mukhtar Ahmad, R. Grössinger, Ihsan Ali, Ishtiaq Ahmad, M.U. Rana, *J. Alloy. Comp.* 577 (2013) 382-388.
45. Effects of Sr-substitution on the structural and magnetic behavior of Ba based Y-type hexagonal ferrites, Mukhtar Ahmad, Qasim Alia, Ihsan Alia, Ishtiaq Ahmada, M. Azhar Khanb, Majid Niaz Akhtar, G. Murtaza Raid, M.U. Rana, *J. Alloy. Compd.*, 580 (2013) 23-28.
46. Investigation of Co-Substituted Nanosized Mn₂Y-Hexaferrites Synthesized by Sol-Gel Autocombustion Method. Ahmad, Mukhtar; Ali, Ihsan; Islam, M. U.; Rana, Journal of Materials Engineering & Performance, Vol. 22 Issue 12, (2013) 3909-3915.
47. Influence of Nd-Co substitution on structural, electrical and dielectric properties of x-type hexagonal nanoferrites, Imran Sadiq and M.U. Rana, *Journal of Materials Engineering and Performance*, 23, 2 (2014) pp622-
48. Nanosized Ce-Zn substituted microwave absorber material for X-band applications, Imran Sadiq, Irshad Ali, Evgeny Rebrov, Shahzad Naseem, M. Naeem Ashiq and M.U. Rana, *J. Mag. and Mag. Mater. (JMMM)*, 370 (2014) 25-31.
49. Influence of Nd-Co substitution on structural, electrical, and dielectric properties of X-type hexagonal nanoferrites, Sadiq, I., Ali, I., Rebrov, E.V., Naseem, S., Ashiq, M.N., Rana, M.U., *Journal of the Chemical Society of Pakistan* 37 (1) (2015) , pp. 33
50. Synthesis and properties of Pr-substituted MgZn ferrites for core materials and high frequency applications, Muhammad Waqas Mukhtar, Muhammad Irfan, Ishtiaq Ahmad, Ihsan Ali, Niaz Majid, Akhtar, Muhammad Azhar Khan, Ghazanfar Abbas, M U Rana, Mukhtar Ahmad, *J. Mag. Mag. Materials.* Vol. 381 (2015) 173-178

51. Temperature dependent magnetic and microwave absorption properties of doubly substituted nanosized material, Imran Sadiq, Shahzad Naseem , M.U. Rana , Muhammad Naeem Ashiq Irshad Ali, Journal of Mag. Mag. Mater (JMMM) 385 (2015) 236–242.
52. Spin canting effect and microwave absorption properties of Sm-Mn substituted nanosized material, Sadiq, I., Naseem, S., Naeem Ashiq, M., Asif Iqbal, M., Ali, I., Khan, M.A., Niaz, S., Rana, M.U., Journal of Magnetism and Magnetic Materials 395 (2015) , pp. 159
53. Temperature dependent structural and magnetic behavior of Y-type hexagonal ferrites synthesized by sole-gel autocombustion, Mukhtar Ahmad, Muhammad Ahmad , Ihsan Ali , Waheed Ahmad, Ghulam Mustafa, Majid Niaz Akhtar, Akbar Ali, Ghazanfar Abbas ,Mazhar uddin Rana, Journal of Alloys and Compounds, 651 (2015) 749-755
54. Structural and dielectric properties of doped ferrite nanomaterials suitable for microwave and biomedical applications, Imran Sadiq, Shahzad Naseem, Muhammad Naeem Ashiq, M.A. Khan, Shanawer Niaz and M.U. Rana, Progress in Natural Science: Materials International, vol. 25(5) (2015) 419-424.
55. Tunable microwave absorbing nano-material for Xband applications, Imran Sadiq, Shahzad Naseem, Muhammad Naeem Ashiq, M.A. Khan, Shanawer Niaz, M.U. Rana, , Journal of Magnetism and Magnetic Materials, 401 (2016)63-69
56. Structural, Electrical and Magnetic Study of Nd-Ni Substituted W-type Hexa ferrite, Imran Khan, Imran Sadiq, Irshad Ali, Mazhar-ud-Din Rana, Muhammad Najam-Ul-Haq, Afzal Shah, Imran Shakir and Muhammad Naeem Ashiq, Journal of Magnetism and Magnetic Materials 397 (2016) 6-10
57. Enhanced microwave absorption properties of CTAB assisted Pr–Cu substituted nanomaterial, Imran Sadiq, Shahzad Naseema, Saira Riaza, Hasan M. Khan, Muhammad Naeem Ashiq, S. Sajjad Hussaina, Mazhar Rana, J. Mag. & Mag. Material, Vol. 414, 15 (2016)198–203