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	Paper Title:	Low Temperature Preparation and Effect of Pr^{3+}, La^{3+}, Sm^{3+} and Gd^{3+} Substitution on Structural, Magnetic and Dielectric, Studies of $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{R}_{0.03}\text{O}_4$ Ferrite Nanoparticles	
		<p>Abstract: $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{R}_{0.03}\text{O}_4$ Nanoparticles; R= Pr, Sm, La and Gd, were synthesized using Chemical based Citrate Precursor method, annealed at low temperature 450°C for 2hr. X-ray diffraction (XRD) tool was used for estimation of average particle size and phase analysis. The average particle size was found to be 25nm, 33nm, 31nm, 22nm and 13 nm respectively. Room temperature magnetic measurement was done by vibrating sample magnetometer (VSM). The magnetization values observed are 50.692 emu/g, 43.781 emu/g, 47.875 emu/g, 43.335 emu/g and 43.518 emu/g respectively. The dielectric properties for all the samples were investigated at room temperature as a function of frequency while impedance was measured as a function of temperature. $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{Sm}_{0.03}\text{O}_4$ nanoparticles show a dielectric behavior appreciably different from $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{Gd}_{0.03}\text{O}_4$, $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{Pr}_{0.07}\text{O}_4$, and $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{La}_{0.03}\text{O}_4$ nanoparticles.</p> <p>Keywords: $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.97}\text{R}_{0.03}\text{O}_4$ (R=Pr,La,Gd,Sm) Nanoparticles, Citrate Method, Magnetic and Dielectric properties.</p> <p>References:</p> <ol style="list-style-type: none"> 1. M. Sugimoto, the present, past and future of ferrites, J.Am.Ceram.Soc., 82(1999)p.269-280. 2. R.Valenzuela, Novel application of soft ferrites, Phys. Res. Inter, 2012(2012) p.1-9. 3. G. Bate, Magnetic recording materials, J. Magn. Mag. Mater,100(1975) p.413-424 4. J.C.G.Bunnzil, G.R.Choppin, Lanthanide probes in life, Chemical and Earth Sciences, Theory and practices, Elsevier, Amsterdam, 1989. 5. G. Herzer, M.Vazquez, M.knobel, A.Zhukov, T.Reininger, H.A.davies, R.Grossinger, J.L.sanchez L 1, Round table discussion: present and future applications of nanocrystalline magnetic materials, J. Mag. Mater. 294(2005)p.252-266. 6. S. E. Jacobo, S. Duhalde, H.R. Bertorello, Rare earth influence on the structural and magnetic properties, of NiZn ferrites, J. Magn. Mag. Mater. 272-276 (2004)p. 2253-2254. 7. Rakesh Kumar Singh and Amarendra Narayan, Structural, Magnetic & Dielectric behavior of $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_{1.99}\text{R}_{0.01}\text{O}_4$ Nanoparticles; R= Pr, Sm and Gd, synthesized using Citrate Precursor method, annealed at low temperature 450°C, Int. J. Eng. & Technical Research(IJTER), 2(2014) p.125-130 8. L.Ben Tahar, M.Artus, S.Ammar, L.S.Smiri, F.Herbst, M.J.Vaulay, V.Richard, J.M.Mreneche, F.Villain, Magnetic properties of $\text{CoFe}_{1.9}\text{RE}_{0.1}\text{O}_4$ nanoparticles (RE= La, Ce, Nd, Sm, Eu, Gd, Tb, Ho) prepared in polyol, J.Magn. Mater, 320(2008)p. 3242-3250 9. Z.Cvejic, B.antic, A.kremenovic, S.Rakic, G.F.goya, H.R.Rechenberg, C.Jovalekic, V.Spasojevic, J. alloys and Compound(2008),doi:10.1016 10. ErumPervaiz and I.H.Gul, Structural, Electrical and Magnetic studies of Gd^{+3} doped Ferrite nanoparticles, Int. J. Current Engineering and Tech., 4(2012)p.377-387. 11. Jing Jiang, Yan-Min Yang, Liang-Chao Li, Synthesis and magnetic properties of lanthanum substituted Lithium-Nickel ferrite via soft chemical route, Physics B,399(2007)p.105-108. 12. Divya Kumari, Rasmi Thakur, Girija Gupta, Rakesh Kumar Singh, Synthesis, Structural and Magnetic Studies of Rare earth element La substituted Ba-Hexa ferrite Nanoparticles Via Citrate Precursor Method, Explore, 2 (2010)p.9-12 13. Zhijian Peng, Xiuli Fu, Huilin Ge, Zhiqiang Fu, Chengbiao Wang, Longhao Qi, Hezhao Miao, Effect of Pr^{+3} doping on magnetic and dielectric properties of Ni-Zn ferrites by one-step synthesis, J. Magn. Mag. Mater. 323(2011) p.2513-2518. 14. R.N.Panda, J.C.Shih, T.S.Chin, Magnetic properties of nanocrystalline Gd or Pr substituted CoFe_2O_4 synthesized by the citrate precursor technique, J. Magn. Mag. Mater. 257(2003) p.79-86. 15. M.Z.Said, D.M.Hemeda, S.Abdel Kader and G.Z. Farag, Structural, Electrical and Infrared studies of $\text{Ni}_{0.7}\text{Cd}_{0.3}\text{Sm}_x\text{Fe}_{2-x}\text{O}_4$ ferrite, Turk J Phys. 31(2007)p. 41-50. 16. L.Gama, A.P.Diniz, A.C.F.M. Costa, S.M.Rezende, A.Azevedo, D.R.Cornejo, Magnetic properties of nanocrystalline Ni-Zn ferrites doped with Samarium, physicaB: condensed Matter. 384(2006) p. 97-99. 17. B.D. Culity. Elements of X-ray diffraction,Addison Wesley, Reading, (1978)p.101-102. 18. M.Z.Said, effect of Gadoliniumsubstitution on the structural and electrical conductivity of Ni-ferrite, Mat. Let, Vol.34 (198) p.305-307. 19. G. Ranga Mohan, D. Ravinder , A.V. Ramana Reddy , B.S. Boyanov, Dielectric properties of polycrystalline mixed nickel-zinc ferrites , Materials Letters 40 (1999)p. 39-45 20. L. Zhao, H.Yang, L.Yu, Y.Cui, X.Zhao, S.Feng, Study on magnetic properties of nanocrystalline La-Nd or Gd substituted Ni-Mn ferrite at low temperature, J. Magn. Mater. 323(2011) p.2042-2048. 21. K.M.Batto, Study of dielectric and impedance properties of Mn ferrite, Physica B, 406(2011) p.382-391. 22. W. Maduri, K. Siva Kumar Reddy, P.Sreedhare Reddy, V.R.K.Murthy, Structural, electrical and magnetic characterization, Modern Physics Letters B, 25(2011) p.211-222. 23. C.Rangmohan, D.Ravinder, A.V.Ramana Reddy, B.S.Boyanov, Dielectric properties of polycrystalline mixed Ni-Zn ferrites, Material Letters, 40(1999) p.39-45. 24. Sunita Bhagwat, Pratibha Rao, Study of Dielectric Properties of Nano-crystalline Mn-Zn ferrite, IQSR J. App. Physics.3(2013)p.1-6. 25. Rakesh Kumar Singh, A. Yadav, A. Narayan, Samar Lyeak, H. C. Verma, Structural, Magnetic and Mossbauer studies of Nanocrystalline Ni-Zn Ferrite, Synthesized using Citrate precursor method, Manthan, Int. J, 12(2011)p.9-11. 26. Richa Sinha, Sushmita Kumari, Priya Tiwari and Rakesh Kumar Singh,A study of effect of size of divalent metal on structural and magnetic properties of synthesized MFe_2O_4 (M=Mg, Ni, Cu and Ca) ferrite nanomaterials using citrate approach and annealed at 450°C, IRIS: Journal of Young Scientist, 3(2013)p.12-16. 	1-6
	Authors:	A. A. Elsayed, N. Amer	
	Paper Title:	Experimental Analysis of Centrally Opened Two-Way Slabs Strengthened with Carbon Fiber Laminates	
		<p>Abstract: This study is an experimental investigation of the behavior of two-way simply supported RC flat slabs with centered circular, rectangular, and square openings. Four models were tested to failure, consisting of a reference model without opening, and three models with an opening and Carbon Fiber Reinforced Polymer (CFRP) laminates applied to the tension face of the models. The results revealed that externally bonded CFRP laminates significantly increased both the overall stiffness and flexural capacity of the models provided with an opening. CFRP anchoring method can further increase the performance of the strengthening scheme used. Experimental load-deflection curves and failure modes are discussed.</p>	

2.	<p>Keywords: Reinforced concrete; centered opening slab strengthening with Carbon Fiber Laminates; experimental analysis of two way slabs.</p> <p>References:</p> <ol style="list-style-type: none">1. ACI Committee 440R, "State of the Art Report on Fiber Reinforced Plastic (FRP) reinforcement for Concrete Structures", American Concrete Institute, 1996.2. Zaslavsky, A. (1997). "Yield-Line Analysis of Rectangular Slabs with Central Openings," Proceedings ACI, Vol. 64, 838-844.3. Lash, S.D., Banerjee, A. (2000). "Strength of Simply Supported Square Plates with Central Square Openings," Trans. Eng. Inst. Can., Vol. 10, No. A-5, 3-11.4. Islam, S. and Park, R. (2010). "Yield-Line Analysis of Two-way RC Slabs with Openings," J. Inst. Structure Eng., Vol. 49, No. 6, 269-276.5. Ichimasu, H., Maruyama, M., Watanabe, H., and Hirose, T. (1993). "RC slabs strengthened by bonded carbon FRP plates: Part 1 - Laboratory Study," FRPRCS, ACI SP-138, A. Nanni, and C. W. Dolan, 933-955.6. Arockiasamy, M., Sowrirajan, R., Shahawy, M. and Beitelman, T. E., (2005) "Concrete Beams and Slabs Retrofitted with CFRP Laminates", Proc. Of 11th Conf. on Eng. Mech., ASCE, New York, 776-779.7. Karbhari, V. M., Seible, F., Seim, W., and Vasquez, A. (1999). "Post-strengthening of concrete slabs," FRPRCS4, ACI SP-188, C. W. Dolan, S. H. Rizkalla and A. Nanni, American Concrete Institute, 1163-1173.8. Takahashi, Y., and Sato, Y. (2001). "Experimental study on the strengthening effect of a CFRP sheet for RC slabs," FRPRCS5, Thomas Telford, Cambridge, UK, 989-996.9. Teng, J.G., Chen, J.F., Smith, S.T., and Lam, L. (2002) "Flexural Strengthening of Slabs," FRP Strengthened RC Structures, John Wiley & Sons, 135-146.10. Zhang, J. W., Teng, J. G., Wong, Y. L., and Lu, Z. T. (2011). "Behavior of two-way RC slabs externally bonded with steel plate," Journal of Structural Engineering, ASCE, Vol. 127, No. 4, 390-397.11. Erki, M.A., and Heffernan, P.J., (1995). "Reinforced Concrete Slabs Externally Strengthened with Fibre-Reinforced Plastics Materials", Non-metallic (FRP) Reinforcement for Concrete Structures, 2nd Symposium, Belgium, pp.509-516.12. Casadei P., Nanni, A. and Ibell T., "Experiments on Two-way RC Slabs with Openings Strengthened with CFRP Laminates", Center for Infrastructure Engineering Studies, (CIES03-39), University of Missouri-Rolla, USA, 2003.13. Mohamed, T., El-Attar, A., and El-Ibiari, S., (2002). "Strengthening of Two-Way Reinforced Concrete Slabs with Created Central Openings" Accepted to the Regional Conference on Civil Engineering Technology and III International Symposium on Environmental Hydrology, Egypt.14. Miao-Buquan; Chern-JennChuan; Yang-ChenAn ,Influences of fiber content on properties of self-compacting steel fiber reinforced concrete, Journal of the Chinese Institute of Engineers, v 26,n 4, p 523-530,July, 2003.15. Egyptian Code for Design and Construction of Reinforced Concrete Structures (ECCS, 2001), Ministerial Decree No. 203, 2014.16. Floruț, Sorin-Codruț, et al. "Tests on reinforced concrete slabs with cut-out openings strengthened with fibre-reinforced polymers." Composites Part B: Engineering 66 (2014):84-493.17. Fathelbab, Fahmy A., Mostafa S. Ramadan, and Ayman Al-Tantawy. "Strengthening of RC bridge slabs using CFRP sheets." Alexandria Engineering Journal 53.4 (2014): 843-854.18. Meisami, M. Hasan, Davood Mostofinejad, and Hikaru Nakamura. "Punching shear strengthening of two-way flat slabs using CFRP rods." Composite Structures 99 (2013):112-122.19. Faria, Duarte MV, et al. "On the efficiency of flat slabs strengthening against punching using externally bonded fibre reinforced polymers." Construction and Building Materials 73 (2014): 366-377.	7-15				
3.	<table><tr><td>Authors:</td><td>K. S. Shashi Shekar, S. George Milton, Sameer Kulkarni</td></tr><tr><td>Paper Title:</td><td>Study of Natural Convection Using Rectangular Finned Heat Sinks with Base and Fins in Vertical Orientation</td></tr></table> <p>Abstract: Natural convection heat transfer can be enhanced by using heat sink. Experiments will be carried out to investigate the heat transfer in vertical heat sinks in natural convection with considering geometrical similarity approach with constant S/H (fin spacing to fin height) ratio of the fins and even a correlation is obtained between Nusselt number and Rayleigh number. Using this correlation, size of the heat sink can be obtained for various heat loads by interpolation.</p> <p>Keywords: Natural, Nusselt, (fin spacing to fin height), S/H, Correlation, Transfer.</p>	Authors:	K. S. Shashi Shekar, S. George Milton, Sameer Kulkarni	Paper Title:	Study of Natural Convection Using Rectangular Finned Heat Sinks with Base and Fins in Vertical Orientation	16-20
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