

- dual magnetic resonance and broad frequency bandwidth in microwave absorption, *Science & Technology of Advanced Materials*, IOP Publishing, vol. 14, 2013, pp.4
- [28] Aparna.A.R., V. Brahmajirao and T.V.Karthikeyan, Magnetic, optical and thermal studies of PPY/BaFe_{12-x}Ti_xO₁₉ nanocomposite, *International Journal of Engineering Research and Development (IJERD)* Volume 13, Issue 1 (January 2017), PP.11-18.
- [29] Butembu Sabastine¹ et al., Optical and scanning kelvin probe microscopic characterization of sol-gel synthesized aluminum doped zinc cobalt ferrite nanoparticles, *International Journal of Physical Sciences*, Vol. 15(4), pp. 151-161, October-December, 2020
- [30] L. Mino, G. Agostini, E. Borfecchia, D. Gianolio, A. Piovano, E. Gallo, C. Lamberti, Low-dimensional systems investigated by x-ray absorption spectroscopy: a selection of 2D, 1D and 0D cases, *J. Phys. D: Appl. Phys.* 46 (2013) 42300142–42300172.
- [31] B. van Zeghbroeck, *Principles of semiconductor devices*, third ed., USA, 2011.
- [32] I. Sharifi, H. Shokrollahi, M. Doroodmand, R. Safi, Magnetic and structural studies on CoFe₂O₄ nanoparticles synthesized by co-precipitation, normal micelles and reverse micelles methods, *J. Magn. Magn. Mater.* 324 (2012) 1854–1861
- [33] Saini P. et al. Electromagnetic interference shielding behavior of polyaniline/graphite composites prepared by in situ emulsion pathway. *J. Appl. Polym. Sci.* 113, 3146 (2009).
- [34] Joo J. et al. Electromagnetic radiation shielding by intrinsically conducting polymers. *J. Appl. Phys. Lett.* 65, 2278 (1994).
- [35] Wang Y. et al. Intrinsically conducting polymers for electromagnetic interference shielding. *Polym. Adv. Technol.* 16, 344 (2005).
- [36] Chung D. D. L. et al. Electromagnetic interference shielding effectiveness of carbon materials. *Carbon* 39, 279 (2001).
- [37] B. Birsöz, A. Baykal, H. Sözeri, and M. S. Toprak, —Synthesis and characterization of copolypyrrole-BaFe₁₂O₁₉ nanocomposite, *Journal of Alloys and Compounds*, vol. 493, no. 1-2, pp.481–485, 2010.
- [38] C. Zhang, Q. Li, and Y. Ye, —Preparation and characterization of polypyrrole/nano-SrFe₁₂O₁₉ composites by in situ polymerization method, *Synthetic Metals*, vol. 159, no.11, pp. 1008–1013, 2009.
- [39] Praveena K, Sadhana K, Srinath S and Murthy SR. Effect of pH on structural and magnetic properties of nanocrystalline Y₃Fe₅O₁₂ by aqueous co-precipitation method. *Material Research Innovations* 2013;18:69-75.
- [40] Kim T , Nasu S and Shima M. Growth and magnetic behavior of bismuth substituted yttrium iron garnet nanoparticles. *Journal of Nanoparticle Research* 2007; 9(5): 737-743.
- [41] Michael Green, Anh Thi Van Tran, Xiaobo Chen, Maximizing the microwave absorption performance of polypyrrole by data-driven discovery, *Composites Science and Technology*, 10.1016/j.compscitech.2020.108332, (108332), (2020).
- [42] Ali Motamedi, Roohollah Rahmanifard, Morteza Adibi, Synthesis and microwave absorption characteristics of BaFe₁₂O₁₉/BaTiO₃/MWCNT/polypyrrole quaternary composite, *Synthetic Metals*, 10.1016/j.synthmet.2021.116873, 280, (116873), (2021).
- [43] V.S. Shanthala , S.N. Shobha Devi , M. V. Murugendrappa optical band gap studies of polypyrrole doped with cuznfe₂o₄ nano particles, *International Journal of Scientific and Research Publications*, Volume 6, Issue 9, September 2016 21 ISSN 2250-3153