

DIELECTRIC PROPERTIES OF NICKEL ZINC FERRITE-POLYPROPYLENE COMPOSITE

Tan Foo Khoon^a, Jumiah Hassan^a, Nurhidayat Mokhtar^a,
Mansor Hashim^a and Azowa Ibrahim^b

^a *Department of Physics, Faculty of Science, University Putra Malaysia,
43400 UPM Serdang, Selangor.*

^b *Department Of Chemistry, Faculty Of Science, University Putra Malaysia,
43400 Upm Serdang, Selangor.*

ABSTRACT

Nickel-zinc ferrite ($\text{Ni}_{0.2}\text{Zn}_{0.8}\text{Fe}_2\text{O}_4$) was prepared using conventional solid-state method. It acts as a filler with polypropylene as the matrix. The samples were characterized by XRD and dielectric measurement was done using Agilent 4291B Impedance/Material Analyzer. It was observed that the composition of 30% doped nickel-zinc ferrite ($\text{Ni}_{0.2}\text{Zn}_{0.8}\text{Fe}_2\text{O}_4$) gives the highest value of the dielectric constant in the frequency range of 1 MHz to 1.5 GHz at room temperature.

<http://journal.masshp.net/wp-content/uploads/Journal/2010/Jilid%202/Tan%20Foo%20Khoon%2070-73.pdf>

REFERENCES

- [1]. G. R. Mohan, D.R., Reddy, B.S.B. (1999), *Materials Letters* **40** 39-45.
- [2]. B. Weidenfeller, M.H. and F. Schilling (2002), *Composites: Part A* **33** 1041 – 1053.
- [3]. V. Busico, R. Cipullo (2001), *Prog. Polym. Sci.* **26** 443-533.
- [4]. Chunxia H., S. Costeux, P.W. Adams, J.M. Dealy (2003), *Polymer* **44**, 7181 – 7188.
- [5]. Kotek, I. Kelnar, M. Studenovsky, J. Baldrian (2005), *Polymer* **46** 4876-4881.