

**HARMONIC MEASUREMENT TECHNIQUES AND  
PASSIVE FILTER DESIGN**

Thesis is presented to fulfil the requirement of  
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All postulates and laws in the universe is subjected to the GOD's Words that have not been mentioned in the alQuran, BUT is stated in 105, surah Yusuf means that God's Words covers everything on earth and in the sky. The methodology to bring out the PHYSICAL POWER and ENERGY of the God's Words (alQuran) is called the TECHNOLOGY. Whoever posses the world or physical technology, control the world.

The METAPHYSICS power of God's Words (alQuran) have slowly being forgotten by the materialistic world. God pronounce that the metaphysics power of alQuran can destroy everything, can make dead people alive and can cure every disease. The INFINITE or UNLIMITED power of alQuran nowadays only exist in talking and thinking. Not in REALITY. As a technologist, do research and PROVE in reality the Power of alQuran existency. Don't only believe, don't be a DOGMATIC. Higher Dimensions commands the Lower Dimensions. BELIEF IN GOD IS NOT ONLY MERELY A BELIEF, IT IS THE SCIENCE OF THE HIGHEST DIMENSIONS.

## **SYNOPSIS**

### **TITLE:HARMONIC MEASUREMENT TECHNIQUES AND PASSIVE FILTER DESIGN**

#### **OBJECTIVE**

- 1) TO STUDY THE HARMONIC MEASUREMENT TECHNIQUES
- 2) TO DEVELOP A SOFTWARE ON HARMONIC PASSIVE FILTER

#### **SCOPE OF PROJECT**

- (1) TO DETERMINE THE VARIOUS TECHNIQUES OF HARMONIC MEASUREMENT AND THE TYPE OF INSTRUMENTATION.
- (2) TO MEASURE THE HARMONIC CONTENT OF FLUORESCENT LAMP BALLAST
- (3) TO DESIGN HARMONIC PASSIVE FILTER

#### **METHODOLOGY**

Current transducer, spectrum analyzer and signal analyzer are the basic instruments for measurement of harmonics. In this project, the load which generates harmonic into the supply system will be identified. Thus, by using the above set of instrumentations, the measurement of harmonic content will then be conducted and measured at the supply input of the load. Based on the results, harmonic filters can be designed using appropriate harmonic software. (Cymharmo for harmonic analysis and Matlab for FFT spectral analysis).

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# HARMONIC MEASUREMENT TECHNIQUES AND PASSIVE FILTER DESIGN

## *ABSTRACT*

*This project is to study the various method used for measuring the harmonic contents caused by harmonic generating loads. A method and instruments used will then be chosen to determine the harmonic content of fluorescent lamp ballasts. The ballasts that control the operation of fluorescent lamps have been known for generating peak currents and introduce harmonic currents into the distribution system. To eliminate or reduce the harmonic content, passive filters will then be designed using appropriate design method.*