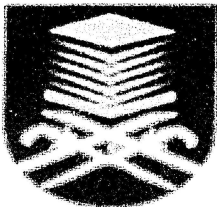


# LOAD FLOW STUDY USING FAST DECOUPLED METHOD

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## ABSTRACT

This thesis presents a framework that allows systematic studies on the hypothesis and derivations concerning the standard version of the fast decoupled load flow method using C programming language. Testings include studies on very simple systems, e.g. a 3-bus transmission system. The 3-buses transmission system test result will be presented in this thesis and is considered as a base case which enables further modification of the presented network. Other results of the standard IEEE system is also presented (6 bus, 9 bus, and 14 bus). The typical models presented here are based on the principle that the system is balanced, i.e., only one phase is really necessary to model the system, and that phasors of voltages and currents,  $\tilde{V}=V/\underline{\theta}$  and  $\tilde{I}=I/\underline{\theta}$  can be used to represent the actual voltages and currents.

*Keywords* —load flow, transmission network, fast decoupled, C programming.

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