Name   : Anuphon   Nutchaphan

Thesis Title   : A Finite Element Method Analysis of Microstrip
                 Circuits.

Thesis Advisors : Assoc.Prof. Dr. Charray Surawatpunya,
                 Asst.Prof. Vech Vivek.

Academic Year : 1992

Abstract

Numerical methods are effectively used in analysis of electro-
magnetic field problems. They have much less limitaions compared
to the analysis in analytic procedures, and they are the important
tools for studing or designing of the devices in this related
applications.

In this thesis, Finite Element Method is employed to analyse
the passive microstrip circuits in 2 - dimensional model.. In order
to solve Helmholtz's equation with magnetic-wall boundary, Green's
function was introduced. And based on the eigenfunction expansion
of the Green's function, the impedance matrix and the scattering
parameters of the model can be calculated. These are the important
parameters for characterized the circuit. The calculated results
have shown the good agreement with the other numerical methods. The
advantage in using Finite Element is vesatility, a large number of
structures can be analysed by this method.