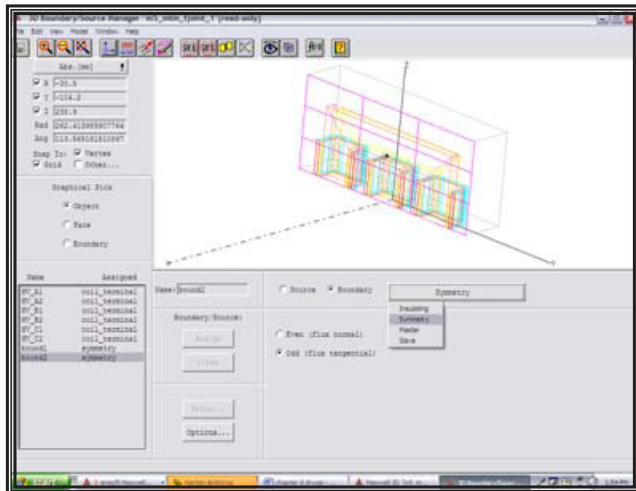
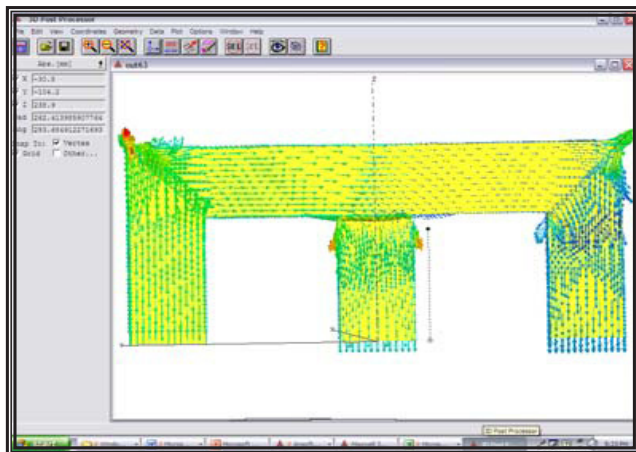


The Study and Investigation of Power Loss and Flux Distribution in Magnetic Transformer Core



Modeling of Transformer Core Losses using FEM



Transformer Core Losses Simulation Result

Project Overview

The project objective is to study the behavior of no-load loss and flux distribution of different materials and core designs of the transformers. The silicone steel of Cold Rolled Grain Oriented (CRGO), M5, High Permeability CGRO, ZDKH and core designs of normal 90o T-joint and 45o V-notch T-joint which are currently being employed by local transformer manufacturer were investigated.

Four transformer models of different materials and T-joint designs as described above were modeled and simulated for core loss using the Ansoft Maxwell 3D finite element analysis.

Deliverables

- A report on the characteristic of the power loss and flux distribution in the transformer core of different core design and different magnetic material.
- Recommendations on the suitable core design and magnetic material to be used in the manufacturing of the transformer core so that the output of the transformer can be maximized.

Benefits

- The improved core design and magnetic material in developing the transformer core circuit will reduce the losses of the transformer output.
- TNB can obtain optimum output from the transformers and hence improve the revenue from the electricity generated.