

CHAPTER 8

DISCUSSION

From the simulation results of chapter 7, it can be seen that for loads with represented by exponential model, the results obtained from aggregate method presented in chapter 4 are fairly good compared with that obtained by individual representation (e.g. Fig. A4.14-15, A4.18-19).

Differences can be observed by compared the results derived from the presented model with that derive from conventional models such as constant impedance etc. (e.g. Fig. A4.9-12, A4.18-20). Note that the latter models do not considered frequency variation.

From the simulation results of induction motor model, it can be seen that results obtained from the proposed aggregate induction motor model are similar to that obtained by individual representation (e.g. Fig. A4.29-35). Thus the presented aggregate model may be used for representation a large group of induction machines.

The simulation results obtained from the induction motor model are different from that obtained from frequently used models (e.g. compared Fig. A4.29-32 with A4.36-37, Fig. A4.34-35 with A4.38) because the latter models neglect the dynamic nature of motor loads.

Exponential and induction motor model are combined together to represent a composite load. Again, the results are compared with that obtained from frequently used models (e.g. constant impedance etc.). It can be seen that the results can have large differences (e.g. Fig. A4.56-60) because the conventional models neglect the effects of

motor inertia constants and load torque characteristics
and do not consider frequency variation.