Schedule for the workshop on dynamic modeling of electrical machines

Remember to bring your laptop with you. At least one for each project group.

12:30 – 1:00
Lecture - review of important issues in IM modelling.

1:00 – 16:00

Implementation of the dynamic model of an induction machine in Simulink

Sub-tasks:

1. How do you convince yourself that the model you have made is correct?
2. Check the rated operation condition. Compare the results you obtain you're your Simulink with your calculated results based on the S.S. model. (e.g. phase current? Power factor angle? Output torque? Slip?).
3. Observe the current behavior during startup period and find the explanations for what you have observed.
4. By changing the load torque, you may draw the torque vs. speed curve while the IM is supplied with rated terminal voltage and frequency. Give explanations to what you have obtained.
5. Repeat step . 4, with supplying the motor with half of the rated voltage and half of the rated frequency.
6. Change the motor model to generator model. Calculate the terminal power and the shaft power and find the corresponding efficiency for the rated condition.