

Fall 2005 EE595S
Homework Assignment Number 7

Note: Since this will not be collected, there is no due date. It is recommended that this be completed before we start the next set of lecture notes.

Problems 1-2 are from “DC Link Stabilized Field Oriented Control of Electric Propulsion Systems”

Problem 1: Derive (15-16) from Fig. 4.

Problem 2: Derive (22) starting with (17)

Problem 3-4 are from “Induction Machine Model for Predicting Inverter-Machine Interaction”

Problem 3: Derive (17-19) from (12-14)

Problem 4: Derive (30-31) from (26)

Problem 5 is from “A Genetic Algorithm Based Induction Machine Characterization Procedure with Application to Maximum Torque Per Amp Control

Problem 5: Derive (29) from the AQDM

Problem 6 is from “An Adaptive Maximum Torque Per Amp Control Strategy for Induction Motor Drives”

Problem 6: Derive (19) from (12)

Note: since these are all shows discussed in the paper or in class, there will be no solution. These problems are just to give you an idea of the kind of problem which might be on the final.