EE462 – Laboratory

Exp. 3 Quiz **Group #4** **25.05.2017**

Name: **Duration:** 15 min

ID: **Grade:** …../30

Questions

Part I: Understand

(5 pts) Why did we observe considerable current on the earth conductor in the experiment?

(5 pts) Why did we observe very poor THD on the grid side current in the experiment?

Part II: Solve

Consider an electric freight train weight of which is 1000 tons. The train is going on a level track (straight rail) with 70 km/h speed. The diameter of the wheels is 0.7 m. The total mechanical output power of the traction motors is 5 MW. Neglect friction and windage throughout the question.

(5 pts) How much time does it take for the train to stop, if rated torque is applied in reverse direction during deceleration?

(5 pts) How much distance should the train leave before starting the deceleration?

Part III: Think

(10 pts) Considering the data you have taken during the experiment, can you guess whether the simulated traction vehicle was going on a level track, or going uphill, or downhill? Give reasoning.