CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of Mechanical Engineering
12120 - Department of Automotive, Combustion Engine and Railway Engineering
Technická 4, 166 07 Prague 6, Czech Republic

REVIEWER'S REPORT ON THE MASTER'S THESIS

thesis title Modernization of a traction system for metro vehicles

Author Kenzo Simond

Reviewer Ing. Oleg Sivkov PhD, Department of instrumentation and control engineering, Faculty of Mechanical Engineering, CTU in Prague

Evaluation criteria and their classification

Fulfillment of the thesis requirements and goals C.....

- The goal of the thesis is generally been fulfilled - the comparison between the obsolete and new modal have been done where the simulation results show that the new modal is more effective.

Methodology and its application D.....

- The correct method were chosen and implemented, software provided by Keolis was applied, however it is not clear under what conditions the simulations were performed. Thesis contains simulation results only in separate tables and no waveforms, graphs or evaluations are introduced.

Application of knowledge gained by self-study and from professional literature D……

- Thesis contains some professional literature that has to do with the topic, however almost all of them introduce no year of edition, no pages from where the data were taken shown at all. Some of the references contain only websites with no even title of the corresponding article.

Usage of groundwork and data from practice C

- The student have realized the data from company Keolis and processed it in thesis

Professional level and contribution of the thesis D

- The simulation results of the thesis confirm advantages of asynchronous motors and their traction systems against DC motors. It shows that the new generation system MPL75/NG could be used for practical application.

Formal aspects of the thesis E.....

- Some of the equations are written by the words instead of using formulas, it is not clear why – page 31. Thesis contains some typing errors like $E=U*R.I$ - must be plus or minus, otherwise it looks like voltage times voltage (see page 14). Because the equation of the armature circuit is $U=E \pm R*I$.

Total mark D.

Further comments to the thesis:

I have three questions as a reviewer:

1. Page 24 it is mentioned the equation of the torque is for asynchronous motor. And using what equation the torque of the DC motor can be calculated?

2. What software programs were used to calculate the consumed energy, energy recovery, traveled distance? (The name of this program).

3. What are the advantages and disadvantages of asynchronous motor with squirrel cage rotor and asynchronous motor with wound rotor and which of them more applied now in practice?

I recommend the master's thesis for the defense.

Summary classification of the thesis D .....

Oleg Sivkov

....

reviewer's name reviewer's signature

In Prague 7.09.2017