ASSESMENT OF MASTER'S THESIS

Thesis: Measurement of Wheel Force on the Rail
Author: Bc. Özgür YURDAKUL

Student's approach to the subject:
Student outlines the topic complexity in the introductory part of the thesis. The author provides the reader with a good overview about the state of the research and knowledge including direct links to various approaches of different authors and research groups. The methods and techniques that were used in the thesis are mentioned. The student utilized the computational methods as well as the experimental measurements to reach the goal which allowed him to compare the obtained results thus discuss the potential issues in a more realistic way. The research methods have been successfully mastered.

The results achieved:
The results achieved through the measurements have shown reliability and proved the computational method in general. The author studies the influence of exact location of contact point and proves a clear dependency. This study provides valuable information about proper strategy for location of strain gauges eventually setting a right strategy for data evaluation (e.g. averaging).

Norms and regulations:
The thesis seems to have all necessary items to comply with the regulations.

Formal details and requirements:
The structure of a study is clear and very logical. I like especially the comprehensive introduction that provides the reader about the content of work. The research process is easy to follow.
The text is written in a good academic style. I find the study of a high quality, however I have a minor remark.
Page 48 on – the graphs showing the traces of a strain signal require a link to page 41 that shows the positions of strain gauges.

Questions:

1. Can you comment on the influence of transversal opening of supporting columns of the testing track at CZ LOKO (page 44) on measured results? Can you discuss the effect of sleepers?
2. Can you comment on the influence of transversal forces and stress-strain distribution? There is one note on page 67.

Assessment:
After reading the thesis carefully it is obvious the student utilized necessary tools and available methods to address the objectives. The student demonstrated and proved an engineering approach and technical skills. I find the study valuable and the thesis excellent. I evaluate the student's thesis as excellent.

= excellent =

This assessment was done for the University of Pardubice, Jan Perner Transport Faculty

In Prague 1.6.2015

Ing. Pavel Švec, Ph.D.

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