DIPLOMA THESIS EVALUATION

Student´s name and surname: Murali Prasath Balu

Name of the diploma thesis: Design of System Ensuring Defined Cable Tension under Dynamic Load

Supervisor of the thesis: *Ing. Petr Žabka, Ph.D.*

1. Diploma thesis evaluation

Evaluation	excellent	excellent minus	very good	very good minus	good	failed
Meeting the goal and fulfilling task of the thesis			x			
Quality of conducted survey				x		
Methodology of solutions			x			
Expert level of the thesis				x		
Merit of the thesis and its potential applicability of results		x				
Formal and graphic level of the thesis		x				
Student´s personal approach	x					

*Mark **x** in the corresponding box.*
Supervisor´s final evaluation is based on his/her overall subjective evaluation.
Grading is stated literally in the article no. 5, neither by a number, nor by a letter.

2. Comments and remarks on diploma thesis:

The thesis deals with the design of a mechanical system to ensure a required tension of a cable during periodic rewinding motion. The thesis contains the analysis of cable vibrations, as well as, designs and mathematical models of two variants of the solution. Furthermore, one solution, based on gravitational potential energy storage, is experimentally verified.

The work is generally well done without major errors. The main contribution is in mathematical models. The biggest drawback is that the individual models are not interconnected and the thesis lacks a more detailed evaluation of the obtained data. It would be particularly interesting to compare the combined cable model with real measurements. Nevertheless, all the main points of the assignment were met. I also appreciate the experimental part, which was successfully conducted despite the unfavorable circumstances associated with quarantine measures.

From the formal point of view, the thesis contains only minor grammatical errors that do not affect comprehensibility of the text.

3. Questions about diploma thesis:

- Draw the free body diagram of the weight (shown in figure 5-1) in an inclined position and prove that the horizontal position is stable. Neglect friction.
- Explain what makes cable vibration unacceptable. Was it observed during the experiment?

4. Supervisor´s statement on results of the inspection carried out by the anti-plagiarism program in the STAG system:

The anti-plagiarism system did not find any similar documents. All the sources used are properly cited.

5. Supervisor´s grading of the diploma thesis:

The thesis meets all the requirements for awarding an academic degree. I rate it with the mark:

very good

Date: 19.1.2021, in Liberec

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Supervisor´s signature