THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Methods for Interferometer Adjustment**
Author's name:	**Harissh Lakshminarayanan**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Instrumentation and Control Engineering
Thesis reviewer:	Prof. Ing. Jan Hošek, Ph.D.
Reviewer's department:	Fine Mechanics and Optics

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**ordinarily challenging**

How demanding was the assigned project?

The aim of this bachelor thesis was to perform research for possibilities of methods for an interferometer adjustment. Besides general review of interferometers and actuators possible to be used for its adjustment the student had to select the simplest interferometer design for practical part of the thesis. The aim of the practical part of the thesis was to propose a mechanical concept of the selected interferometer based on custom parts available in lab and to propose an algorithm for adjustment task. So, the topic can be assessed as ordinarily challenging.

Fulfilment of assignment	**fulfilled with major objections**

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

The student focused on review of microactuators and later on also the interferometer's concepts. This part of theoretical research can be assumed as satisfied after many iterations of the texts. It was very complicated for student to understand how to perform decision regarding the lowest simplicity of different interferometer layouts. It was not possible for student to perform feasible mechanical design of the interferometer system even with custom parts and its available 3D models. Thus, we reduced the practical task of the thesis just to realization of actuator's motion with an external student's proposed code. Unfortunately, the proposed code is not possible to perform time control of the actuators positioning. So, there are just few parts of the thesis assignment fulfilled. The points 3 of the thesis assignment was fulfilled with objections and the point 4 was not fulfilled satisfied.

Activity and independence when creating final thesis	**E - sufficient.**

Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.

The student appeared low work activity. I had to repeatedly urge him for work on the thesis. It was very difficult to explain the student that thesis cannot contain copy-passed texts and he had to keep all references of used data. It has represented majority of the student effort on thesis work. Finally, the student was able to prepare acceptable text of the theoretical review, but to process gathered information for constructive part of the thesis was above its capabilities. The shown result of mechanical design is unusable and the Python code proposed for actuation can perform a single change of the actuator position, but it is not able to control the actuators position in reasonable time scale.

Technical level	**E - sufficient.**

Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?

The technical level of the thesis is low. The aim of the thesis was to prove that student is able to make research of the problem and make decision based on research analysis. The review of actual knowledge related to the problem was finally performed at acceptable level. Next step the analytical and synthetic parts where student should propose a method of problem solution and its realization based on reviewed knowledge was beyond the student's technical capabilities. Presented work shows the student have limited knowledge to solve the thesis technical problems.

Formal level and language level, scope of thesis	C - good.
Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?	
Final formal level of the thesis is surprisingly good, at least with contrast to previous versions of the proposed texts, which were not acceptable.	

Selection of sources, citation correctness	D - satisfactory.
Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?	
The thesis work refers to 19 online sources and next 22 products data. Not all of them are correctly cited. There are also six sources used as reference, but without reference in the thesis text. I assume as my personal success that student accepted that it is not possible to use copy-passed texts in his presented work.	

Additional commentary and evaluation (optional)
Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The aim of the thesis was to prove that student is able to solve given technical problem, to make the problem review, to analyze gathered information and to use it in synthetic design part of the thesis. The student appeared ability to find out general information related to the desired topic. The problem is that he has difficulty to understand the gathered text information and to apply it. The student proposed some technical solution related to the thesis problem, but he is not capable to realize it to reach positive results.

According my experience the student has low level of knowledge that limits its capabilities for practical problem solution. But I assume the bachelor thesis is formally acceptable and my overall evaluation of the thesis as supervisor is sufficient.

The grade that I award for the thesis is **E - sufficient.**

Date: **30.1.2023**   Signature: