

I. IDENTIFICATION DATA

Thesis title:	Přístroj pro Vibrating Sample Magnetometer
Author's name:	Patrick Theodore Ramos
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of electrical power engineering
Thesis reviewer:	Doc. Ing. Mattia Butta, Ph.D.
Reviewer's department:	Department of measurement

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
This project was rather challenging because it required the student to acquire several different skills to complete it: design of electronic circuits selecting proper components, design and manufacturing of PCBs, programming in different environments, design of 3D printed objects, testing of the measurement system...	

Fulfilment of assignment	fulfilled
<i>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.</i>	
The final results of the thesis completely achieved the goals of the project. At the end the student was able to build a VSM which has comparable results with a professional VSM (same quality of measurement for microwire and only slightly more noisy results for nanowire membranes).	

Activity and independence when creating final thesis	A - excellent.
<i>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.</i>	
The student has worked a lot of hours on this project. Also, during the shutdown of the faculty due to the pandemic he was able to work at his home using his limited measurement tools to continue the project when not allowed to come to the lab. Even during the time we were not able to meet we were consulting remotely. Despite all the problems due to the pandemic he never gave up.	

Technical level	A - excellent.
<i>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?</i>	
The thesis is technically spotless. Of course there could be some improvements to the created VSM, but this is left for future development. The system works, and it works very well. The contribution of the student is very clear.	

Formal level and language level, scope of thesis	A - excellent.
<i>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?</i>	
Yes, the English is satisfactory (also considering the student is an English native speaker). The thesis is well written and fully detailed.	

Selection of sources, citation correctness	A - excellent.
<i>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?</i>	

Yes, there are even too many references and the original work of the student is clearly distinguishably from the references (it is an experimental thesis, therefore it is obvious what the student has done).

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.

As explained in the following field the thesis quality is excellent.

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

During the course of the project the student has acquired multiple skills. While at the beginning of the project he had no experience whatsoever in conducting an experimental project at the end of this experience he gained new multiple tasks, from the comprehensive design of electronic circuit and PCB to programming in different platforms creating a complete measurement system and its testing.

With this project Mr. Ramos has shown that he has potential to learn new skills by self-learning. In these months he has gradually acquired independence in conducting the laboratory activity and shown he can grow as an engineer.

The final result of the thesis is excellent as the student was able to build a VSM which, even in this proof of concept version, is already useful to our laboratory for our research activity (for multiple GACR projects) avoiding us to visit external laboratories for material characterization. Thus, Mr. Ramos brought a relevant added value to our laboratory.

The grade that I award for the thesis is **A - excellent**.

Date: **14.8.2020**

Signature:

