

I. IDENTIFICATION DATA

Thesis title:	AcouMan — Acoustophoretic Manipulation Platform
Author's name:	Josef Matouš
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Control Engineering
Thesis reviewer:	Martin Gurtner
Reviewer's department:	Department of Control Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	extraordinarily challenging
<i>How demanding was the assigned project?</i>	
From the very beginning, it was unclear whether all the goals posed in the assignment could be met or not. What is more, it was unclear what tools (optimization and control algorithms) one should start with. The topic of the thesis is new, and thus there was no source from which one could take some inspiration.	

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>	
All goals set in the assignment are met.	

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>	
During consultations, Josef Matouš typically presented me with the problems he stumbled upon from the last time and right away proposed solutions to them. He worked very independently and mostly without my help.	

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>	
To meet the goals set in the assignment, Josef had to invoke rather sophisticated tools like <i>Linear Quadratic Regulator</i> , <i>Kalman filter</i> , <i>Model Predictive Control</i> , and <i>Particle Swarm Optimization</i> . All used methods and achieved results are clearly presented.	

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>	
The text in the thesis is well structured. Mathematical expressions are properly typeset. The text is mostly brief, yet clear.	

Selection of sources, citation correctness	Choose an item.
<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>	
The thesis has a good selection of sources. All sources are properly cited.	

Additional commentary and evaluation (optional)
<i>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.</i>

Please insert your comments here.

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

Josef Matouš chose a rather challenging topic for his master's thesis. He proved his theoretical and practical skills by solving all the problems he encountered throughout working on the thesis. The results presented in the thesis are impressive and will probably be submitted as a research article to a peer-reviewed journal. For these reasons, I have no other option than giving the thesis the highest possible grade.

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

Date: **28.5.2020**

Signature: