

I. IDENTIFICATION DATA

Thesis title:	Active technology for space debris removal.
Author's name:	Bc. Michal Matija
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Dept. of Computer Science
Thesis reviewer:	doc. Ing. Miroslav Bureš, Ph.D.
Reviewer's department:	Dept. of Computer Science

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
Student had to get familiar with complex problem of space debris removal and the thesis composed from a survey and comparison of current approaches as well as implementation of simulator of a selected method. Both parts are nontrivial tasks.	

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>	
Student fulfilled all requirements of the thesis assignment very well.	

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>	
Student was regularly consulting his progress and worked independently and actively on the topic.	

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>	
Regarding the part dedicated to a survey of space debris removal methods, student included 16 methods, gave explanations of their principles and compared the methods by defined criteria. This part is well organized and useful to get familiar with the area. The second part, simulation of the selected Laser space-based method starts with mathematical model, followed by a relatively complex application in which the basic functionality of the method can be interactively simulated. From the software engineering viewpoint, this application is satisfactorily documented in the thesis text.	

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>	
Thesis text is well organized and easy to read. I appreciate the mathematical model of the problem which is presented in the text. The text is reaching the recommended top limit of the master thesis, 80 pages. English can be improved in some parts, but generally, it has good level.	

Selection of sources, citation correctness**Choose an item.**

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?

Student cites 44 resources, of which minimally one half are research papers and technical reports, the rest are web references. All images taken from external sources are properly cited.

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

Thesis is addressing relatively complex area of space debris removal and provides useful practical overview and comparison of 16 known methods to solve this problem. Student then it selects the Laser space-based method and created a simulation application, which provides rich functionality and is a great basis for some laser-based method simulator. I consider the results well applicable and encourage the student to continue with the project after his master defense.

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

Date: **27.8.2021**

Signature: