

I. IDENTIFICATION DATA

Thesis title:	The impact of outer surface roughness to the performance of a small rocket with D class engine
Author's name:	Müller Santiago Ismael
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	12110
Thesis reviewer:	Frantisek Lopot
Reviewer's department:	12113

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
definitely above average demanding assignment	

Fulfilment of assignment	fulfilled with minor objections
<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 thesis is very well formed. I see the introductory part to be very successful, well suited to the needs of following own experimental activities. As a part of this own work, I appreciate the sophisticated approach to evaluating the roughness of surface of prepared samples and the fact that the measurement was not performed on only one sample for each version. I was also looking forward that the conclusions of the thesis will be supported by real experiments, instead of which only simulations are presented. That's why I chose the above rating. On the other hand, I understand that this activity would probably exceed the usual scope of bachelor thesis, both in terms of actual difficulty and in terms of necessary costs.	

Methodology	correct
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
See comments above	

Technical level	B - very good.
<i>Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?</i>	
Very good because due to expected very close relation between model and results I believe that the author should have devoted more space to the final virtual experiment and the theoretical connections of aerodynamic drag with the roughness of the surface of the flowed body at variable speed.	

Formal 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>	
In the text, some occasional typos can be found, nevertheless to the negligible extent. The style of the text is very good, despite some more complex sentence structures. The images and overall graphic interpretation are of an appropriate level.	

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>	

Although I would welcome a deeper analysis of the relationship between aerodynamics and surface roughness, which would probably cause increasing the number of citations, I am also convinced that in all other aspects of the work, the author presented his ability to work with available information sources in effective and correct way.

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.

Please insert your comments here.

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

Could you interpret pictures 31 to 34 more closely, please:

- *What are the peaks and valleys - what do they correspond to?*
- *How did you calculate R_a from presented curves?*
- *Why are the curves shifted in the direction of the length axis?*

The grade that I award for the thesis is **B - very good**.

Date: **16.6.2023**

Signature:

