

I. IDENTIFICATION DATA

Thesis title:	CFD simulation of sedimentation of small particles
Author's name:	Özgür Tarik Kaplan
Type of thesis :	master
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Process Engineering
Thesis supervisor:	doc. Ing. Karel Petera, Ph.D.
Supervisor's department:	Process Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	

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>	

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

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>	

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>	

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>	

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

Summarize your opinion on the thesis and explain your final grading.

The author showed quite good abilities of individual work. He performed CFD study of sedimentation of small particles, he analyzed the impact of the time step on simulation results which is very important when performing transient analysis. Using the case of sedimentation in a water column, he compared Euler-Granular and DDPM-KTGF model which are available in ANSYS Fluent. Then, using the Euler-Granular model, he made simulations of a geometry representing the part of a real lamella sedimentation tank. The author evaluated the critical velocity reflecting 99% effectiveness with respect to the velocity and inclination angle. The methods and procedures used in the thesis seems to be correct. The language level as well as formal aspects of the thesis are excellent in my opinion.

I evaluate the thesis by grade

Date: 23.8.2021

Signature: