

I. IDENTIFICATION DATA

Thesis name:	Open-source Motion Control on Mid-range and Small FPGAs
Author's name:	Jakub Janoušek
Type of thesis :	Cybernetics and Robotics
Faculty/Institute:	Faculty of Electrical Engineering
Department:	Department of Control
Thesis reviewer:	Roberto Bucher
Reviewer's department:	Extern

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	extraordina
<i>Evaluation of thesis difficulty of assignment.</i>	
The student have to solve problems in different areas, such as hardware and PCB, control of motors, software (including writing of drivers), and he has to work with different operating systems (Linux and NuttX). In addition he had to handle communication protocols (SPI) and integration of FPGAs.	

Satisfaction of assignment	fulfilled
<i>Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.</i>	
The student developed PCB for the hardware and programmed all the different software to solve the given tasks. All thw assigned problems have been solved.	

Method of conception	outstanding
<i>Assess that student has chosen correct approach or solution methods.</i>	
The theoretical part is well structured and developed. The presentation of PMSM as well as the whole theory of the transformations of Clark and Park, are well presented.	
The only remark is related to the continuous integrator used in pysimCoder. For sampling reasons it is always better to use discrete integrators in pysimCoder instead of continuous ones (Figure 10.1).	

Technical level	A - excellent.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
Both hardware and software problems are well realized and discussed.	

Formal and language level, scope of thesis	A - excellent.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The documentation is complete and well readable. The student demonstrates an excellent mastery of the English language.	

Selection of sources, citation correctness	A - excellent.
<i>Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.</i>	
All the sources are presented and well documented.	



REVIEWER'S OPINION OF FINAL THESIS

Additional commentary and evaluation

Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.

The student provides a good and complete thesis.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.

I evaluate handed thesis with classification grade **A - excellent**.

Date: 22.8.2024

Signature: