

## DIPLOMA THESIS EVALUATION SUPERVISOR EVALUATION

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**Thesis title:** Nonlinear Process Control - The Method Using Derivatives

A. Abstract quality, keywords matching . . . . .	Excellent (1)
B. Research scope and processing . . . . .	Very good minus (2-)
C. Level of theoretical part . . . . .	Excellent (1)
D. Appropriateness of the methods . . . . .	Excellent minus (1-)
E. Results elaboration and discussion . . . . .	Excellent minus (1-)
F. Students own contribution . . . . .	Excellent minus (1-)
G. The conclusion statement . . . . .	Excellent minus (1-)
H. Fulfillment of Thesis tasks (goals) . . . . .	Fulfilled
I. Structure, correctness and fulness of references . . . . .	Very good minus (2-)
J. Typographical and language level . . . . .	Very good (2)
K. Formal quality . . . . . (text structure, chapters order, clarity of illustrations)	Excellent minus (1-)
L. Student access (independence, activity etc.) . . . . .	Excellent (1)

### Comments, remarks

In the text, there are problems with units after values - the space is usually missing (like 1000s, 100%, etc.).

I prefer to include other examples in the theoretical part to show the filter, and control circuit with the filter, properties in the case of a noisy output signal.

The reference list is very short and mainly the theoretical part focused to the differentiating filter construction and state controller analysis should be supported with more references. It seems that the author was too narrowly focused to the selected method, but did not pay attention to broad range analysis.

...cont. on page 2



Overall assessment:

The student worked very individually and finally presented the possibility of the differentiating filter application on the model of real nonlinear process in the work. The student had to become familiar with the technology and with all models of the technology. The results make a proof that the student understands the problem and is prepared to apply, at least in the theoretical area, presented algorithm to nonlinear processes. The simulation results show not only the potential of selected method in the nonlinear process control area but also highlighted some limitation of the method.

Questions for the defense:

You presented results from simulation with set of linear models in the chapter 4.4. You wrote the result do not meet the condition (2.4) on the actuating variable.

1. Can you explain why?
2. Can you describe what does it mean to shift the linear system (the transfer function) to the working point for ranges of actuating and output variables and how you can make the shift?

**Overall classification:**

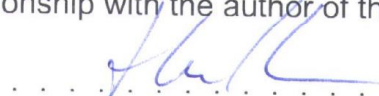
Work meets the Master degree requirements and therefore I recommend it for defense

I suggest to classify this work by grade Excellent minus (1-)

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date June 6th, 2014

By signing I certify that I am not in any personal relationship with the author of the thesis



Supervisor signature