

DIPLOMA THESIS EVALUATION SUPERVISOR EVALUATION

Author name: Pavel Vedel Bc.
Supervisor: doc. Dr. Ing. Mgr. Jarosla Hlava
Thesis title: Modeling and real time optimization of
a smart microgrid

A. Abstract quality, keywords matching	Excellent (1)
B. Research scope and processing	Very good (2)
C. Level of theoretical part	Excellent minus (1-)
D. Appropriateness of the methods	Excellent minus (1-)
E. Results elaboration and discussion	Very good (2)
F. Students own contribution	Very good (2)
G. The conclusion statement	Very good (2)
H. Fulfillment of Thesis tasks (goals)	Fulfilled
I. Structure, correctness and fulness of references	Excellent (1)
J. Typographical and language level	Good (3)
K. Formal quality (text structure, chapters order, clarity of illustrations)	Very good (2)
L. Student access (independence, activity etc.)	Excellent minus (1-)
Comments, remarks	

...cont. on page 2

Overall assessment:

In principle, student fulfilled all specified objectives. Simulation model in Matlab/Simscape Specialized Power Systems environment can be used for further research and simulation experiments. EMPC controller can be implemented using the code generation capabilities of Matlab and suitable open source MILP solver. The only remaining obstacle to implementation is the prediction of time series using the GUI of Econometric toolbox. Implementable controller should include automatic continuous updating and calculation of prediction model coefficients.

Questions for the defense:

1. Figure 1.2. in page 16 indicates that balancing power market is settled after the time of delivery. Why? Does this statement hold generally?
2. MPC controller uses ARIMA models for time series prediction. Are there some alternatives to this approach? How difficult it would be to implement and update ARIMA model without using Econometric toolbox?

Plagiarism checking:

Similarity by STAG: 0 % Comment if similarity is above 5 %:

Reviewed

Overall classification:

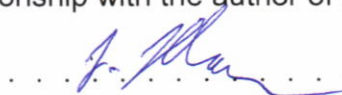
Work meets the Master degree requirements and therefore I recommend it for defense

I suggest to classify this work by grade Very good (2)

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



Supervisor signature