

Supervisor assessment of Bachelor's Thesis

Student: Krasňanský Milan, Bc.

Title: Automatic Flight Control System Design for a Jet Aircraft (id 17228)

Supervisor: Chudý Peter, Ing., Ph.D. MBA, UPGM FIT VUT

1. Assignment comments

The selected topic represents a complex task with the effort evenly distributed between the design and implementation of a high performance jet aircraft flight simulation model and the design and implementation of its automatic flight control system. The implemented control approaches include the state of the art control strategies as well as the modern concepts based on the Nonlinear Dynamic Inversion. Both control techniques were to be included into the design of the jet's flight control system. In order to fully utilize the advantages of the Nonlinear Dynamic Inversion approach a high fidelity nonlinear dynamic model of the jet aircraft needed to be developed and implemented.

2. Literature usage

The author worked successfully with a wide scope of references, all of which were content-wise related to the topic of the thesis. The author performed a careful individual and focused research on the modern flight control system design as well as on the related modeling and simulation tasks. The author mastered the utilization of the published resources and along with his individual contributions successfully designed and implemented an automatic flight control system into a purposely-developed flight simulation framework.

3. Assignment activity, consultation, communication

The author had an active approach during his work on the thesis and demonstrated a high level of commitment in achieving excellent results. The author attended the scheduled meetings regularly and was well prepared. He meaningfully contributed to the meeting discussions and was subsequently able to draw individual conclusions and transforming them into an operational concept. Communication with the author was conclusive and punctual.

4. Assignment finalisation

Both, the implementation part and the text part of the thesis have been finished well in advance of the deadline and the content has been thoroughly examined. Minor modifications originating from the meeting discussions and periodic reviews have been included into the thesis.

5. Publications, awards

NIL

6. Total assessment

excellent (A)

Student's overall activity and motivation were at a high level throughout the entire work on the thesis. Accomplished results contribute to the overall fidelity of the implemented simulation environment and represent a solid basis for a potential future research and development on the field of flight control system design. The amount of demonstrated knowledge and focus needed for a successful accomplishment of the thesis were well beyond the usual expectations. I recommend the thesis for the defense. Suggested grade as based on the above mentioned: Excellent (A).

In Brno 4. June 2015

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