

**I. IDENTIFICATION DATA**

<b>Thesis name:</b>	<b>Mechanical Exciter for Experimental Modal Analyses</b>
<b>Author's name:</b>	<b>Tomas PETRIK</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Mechanical Engineering (FME)
<b>Department:</b>	Mechanics, Biomechanics and Mechatronics
<b>Thesis reviewer:</b>	Dr. Ir. Indrawanto
<b>Reviewer's department:</b>	Mechanical Engineering, ITB, Indonesia

**II. EVALUATION OF INDIVIDUAL CRITERIA**

<b>Assignment</b> <i>Evaluation of thesis difficulty of assignment.</i>	<b>challenging</b>
This thesis topic includes design, manufacture and testing. At the design stage, a concept review and component selection was carried out. At the manufacturing phase, minor modifications were made in accordance with the available parts and machine tool capabilities. Then the selection of instrumentations and measurement sensors were carried out according to the experiment.	

<b>Satisfaction of assignment</b> <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>	<b>fulfilled</b>
The nature of the work is risky, designing, manufacturing and testing in a relatively short time to meet all the main objectives.	

<b>Method of conception</b> <i>Assess that student has chosen correct approach or solution methods.</i>	<b>correct</b>
Mr. Petrik has taken the right approach, starting from the analysis of the design and then simulating the model before the exciter was manufactured.	

<b>Technical level</b> <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>	<b>B - very good.</b>
Mr. Petrik has conducted an extensive literature review of various mechanical exciter designs which he was able to demonstrate the strengths and weaknesses of each of these designs.	

<b>Formal and language level, scope of thesis</b> <i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	<b>C - good.</b>
The language can be understood, but it needs to be improved	

<b>Selection of sources, citation correctness</b> <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>	<b>B - very good.</b>
While there is little work on understanding the frequency domain analysis, most relevant sources are cited	

<b>Additional commentary and evaluation</b> <i>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.</i>	
In this thesis, the exciter response has been measured extensively, however without the excitation input measurement; the	

dynamic modeling of the exciter may not be carried out.

### III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

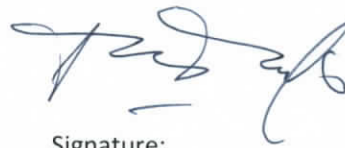
*Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.*

Mr. Patrik's maturity and autonomy is very good. We only discuss general concepts in the design, and Mr. Patrik was able to produce a good design with very little input. Likewise, we discussed only a few times the design and results of experiments, others, including the details of experiments and instrumentation, were all done by Mr. Petrik without further input.

A question for the defense may be naturally the exciter is a 4<sup>th</sup> order system, how to optimize the design parameters so that the exciter can behave like a second order system with certain bandwidth and damping ratio.

I evaluate handed thesis with classification grade **B - very good**.

Date: **30.8.2018**



Signature: