

OPPONENT'S ASSESSMENT OF DIPLOMA THESIS

Student's name and surname: Runer Shiloh Salonga

Name of the diploma thesis: Analysis Tool for the Evaluation of Measurement of the Single Bubble and Bubbles Structures Dynamic

Supervisor of the thesis: Ing. Miloš Müller, PhD.

Opponent: Ing. Petr Horník, PhD.

1. Diploma Thesis Evaluation

Evaluation	excellent	excellent minus	very good	very good minus	good	failed
Meeting the goal and fulfilling task of the thesis	X					
Quality of conducted survey		X				
Methodology of solutions		X				
Expert level of the thesis		X				
Merit of the thesis and potential applicability of its results		X				
Formal and graphic level of the thesis			X			
Student's personal approach	X					

Mark x in the corresponding box.

Supervisor's final evaluation is based on his/her overall subjective evaluation.

Grading is stated literally in the article no. 5, neither by a number, nor by a letter.

2. Comments and remarks on diploma thesis:

Quality of conducted survey

The literature review should be also focused on the different methods used for the signal and camera images evaluation.

Methodology of solutions

For the double bubble evaluation only one level of the voltage is used. Some trends of measured values in the graphs on pages 60 - 64 are not very clear. I lack the trend lines (approximation curves) here. I would prefer graphic representation of values in the tables on page 67. The force in the graph on page 70 should be in *newtons* and not in *volts*.

Expert level of the thesis

The author describe trends of measured results, but no physical interpretation for these results is given. The results given in Figures 6.10 – 6.13. should be discussed in detail.



Merit of the thesis and potential applicability of its results

The results of the work can be used for the identification of acoustic signals measured during the cavitation diagnostic in hydraulic machines. For the full application also variation of results for more bubbles – bubble clouds should be included.

Formal and graphic level of the thesis

There are some minor formal shortcomings in the diploma thesis - such as missing chart axis description (fig. 5.2), missing abbreviation EMI (page 29) in the list of abbreviations, units of resistance (ohm is Ω , not ω – page 40) or some typing errors.

3. Questions about diploma thesis:

What is the measurement error of image analysis? What length value corresponds to 1 pixel?

How was the image analysis method (CavTools Analysis Tool) verified?

In what way is the bubble radius evaluated if the bubble has a non-spherical shape?

4. Opponent's statement whether the diploma thesis meets the academic title requirements and whether it is recommended for defense:

The diploma thesis meets the academic title requirements and I recommend this thesis for defense.

5. Opponent's grading:

"Excellent minus"

Date 20/05/2019, in Liberec



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Opponent's signature

