Hodnocení bakalářské práce oponentem

Název práce:	Modern modulation methods for underwater communication		
Student:	Dogan Suleyman KÜSMÜS	Std. číslo:	E11B0272P
Oponent:	Ing. Ivo Veřtát		

Kritéria hodnocení práce oponentem	Max. body	Přidělené body
Splnění zadání práce (posuzuje se i stupeň kvality splnění)	25	5
Odborná úroveň práce	50	15
Interpretace výsledků a jejich diskuze, příp. aplikace	15	5
Formální zpracování práce, dodržování norem	10	0

Hodnocení obsahu a kvality práce, připomínky:

Evaluated bachelor thesis deals with the topic of an underwater communication system. The main objective was to make a simulation of the modulator/demodulator suitable for underwater communication and to describe all parameters influencing underwater transmission including transducer properties.
The most of thesis objectives is not worked out (suitable transducers with their parameters, analysis of channel capacity) or worked out with the weak technical quality (modulator and demodulator). In the theory part of thesis the influence of water temperature on the sound velocity is not covered. In practical part of thesis the used AWGN channel model do not match the real properties of underwater channel with multipath environment and Doppler shift effect. No physical properties (e.g. used bandwidth, central frequency, symbol and data rate) of simulated system is described. In relation to mentioned remarks the proposed simulation do not simulate underwater communication, just static baseband communication in free space.
Thesis also has amount of typing error (e.g. in speed of light) and low quality of images and equations. Some equations in electronics release of thesis are completely missing. The most serious problem of thesis is copying (usage of large parts of text including chapters structure) of several sources without listing in references (Ph.D. thesis Modulation Analysis for an Underwater Communication Channel from Miranda Xavier and master thesis Towards underwater Video transmission from Dubreuil Vall). In accordance to ECTS evaluation my suggested grade is F and in convention to UWB in Pilsen evaluation grade 4.

Dotazy oponenta k práci:

What is the central frequency and bandwidth of the simulated transmission?
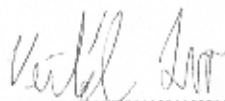What is the difference between P(f) and S(f) in equation (2.9)?
How are calculated the curves in fig. 1.3 and what they represent?
Why somewhere is used BER vs. Eb/No and somewhere is used SER vs. SNR characteristic?
What means the last sentence in the third paragraph of Conclusion part (It is found out that data increases.....and also velocity of wave increase)?

Bakalářskou práci hodnotím klasifikací **nevyhovuje** (podle klasifikační stupnice dané směrnicí děkana FEL)

Dne: 25.6.2012

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podpis oponenta práce