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	8
Odborná úroveň práce	50	15
Interpretace výsledků a jejich diskuze, příp. aplikace	15	5
Formální zpracování práce, dodržování norem	10	5

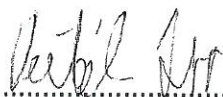**Hodnocení obsahu a kvality práce, připomínky:**

In repaired bachelor thesis there are parts about theory of underwater communications and parts with simulations of noise impact to symbol error. All parts have low quality. In comparison to the first release of thesis some interesting information about underwater communication and channel model were removed instead their precise referencing. Also practical part of thesis with simulations uses again a simple Gaussian channel model, which is far from real underwater conditions. Results of theoretical QPSK symbol error are compared to OFDM symbol error without described conversion. Conclusions are too much simplified and not precise. Some parts of thesis assignment are not worked out.

In relation to mentioned my suggested grade in accordance to ECTS (A-F) is E, in convention of UWB evaluation grade between 3 and 4 dependent on author answer during thesis defending.

Dotazy oponenta k práci:

1) What do you mean with term "open-air" on page 11 in relation to higher underwater propagation delay? Is it open-air acoustic communication or open-air electromagnetic wave communication?
2) On page 26 there is written: "number of symbols received in error is greater than number of symbols sent". How can be the number of received symbols greater than transmitted symbols?
3) On the page 26 as well as on page 29 you compare results on figure 3 with figures 7, 8. The results are described as "very close", but the symbol error are different (SER 0.1 with SNR 12.5dB on fig.3 versus SER 0.1 with SNR 19dB on figure 7). Please comment these results.
4) What total number of symbols were transmitted in each simulations? How is compared symbol error of clear QPSK (figure 3)with symbol error of OFDM (n=128), OFDM (n=256)and OFDM (n=512) on figure 8?

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

Dne: 1.9.2012

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podpis oponenta práce

SHODNÉ
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②