

Department of Electrical & Electronic Engineering

ELEC97094/ELEC97095 Wireless Communications

Evaluation Form - Coursework 1

**Name of Student: Zhaolin Wang**

**Overall Grade: A**

1. System Model (10%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

1. Q1 (15%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

1. Q2 (15%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

1. Q3 (15%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

1. Q4 (15%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

1. Explanations of the observed results (15%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

1. Contrast the simulation results with the theoretical results (15%)

A\* ☐ A ☐ B ☐ C ☐ D ☐ E ☐

**Comments:**

Longfei:

1. Good system model. It would be better to mention the data length you used.
2. Correct simulation results. You could add the array gain analysis.
3. Correct simulation results. You could add the array gain analysis.

6. You could mention how the diversity gain is observed from the figure: e.g., at high snr, snr increasing 10dB leads to a decrease of BER by .

7. Good results and analysis.

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Yang:

1. Equation 1 is not rigorous -- the BER is approximately half the SER especially at high SNR.
2. You may wish to specify explicitly that MRT requires CSIT.
3. Alamouti does not require CSIT, but require CSIR and assume the channel is unchanged over 2 consequent symbol durations. 2-tx Alamouti scheme tramsmits each symbol twice over the time and spatial domain. You may wish to specify the transmit symbol matrix and explain why the received signal can be decoupled by linear combination (i.e. why the expression regarding y holds).
4. Good discussion.
5. Good. Can you further simplify (or bound) the analytical BER expressions?