E6712: Homework 2

Due date: March 1, 2005

1. Write a simulation program to evaluate the error-rate performance of M-ary coherently decoded PSK for $M = 4$, $M = 8$, and $M = 16$ in the range of $E_b/\mathcal{N}_0$ from 0 to 16dB. Plot the results on the same graph using the logarithmic scale for the error probability axis.

2. Write a simulation program to evaluate the error-rate performance of M-ary coherently decoded QAM for $M = 4$, $M = 8$, and $M = 16$ in the range of $E_b/\mathcal{N}_0$ from 0 to 16dB. Plot the results on the same graph using the logarithmic scale for the error probability axis.

3. Write a simulation program to evaluate the error-rate performance of BPSK, coherently decoded DE-BPSK, and binary DPSK in the range of $E_b/\mathcal{N}_0$ from 0 to 12dB. Plot the results on the same graph using the logarithmic scale for the error probability axis.