

Dear all,

Hi, this is Daisuke Hisano, Assistant Professor at Osaka University.

I send the assignment for 3rd topic.

Here, I will give the fundamental of modulation and signal processing.

I have prepared three assignments.

At this time, I will give you 1st assignment.

(i) See the following references and plot the bit error rate (BER) curves of QPSK and 16QAM with simulation and theoretical value.

<https://www.mathworks.com/help/comm/ref/biterr.html>

(ii) Compare the results with and without Gray encoding. And discuss why the results are different.

(iii) Discuss the difference among SNR, E_s/N_0 , and E_b/N_0 .

(iv) Plot the bit error rate (BER) curves of QPSK and 16QAM with simulation and theoretical value without any ToolBox.

Please send me a report of less than three pages summarizing your results.

In addition, please share the program you created. The program is not counted the number of pages of the report.

E-mail: hisano@comm.eng.osaka-u.ac.jp