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▶ Topic 1: Course  
Overview

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Lossless  
Source Coding:  
Hamming  
Codes

▶ Topic 3: The  
Frequency  
Domain

▶ Topic 4: Lossy  
Source Coding

▶ Topic 5: Filters  
and the  
Frequency  
Response

▶ Topic 6: The  
Discrete  
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Transform

▶ Topic 7: Signal  
Transmission -  
Modulation

▶ Topic 8: Signal  
Transmission -  
Demodulation


▼ Topic 9: IQ

## 9.4 QUIZ QUESTION 1 (1/1 point)


Suppose that a QPSK communication system has the eye diagrams and constellation diagrams shown below. Assume that the in-phase and quadrature channels have identical eye diagrams, and that bit decisions are made by comparing the samples at index 6 on the eye diagram.

## Modulation


### 9.1 Binary Phase Shift Keying

Week 5 Quiz due Nov 30, 2015 at 15:30 UTC 


### 9.2 I/Q Modulation

Week 5 Quiz due Nov 30, 2015 at 15:30 UTC 


### 9.3 Quadrature Phase Shift Keying

Week 5 Quiz due Nov 30, 2015 at 15:30 UTC 

### 9.4 Constellation Diagrams

Week 5 Quiz due Nov 30, 2015 at 15:30 UTC 

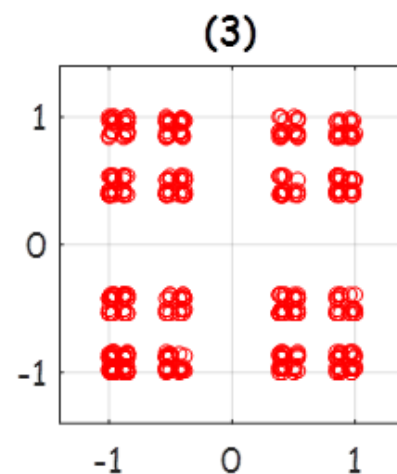
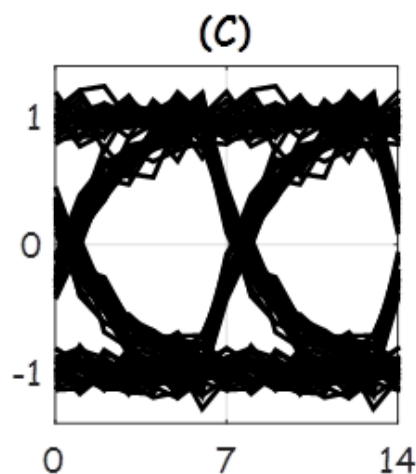
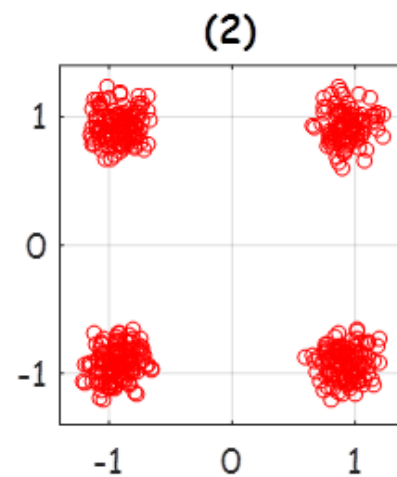
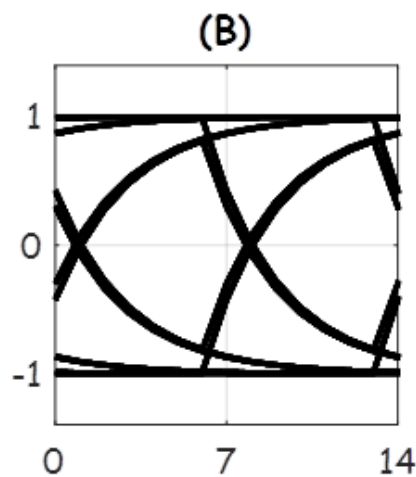
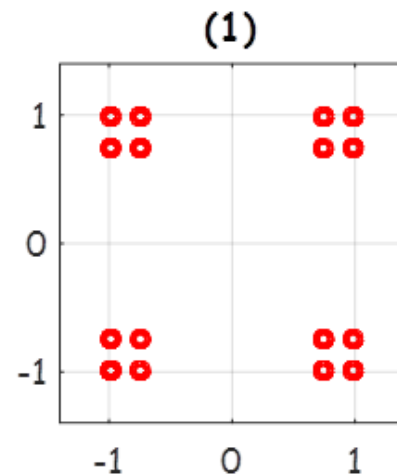
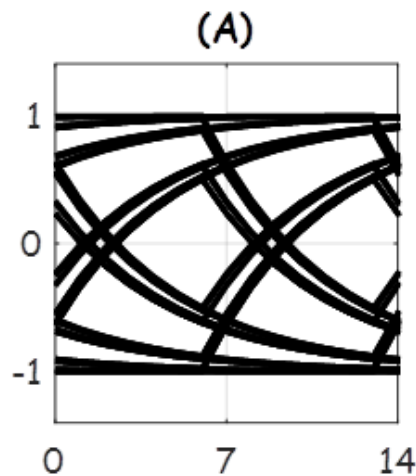
### 9.5 Lab 5 - BPSK and QPSK

Lab due Nov 30, 2015 at 15:30 UTC 

► Topic 10:  
Summary and Review

► MATLAB  
download and  
tutorials

► MATLAB  
Sandbox



Which constellation diagram corresponds to which eye diagram?

A:

3 ▼



Answer: 3

B:

1 ▼



Answer: 1

C:

2 ▼



Answer: 2

**EXPLANATION**

At index 6, eye diagram B has approximately two different values for 1 and 0 bits. Thus, the constellation diagram will achieve four different values at each of the four possible bit combinations between in-phase and quadrature channels. Thus, eye diagram B corresponds to constellation diagram 1. Due to noise, eye diagram C achieves a continuum of different values at index 6, corresponding to constellation diagram 2. By elimination, eye diagram A corresponds to constellation diagram 3.

*You have used 2 of 3 submissions*

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