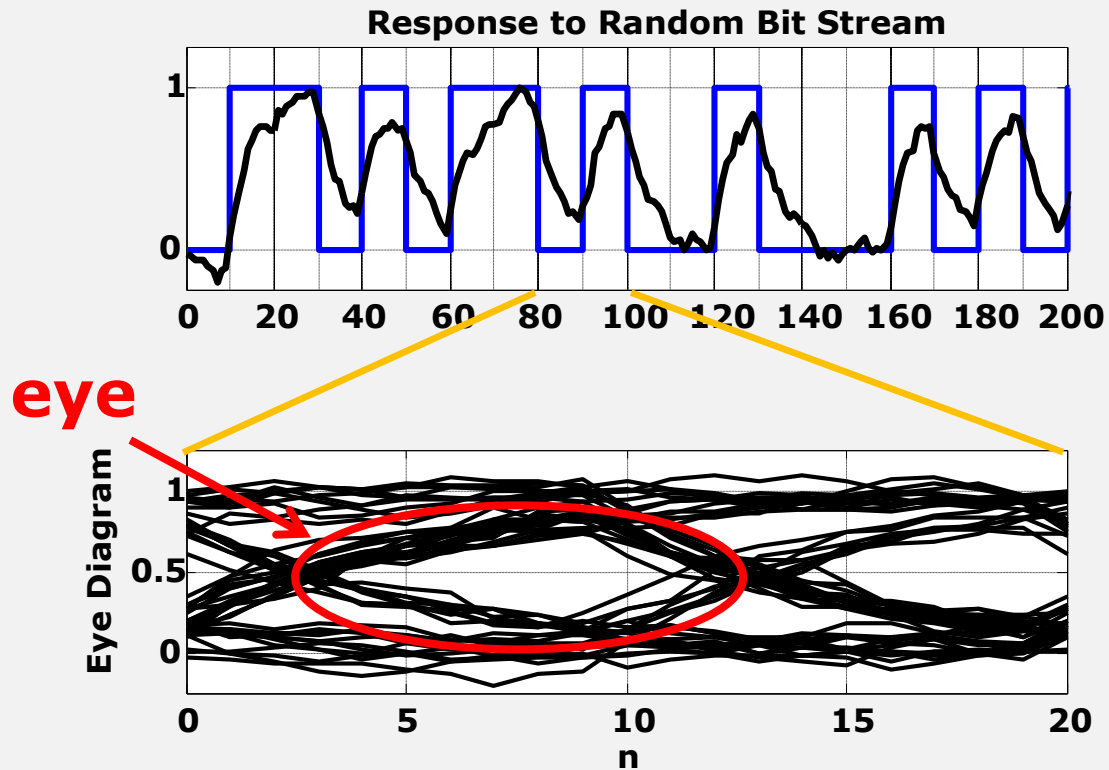


# Eye Diagrams

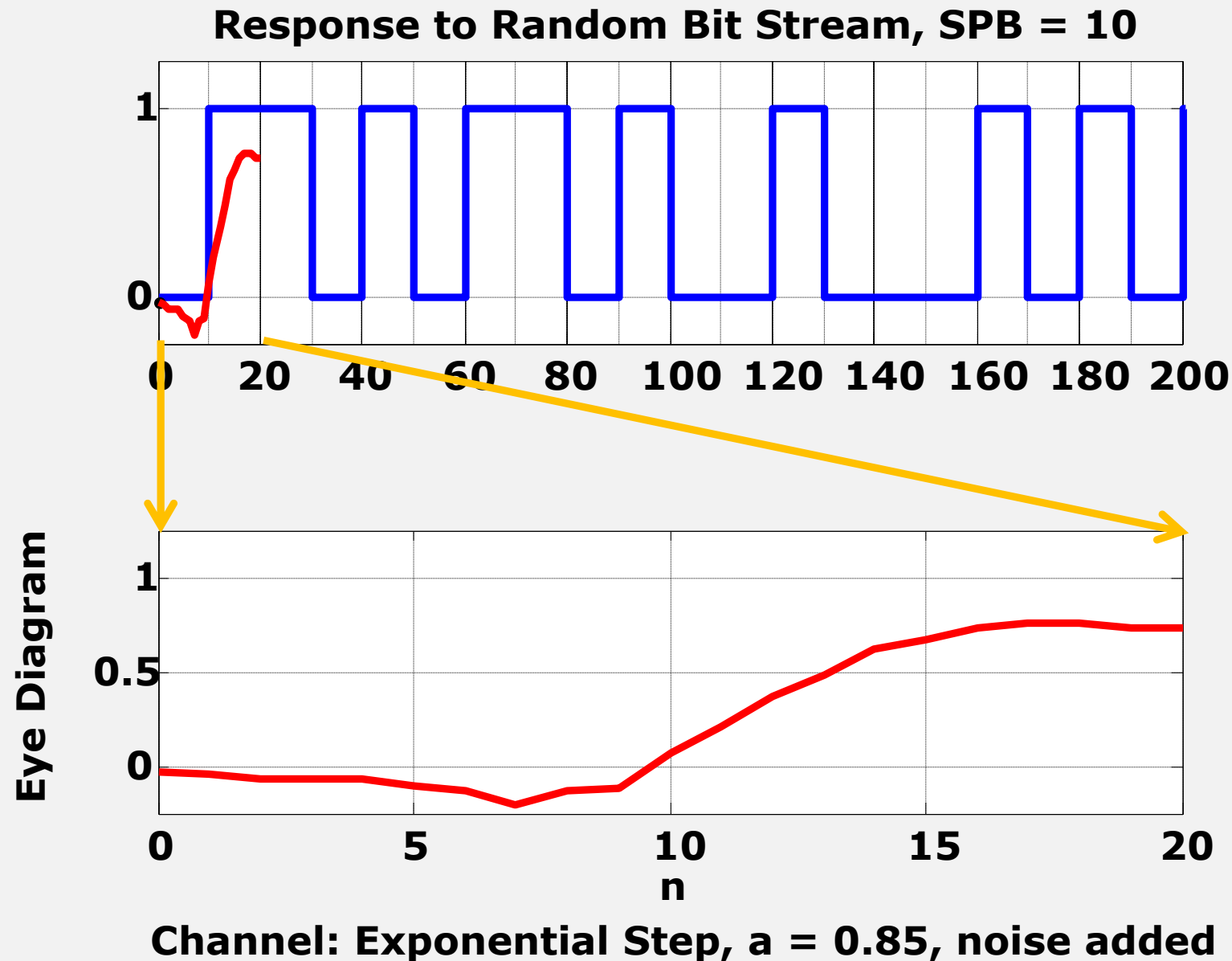
# Eye Diagrams



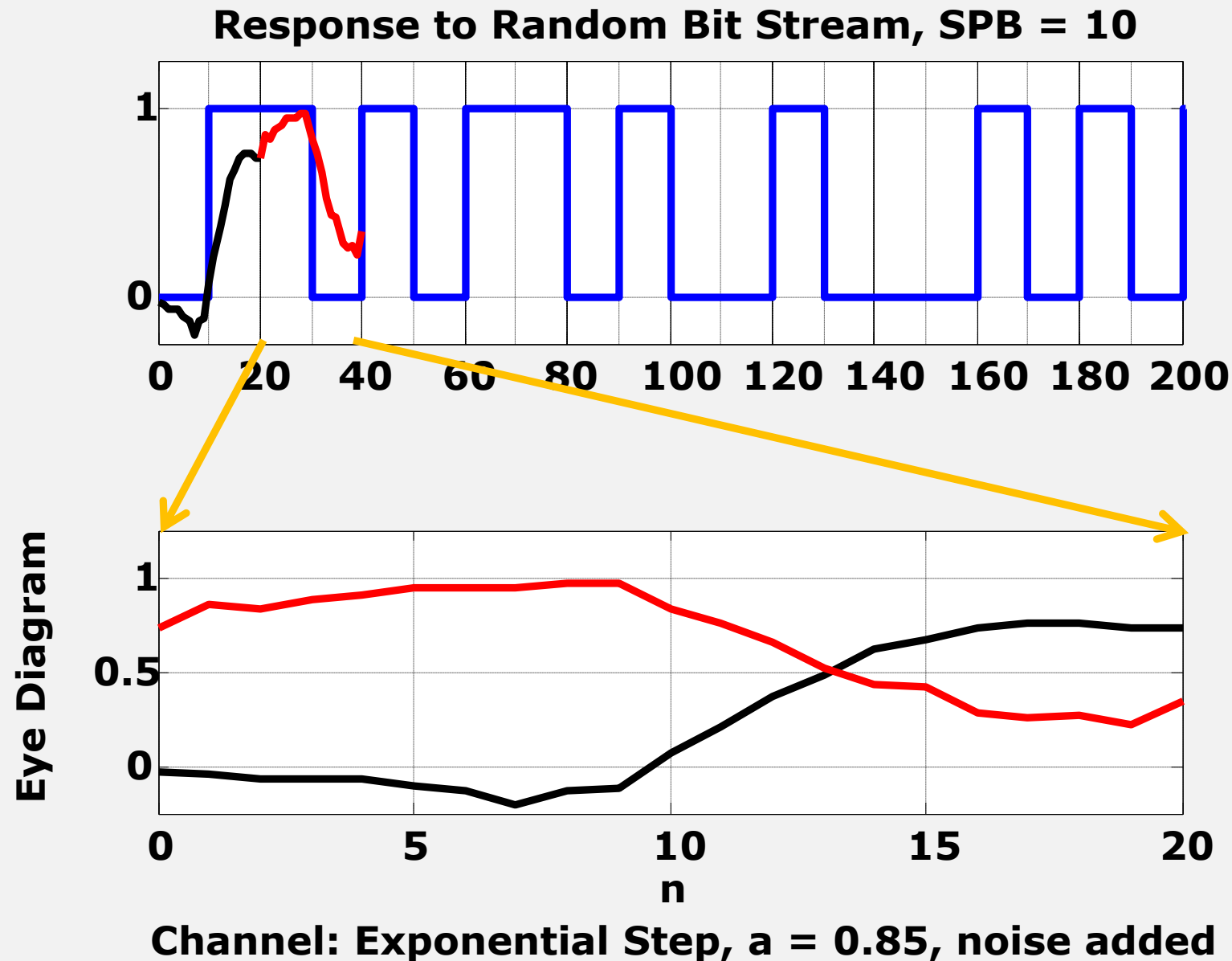
**Channel Parameters**  
 $a=0.85$ ,  $n_s=13$  (with noise)  
bit time = 10 SPB

- An eye diagram summarizes the effect of intersymbol interference by showing all responses to “zeros” and “ones” simultaneously.
- We generate an eye diagram by overlaying plots of the channel response for two bit times

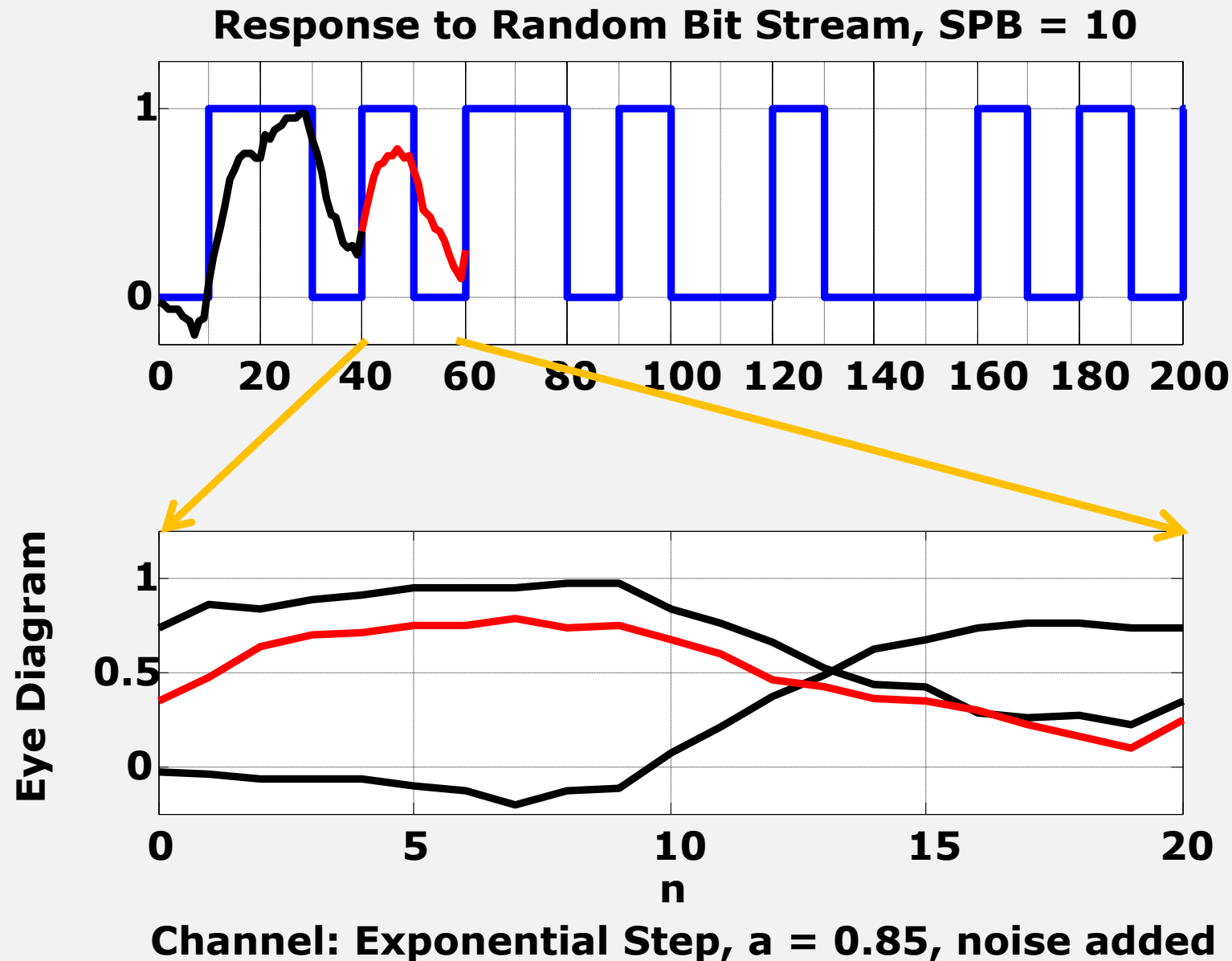
# Construction of the Eye Diagram 1



# Construction of the Eye Diagram 2

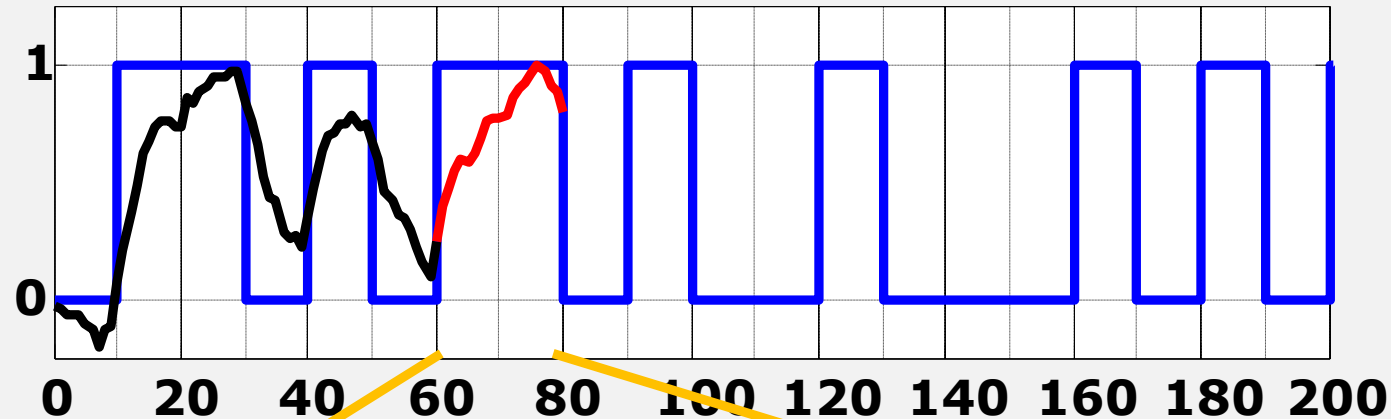


# Construction of the Eye Diagram 3

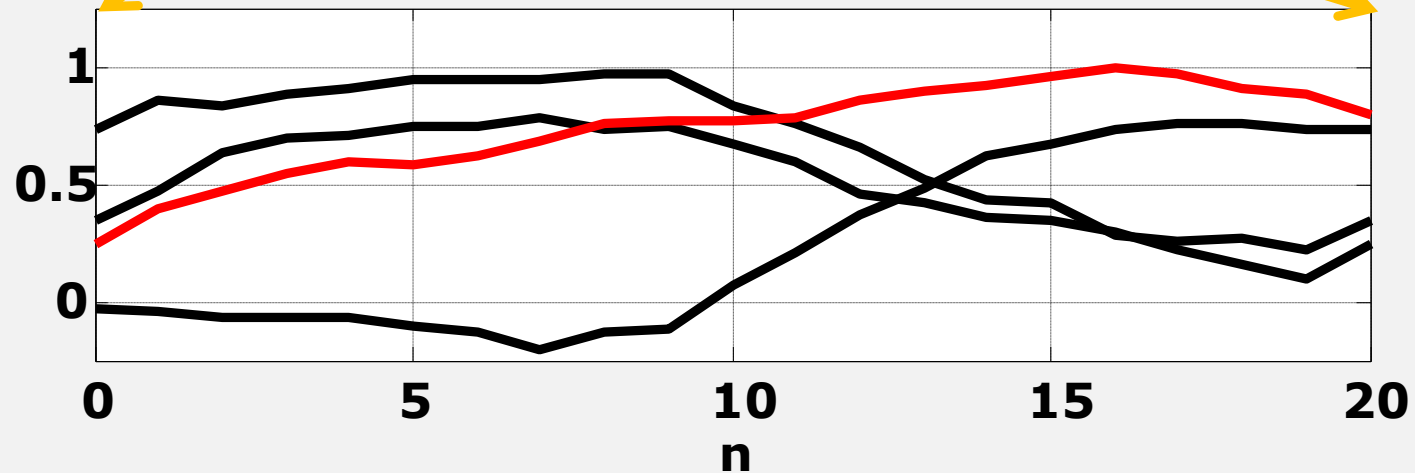


# Construction of the Eye Diagram 4

Response to Random Bit Stream, SPB = 10



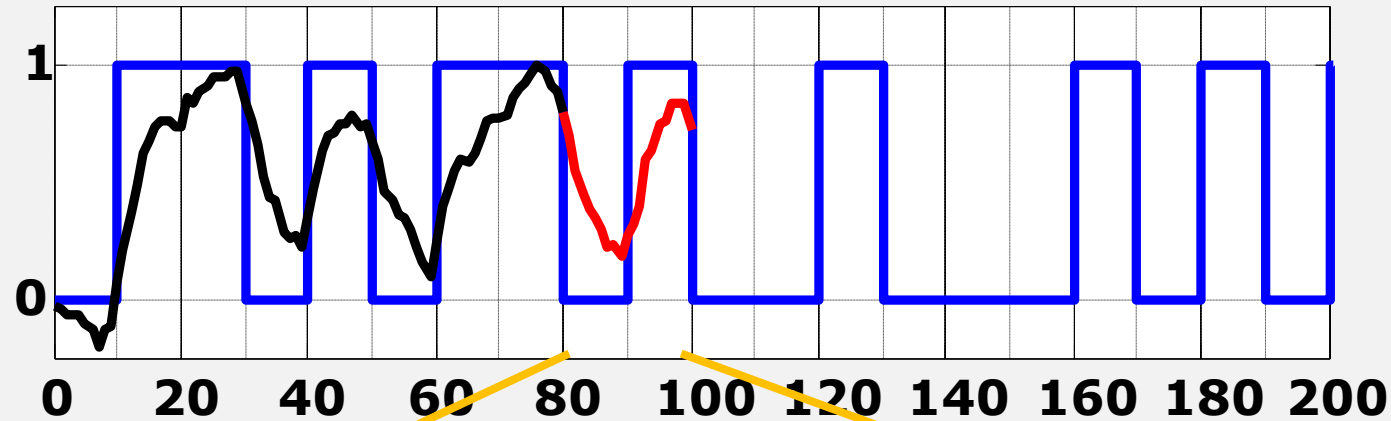
Eye Diagram



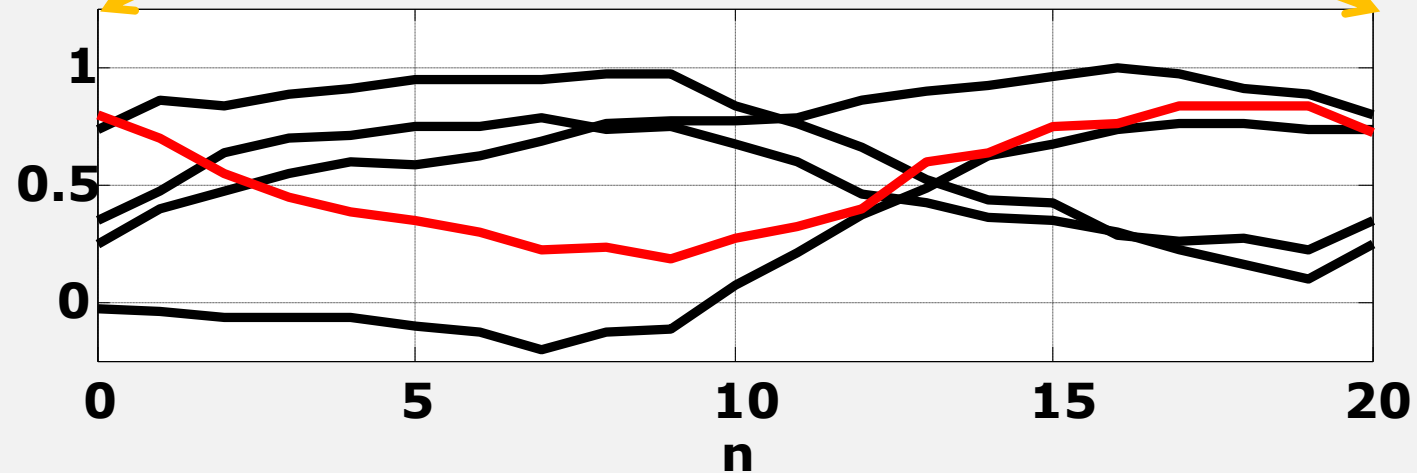
Channel: Exponential Step,  $a = 0.85$ , noise added

# Construction of the Eye Diagram 5

Response to Random Bit Stream, SPB = 10



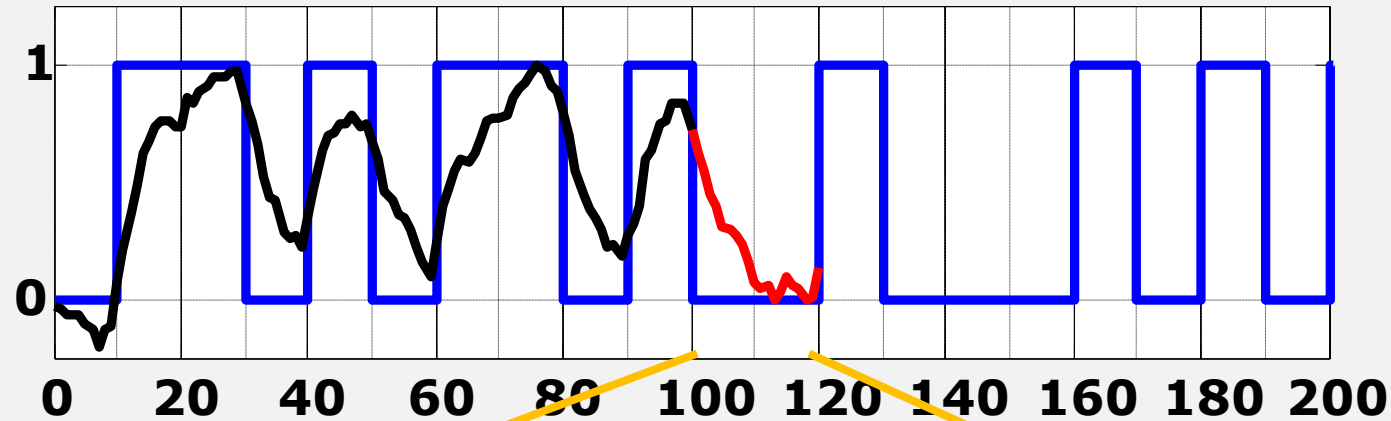
Eye Diagram



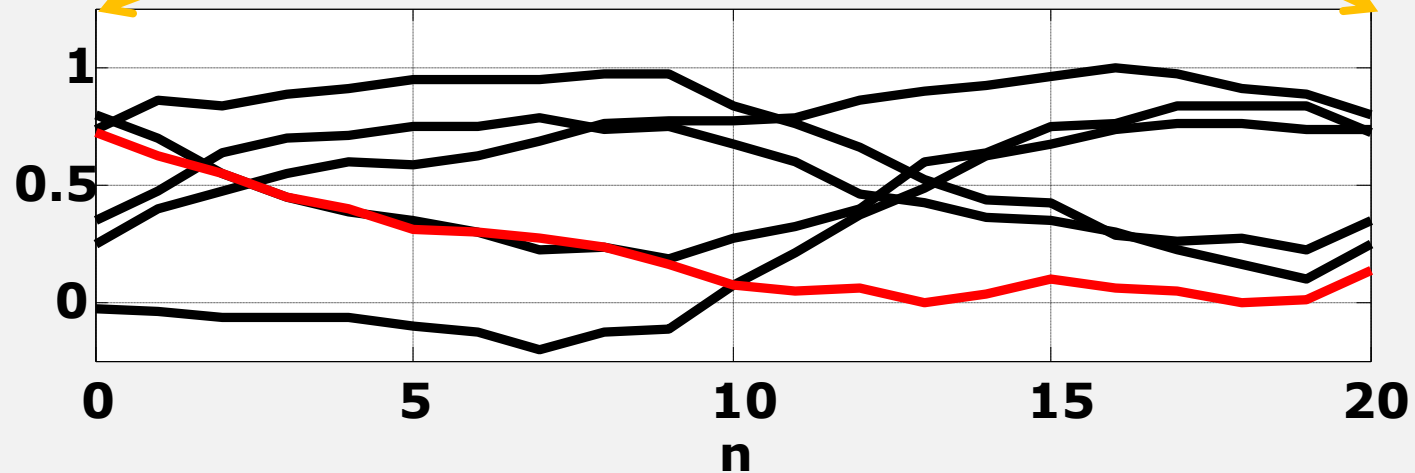
Channel: Exponential Step,  $a = 0.85$ , noise added

# Construction of the Eye Diagram 6

Response to Random Bit Stream, SPB = 10



Eye Diagram

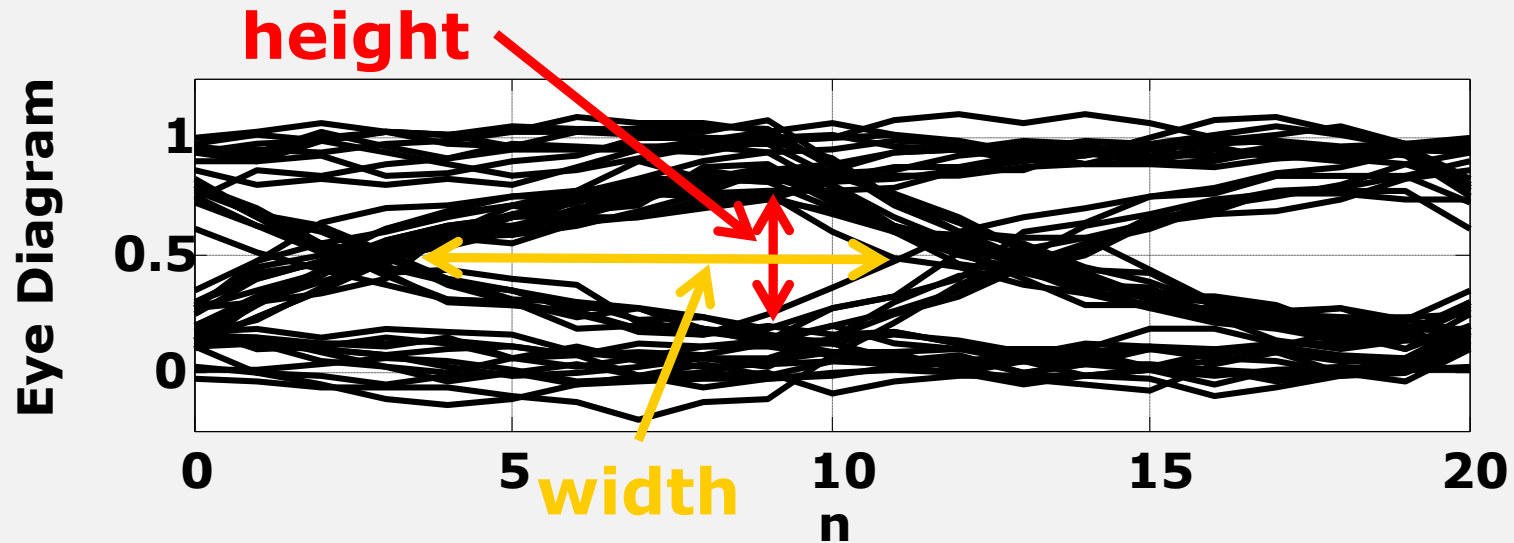
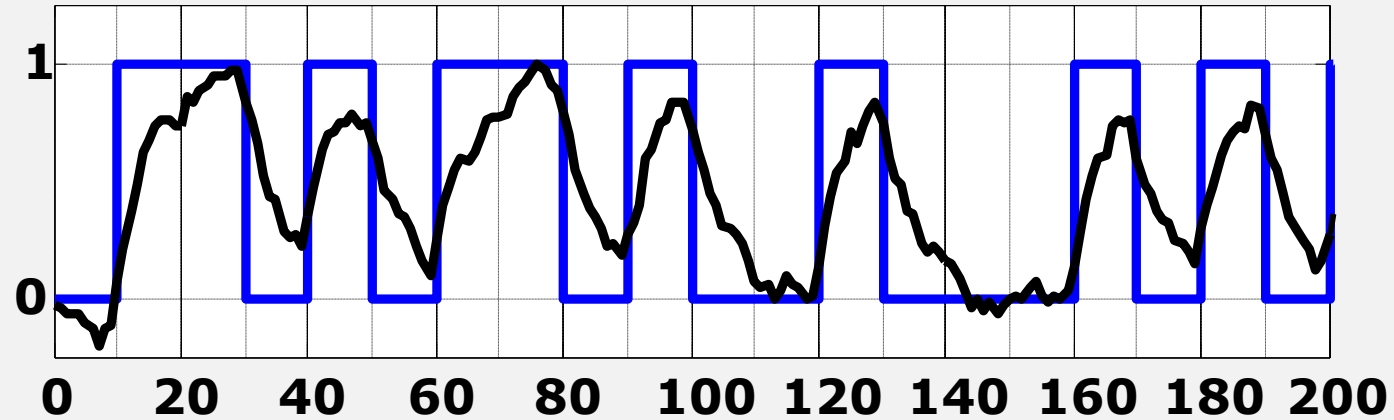


Channel: Exponential Step,  $a = 0.85$ , noise added



# Final Eye Diagram

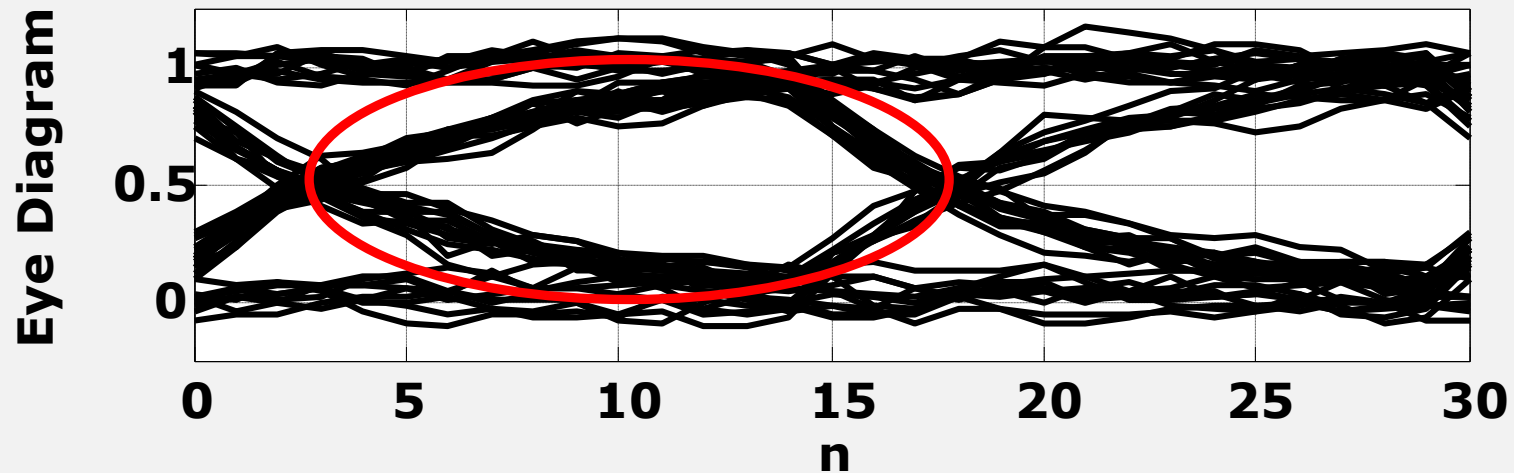
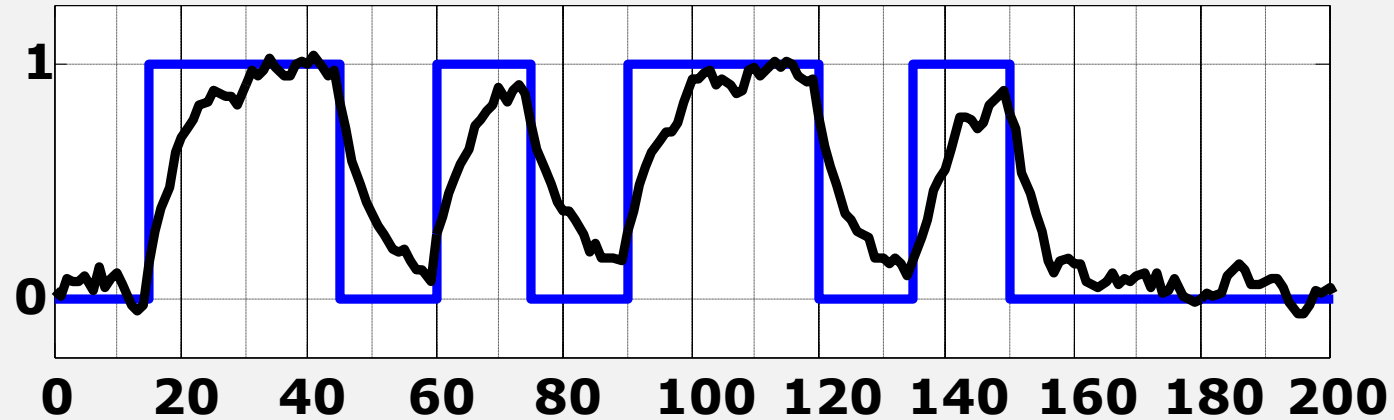
Response to Random Bit Stream, SPB = 10



Channel: Exponential Step,  $a = 0.85$ , noise added

# Eye Diagram (SPB = 15)

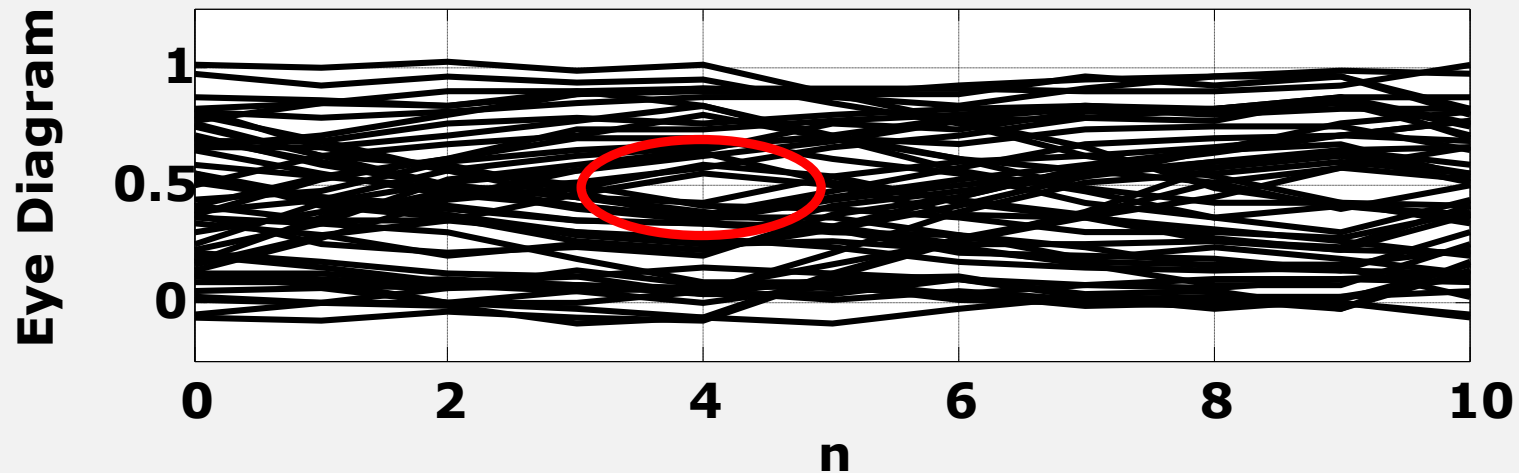
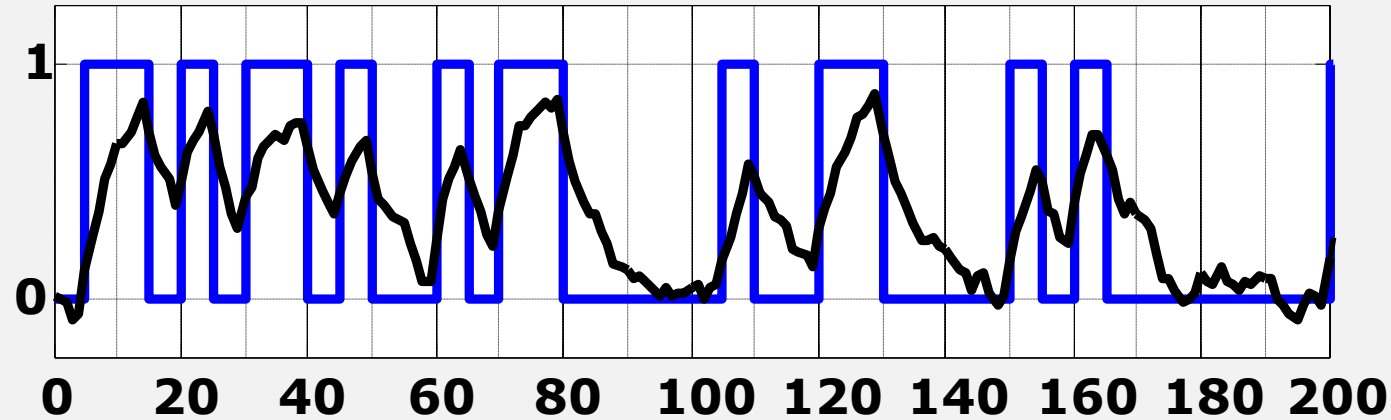
Response to Random Bit Stream, SPB = 15



Channel: Exponential Step,  $a = 0.85$ , noise added

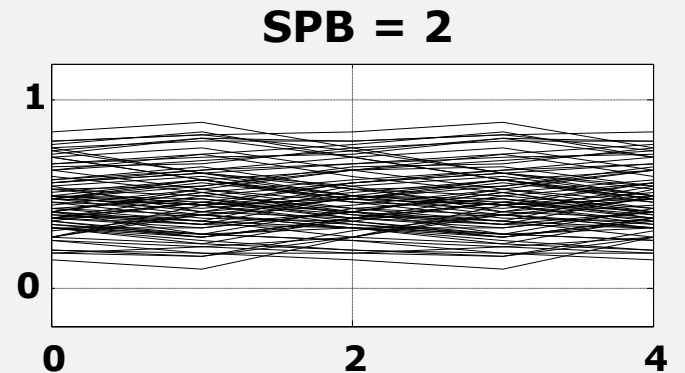
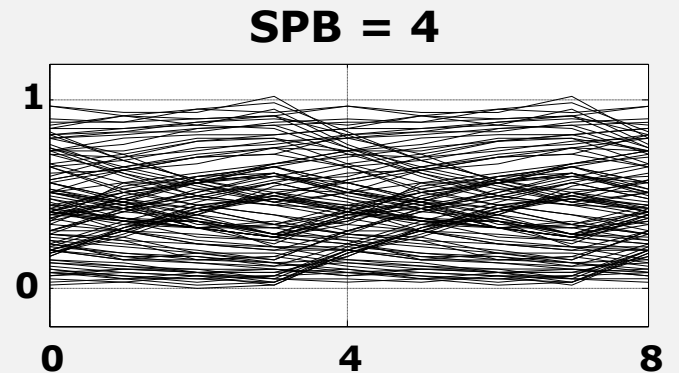
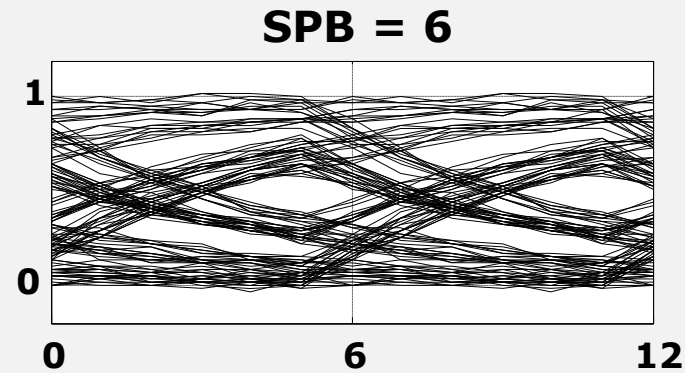
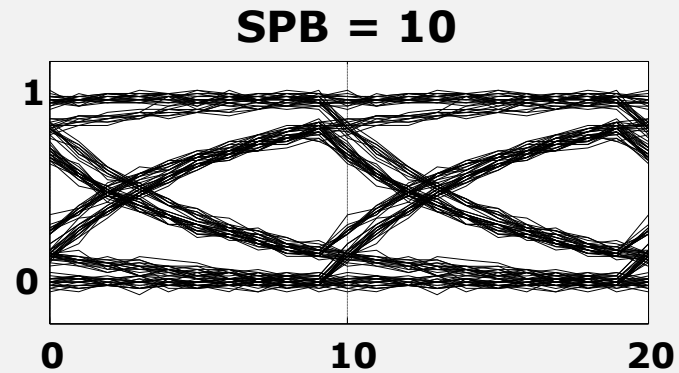
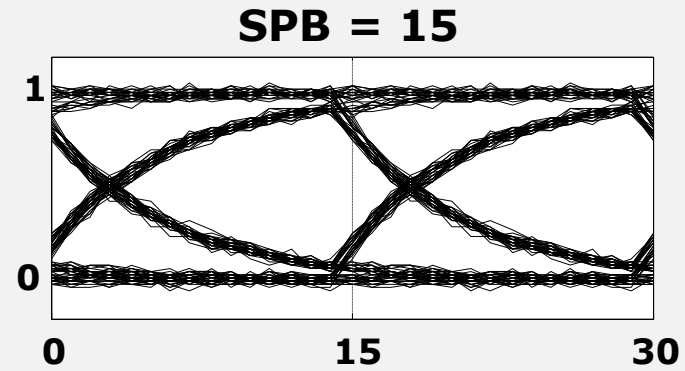
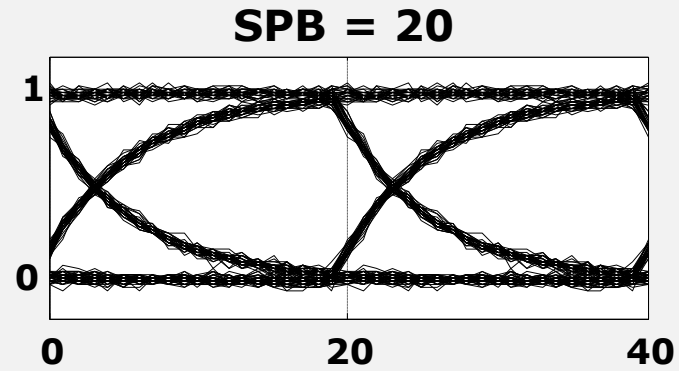
# Eye Diagram (SPB = 5)

Response to Random Bit Stream, SPB = 5



Channel: Exponential Step,  $a = 0.85$ , noise added

# Eye Diagrams (Varying bit time)



Channel: Exponential,  $a = 0.85$ , noise added