Options
Title: Recovery Timing
Author: David Venegas
Description: Polyp...ock Sync
Output Language: Python
Generate Options: QT GUI

Variable
Id: samp_rate
Value: 32k

Variable
Id: sps
Value: 4

Variable
Id: excess_bw
Value: 350m

Variable
Id: nfilts
Value: 32

QT GUI Range
Id: AWGN
Label: Channel: Noise Voltage
Default Value: 200m
Start: 0
Stop: 1
Step: 10m

QT GUI Range
Id: Time_Offset
Label: Channel: Timing Offset
Default Value: 1.0005
Start: 999m
Stop: 1.001
Step: 100u

QT GUI Range
Id: Freq_Offset
Label: Channel:...ency Offset
Default Value: 0
Start: -100m
Stop: 100m
Step: 1m

QT GUI Range
Id: Timming_Loop_bw
Label: Time: BW
Default Value: 62.8m
Start: 0
Stop: 200m
Step: 10m

Random Source
Minimum: 0
Maximum: 255
Num Samples: 10k
Repeat: Yes

out → in

Constellation Modulator
Constellation: <con... (m=4)>
Differential Encoding: Yes
Samples/Symbol: 4
Excess BW: 350m

Constellation Rect. Object
Id: QPSK
Symbol Map: 0, 1, 2, 3
Constellation Points: ...07mj
Rotational Symmetry: 4
Real Sectors: 2
Imaginary Sectors: 2
Width Real Sectors: 1
Width Imaginary Sectors: 1

out → in

Throttle
Sample Rate: 32k

out → in

Channel Model
Noise Voltage: 200m
Frequency Offset: 0
Epsilon: 1.0005
Taps: 1
Seed: 0
Block Tag Propagation: No

out →

in **QT GUI Constellation Sink**
Name: Rx with Impairments
Number of Points: 2.048k
Autoscale: No

in **Polyphase Clock Sync**
Samples/Symbol: 4.004
Loop Bandwidth: 62.8m
Taps: root_raise_cosine
Filter Size: 32
Initial Phase: 16
Maximum Rate Deviation: 1.5
Output SPS: 1

out → in
err
rate
phase

QT GUI Constellation Sink
Name: Recovery Timing Rx
Number of Points: 2.048k
Autoscale: No

Variable
Id: root_raise_cosine
Value: firdes.root_raised_...