

# بسمه تعالی

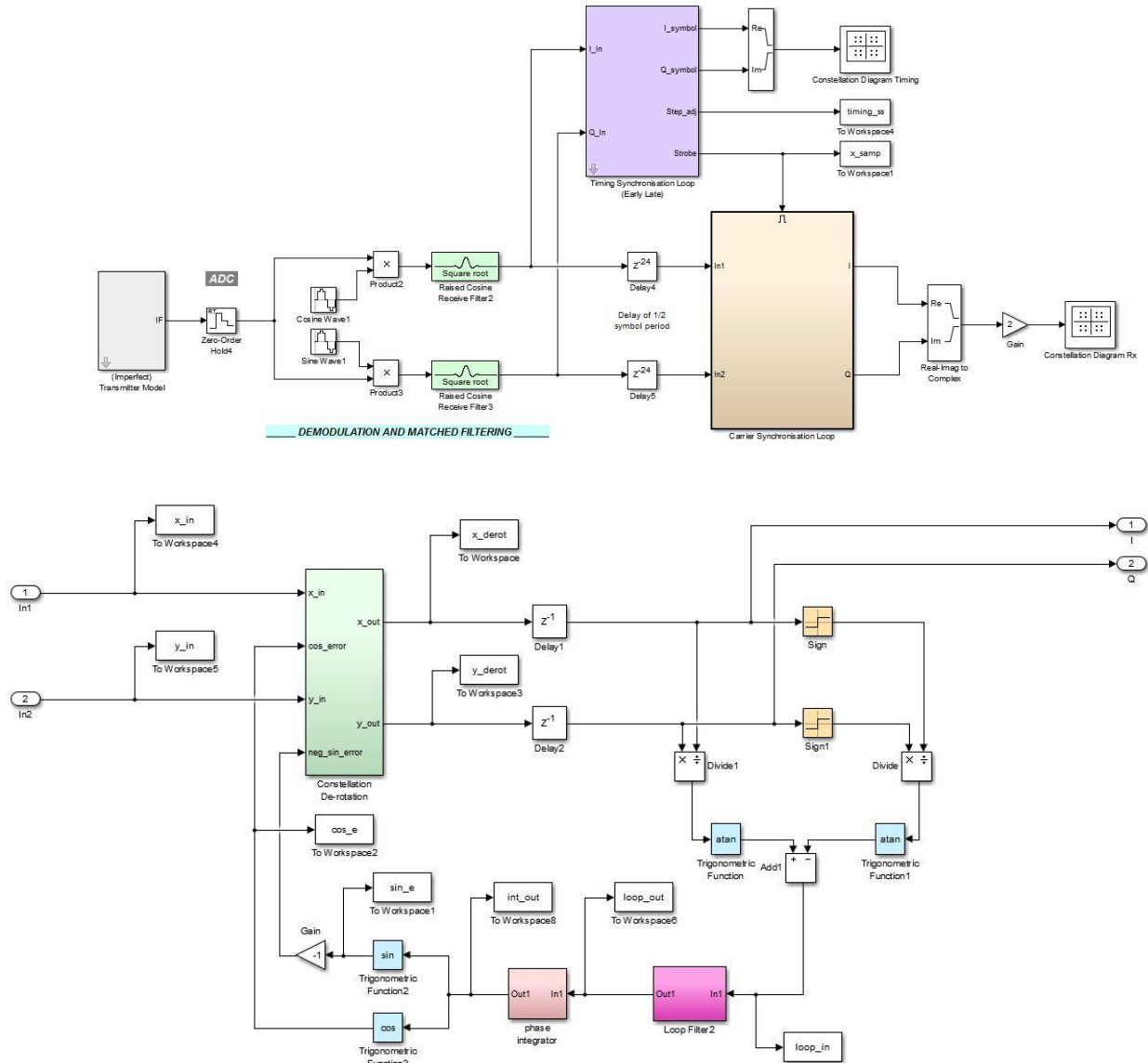
آزمایشگاه مخابرات دیجیتال

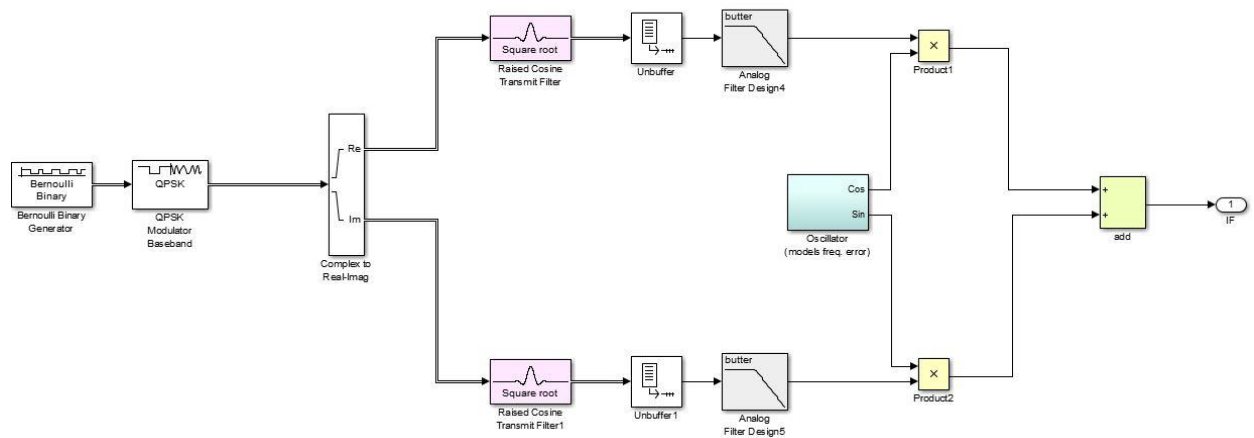
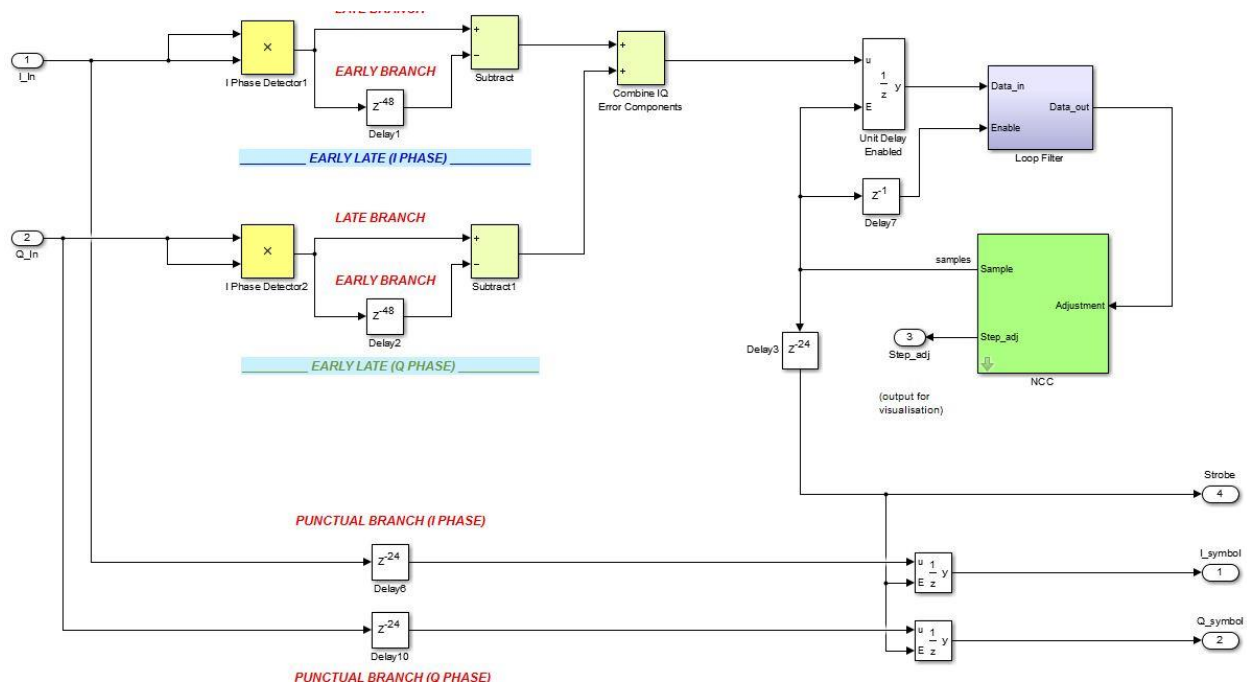
گزارش کار هفته دهم

دانیال کوشا 972013152

دانشکده فنی و مهندسی گروه مهندسی برق دانشگاه اصفهان

## آزمایش 10-6- همزمان سازی توام حامل و زمان نمونه برداری در QPSK





### Model of a QPSK Transmitter with Timing and Frequency Offsets (mask)

Enter the timing and frequency offsets that apply to the received signal.

Both of these can be negative or positive values. Negative means that the timing / frequency of the transmitter is lower than expected.

#### Parameters

Timing Error (ppm)

50

Frequency Error (Hz)

-200

OK

Cancel

Help

Apply

### Model of a QPSK Transmitter with Timing and Frequency Offsets (mask)

Enter the timing and frequency offsets that apply to the received signal.

Both of these can be negative or positive values. Negative means that the timing / frequency of the transmitter is lower than expected.

#### Parameters

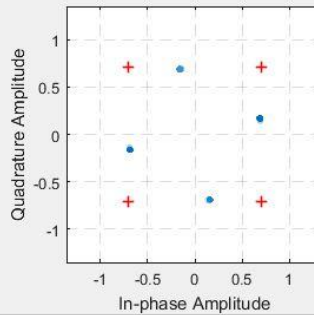
Timing Error (ppm)

0

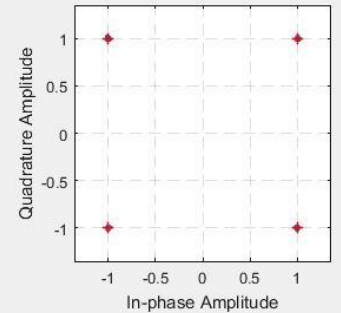
Frequency Error (Hz)

-20

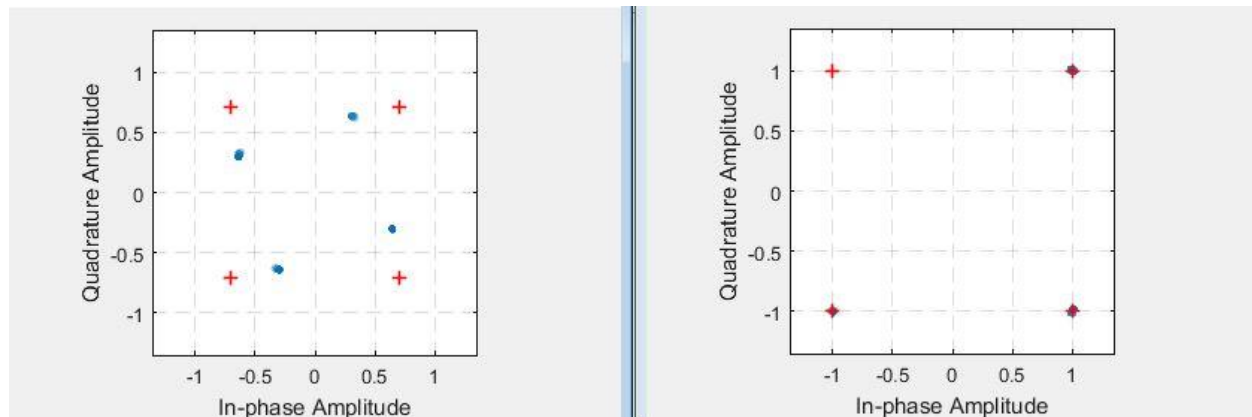
File Tools View Simulation Help



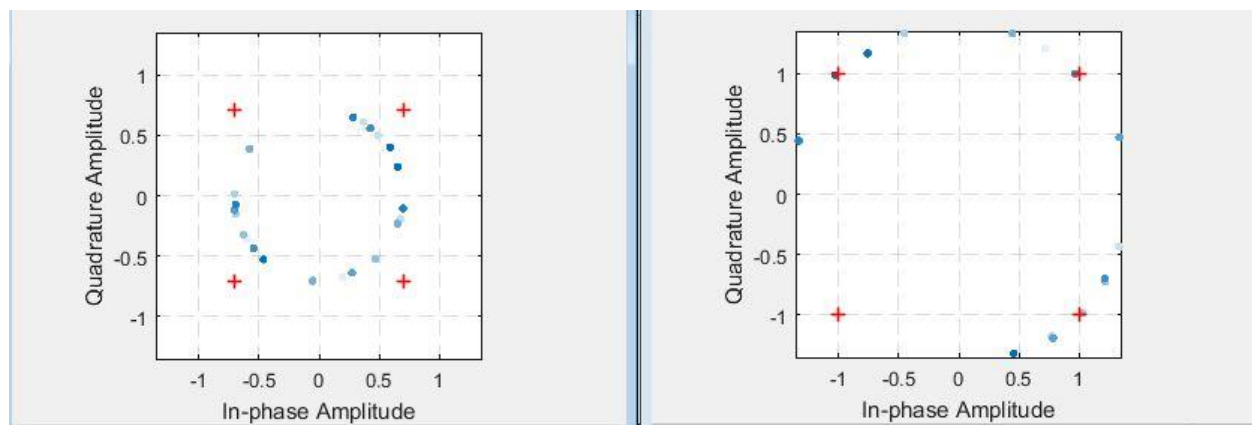
File Tools View Simulation Help



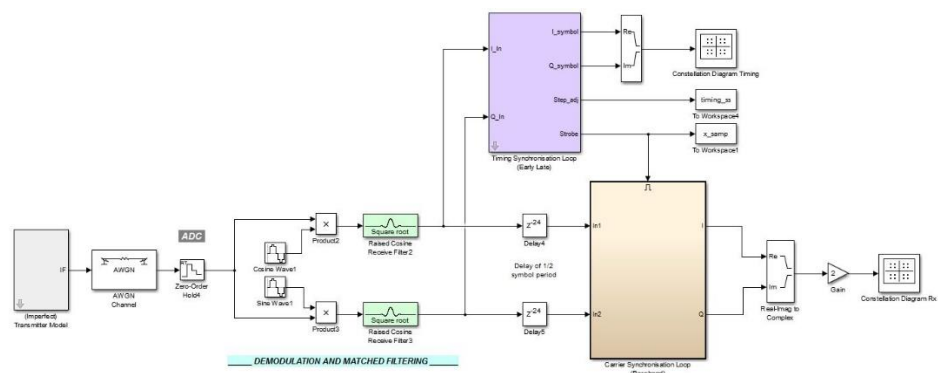
با اختلاف 20 هرتز



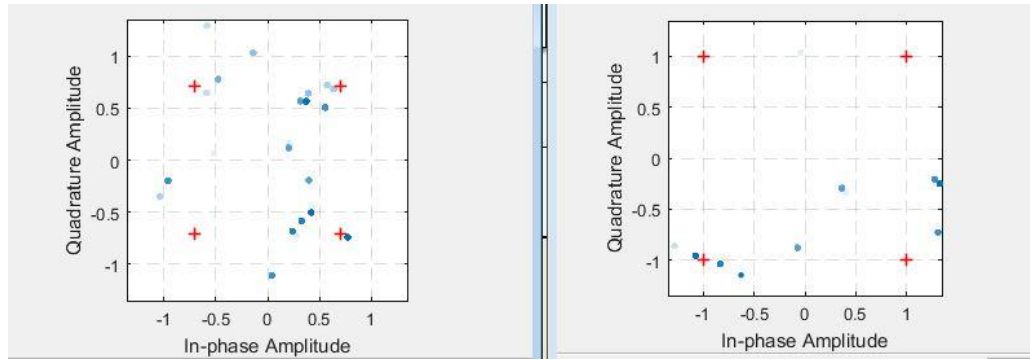
با اختلاف 2000 هرتز



حال نویز را اضافه می کنیم.



به ازای واریانس 0.1



به ازای واریانس 0.0001

