Experiment-6

Bit Error Rate of

Differential BPSK(DBPSK) and Differential QPSK(DQPSK)

In AWGN

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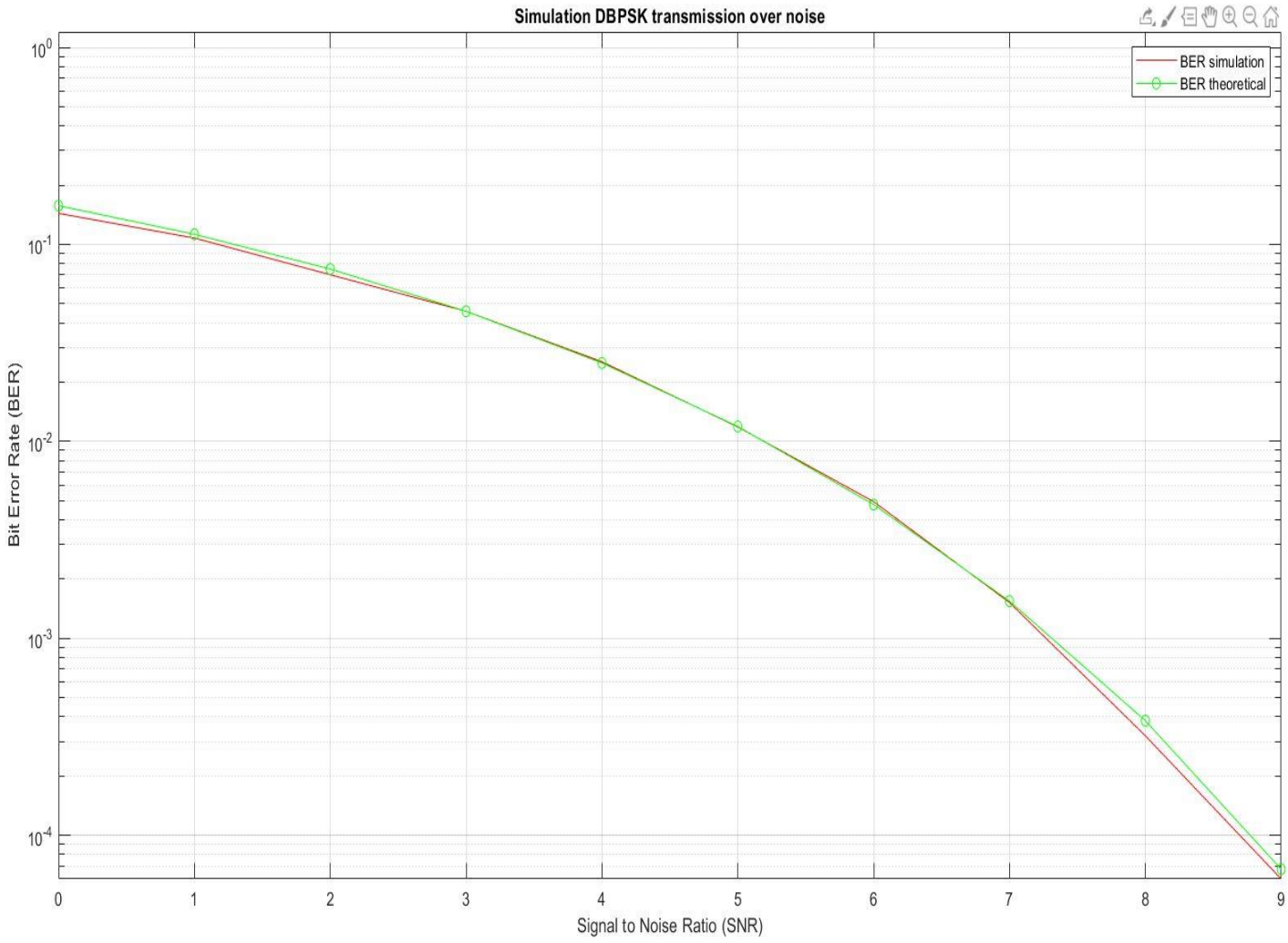
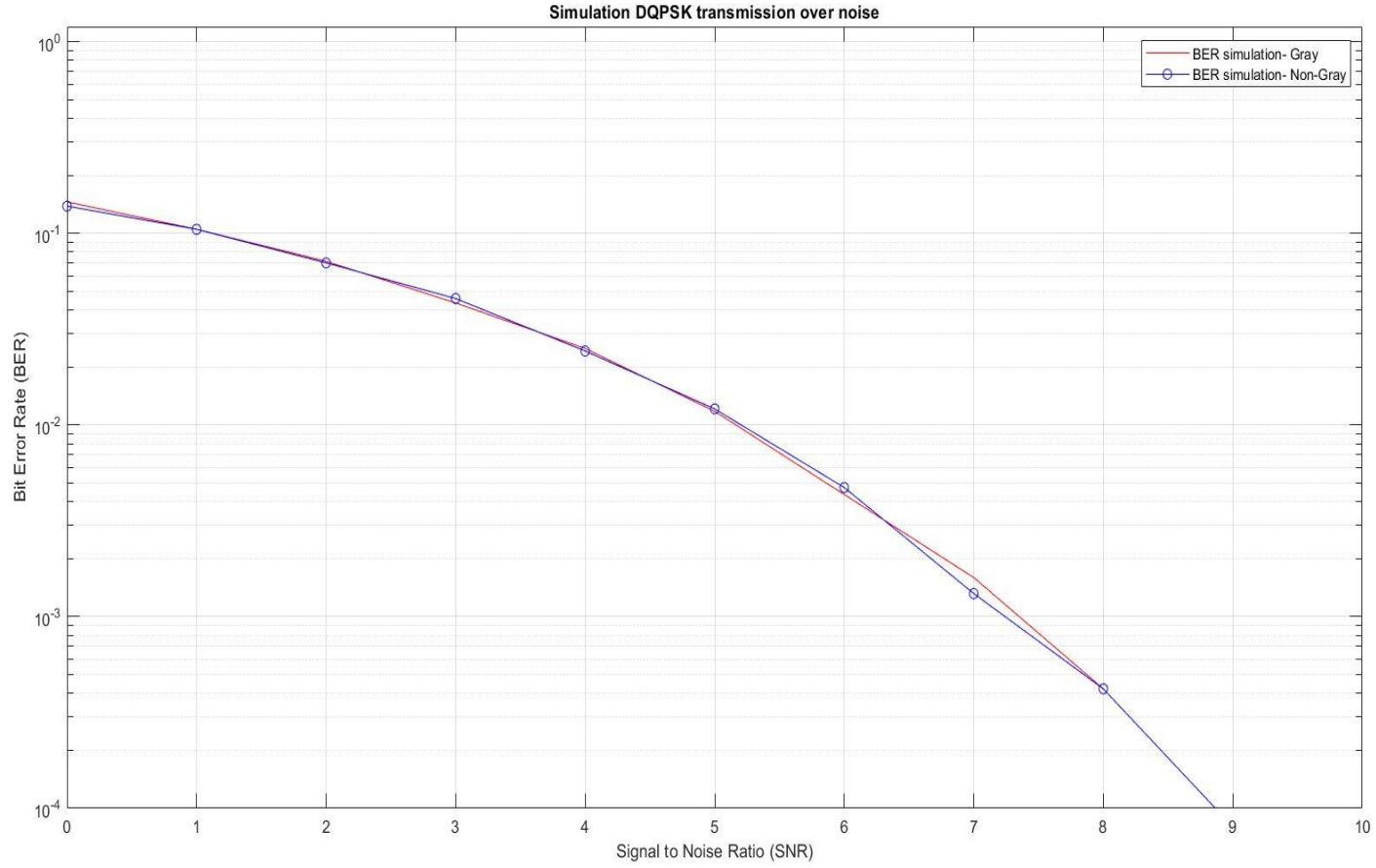
DBPSK



DQPSK- Gray and Non-Gray coding



$D-QPSK$	$Non-coherent$	$Q_1(a,b) - 0.5I_0(ab)e^{-0.5(a^2+b^2)}$ $where\ a = \sqrt{\frac{2E_b}{N_0}\left(1-\frac{1}{\sqrt{2}}\right)}$ $b = \sqrt{\frac{2E_b}{N_0}\left(1+\frac{1}{\sqrt{2}}\right)}$ $Q_1(a,b)$ = Marcum Q -function $I_0(ab)$ = Modified Bessel-function

I didn’t do the theoretical plot for DQPSK because I couldn’t understand the derivation of the formula.