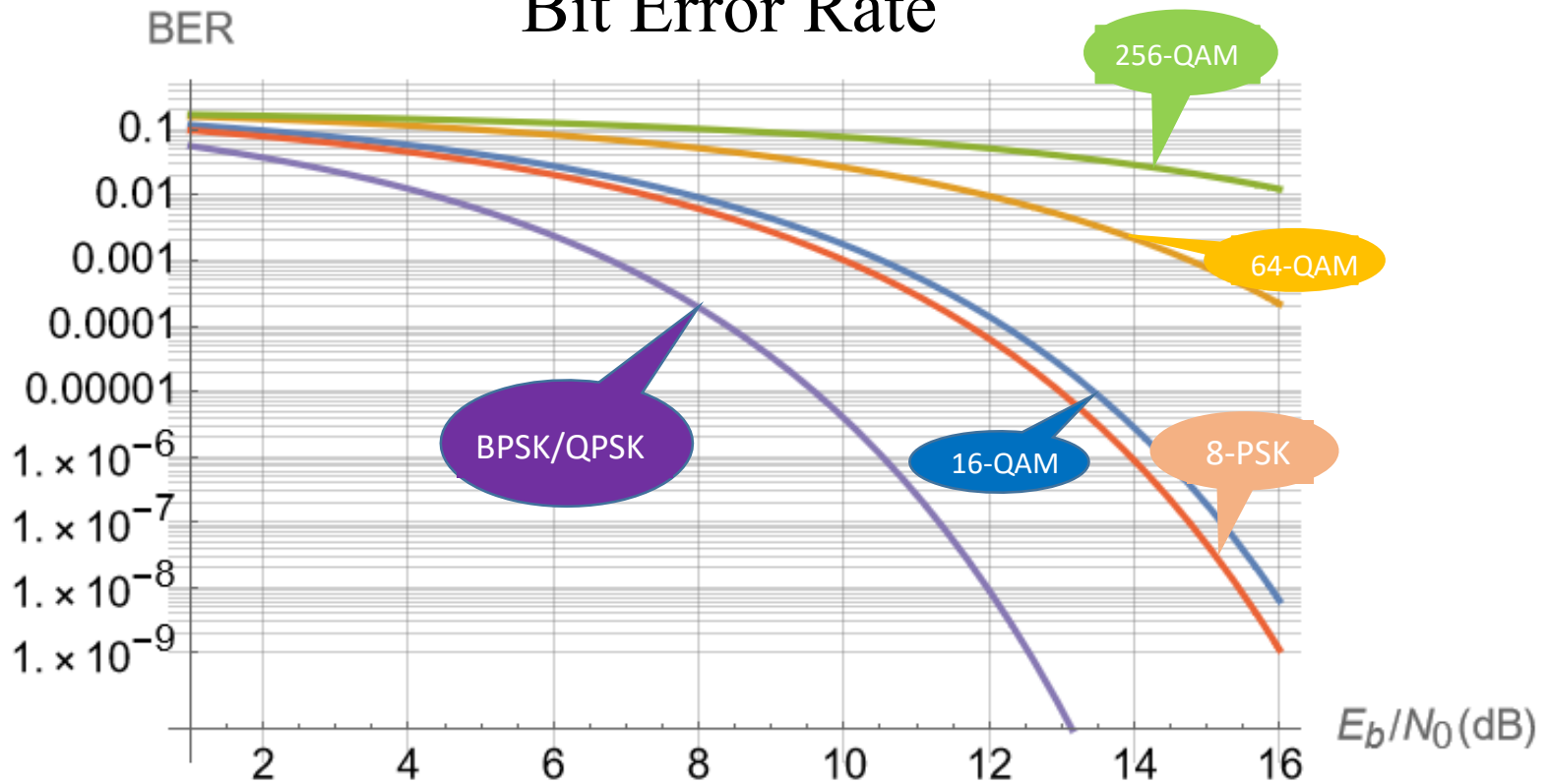


Bit Error Rate



— 16-QAM — 64-QAM — 256-QAM — 8-PSK — BPSK/QPSK

BER Equations

BPSK/QPSK $Q\left(\sqrt{\frac{2E_b}{N_0}}\right)$ Coherent ASK $Q\left(\sqrt{\frac{E_b}{N_0}}\right)$ Noncoherent ASK $\frac{1}{2}e^{-\frac{E_b}{2N_0}}$

M-PSK $\frac{2 Q\left(\sqrt{\frac{2 \log_2(M) E_b}{N_0} \sin^2\left(\frac{\pi}{M}\right)}\right)}{\log_2(M)}$, QAM (Square Grid) $\frac{4(\sqrt{M}-1)}{\sqrt{M} \log_2(M)} Q\left(\sqrt{\frac{3 E_b \log_2(M)}{N_0(M-1)}}\right)$