Digital Communication Systems
ECS 452

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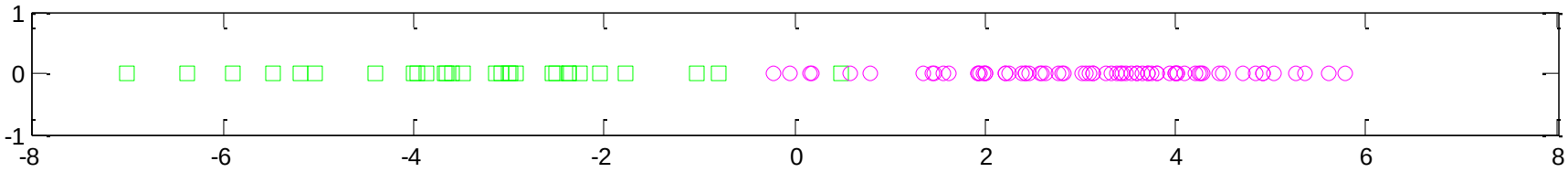
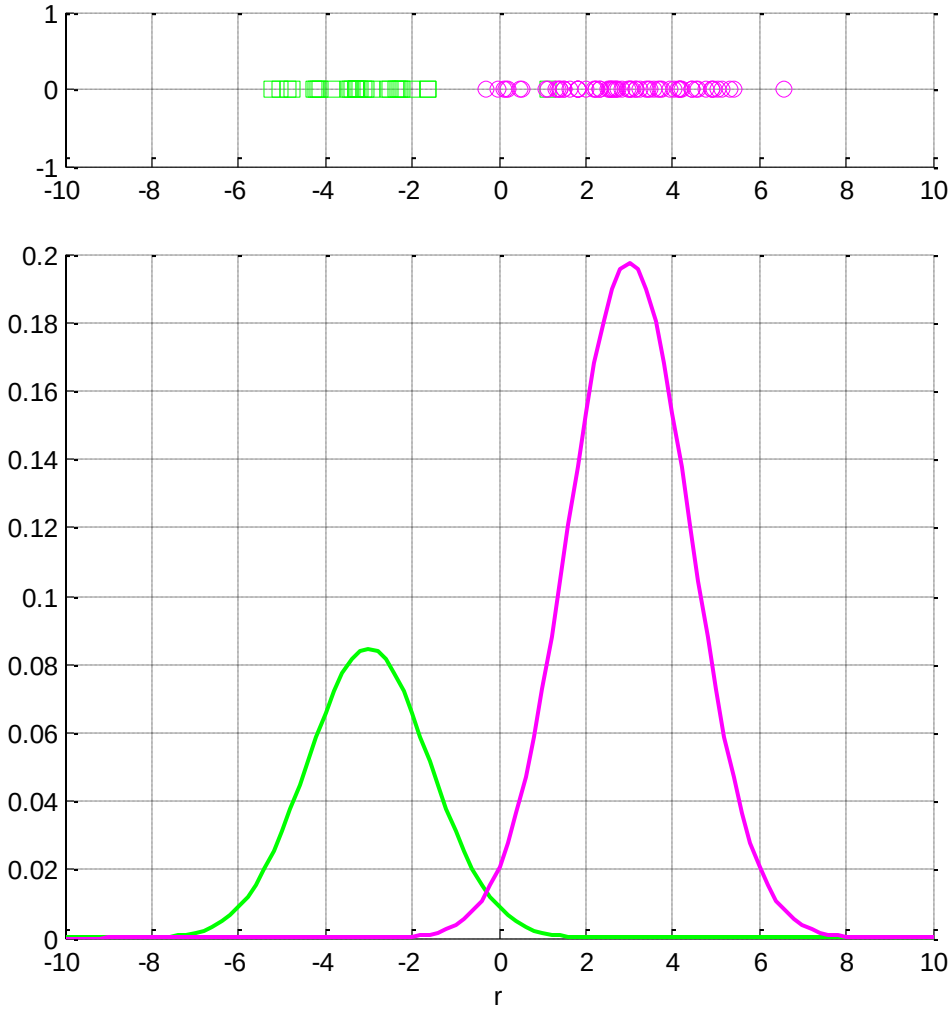
Optimal Detection for Additive Noise Channels
1-D Case

Office Hours:
Rangsit Library:
Tuesday 16:20-17:20
BKD3601-7:
Thursday 16:00-17:00

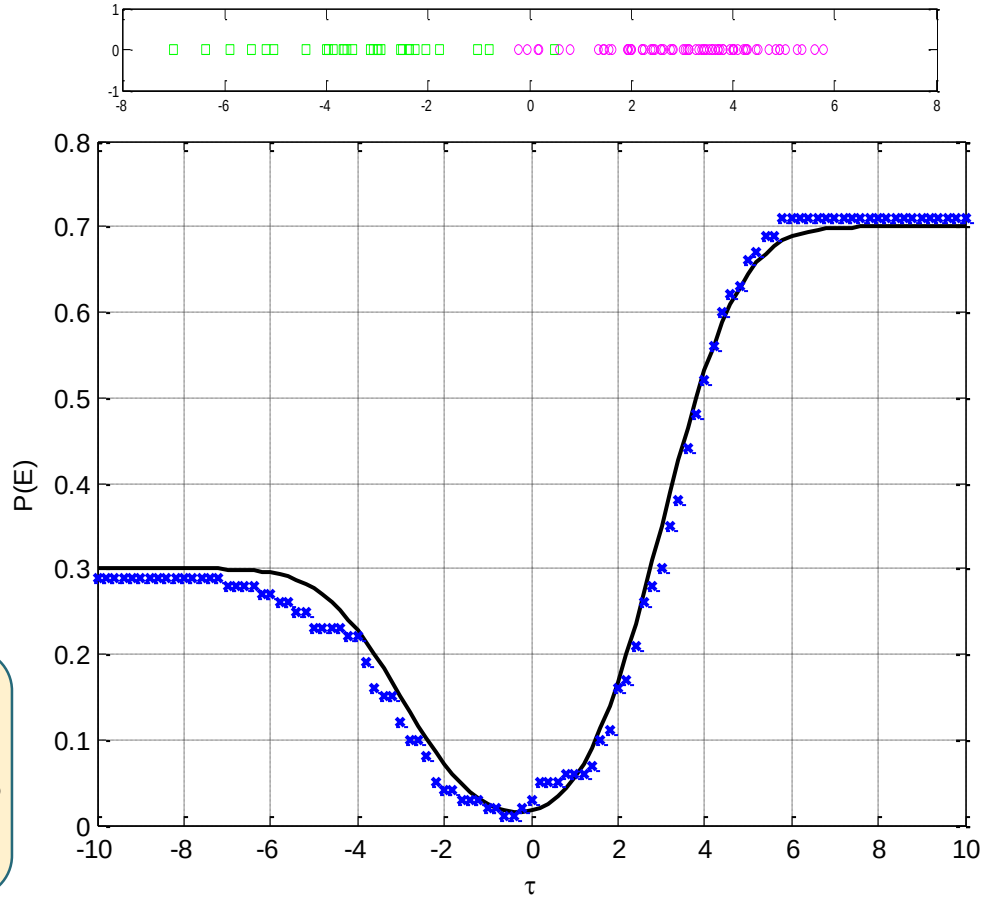
Binary PAM under Gaussian Noise



MAP Detector: Comparison Under Gaussian Noise



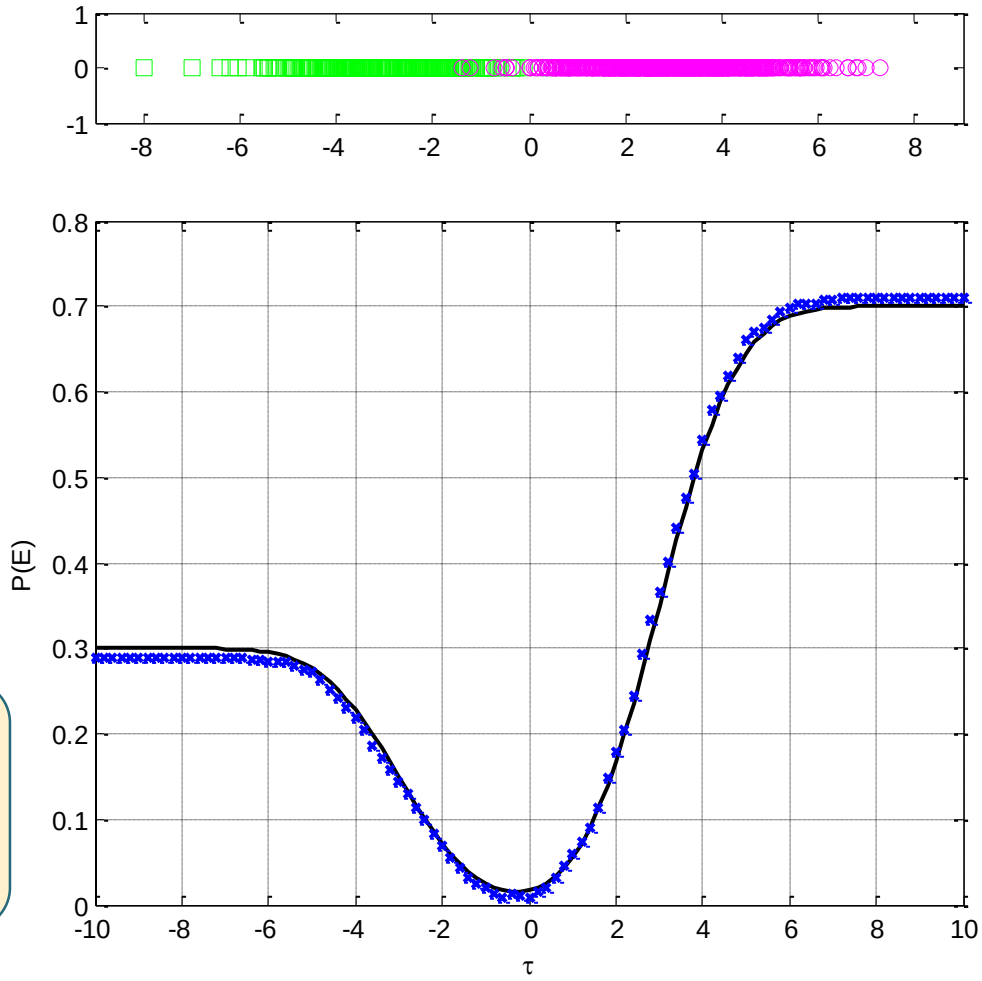
P($\mathcal{E}$) for Detector



The minimum point (best threshold) is the threshold for the MAP detector.

#trials = 100

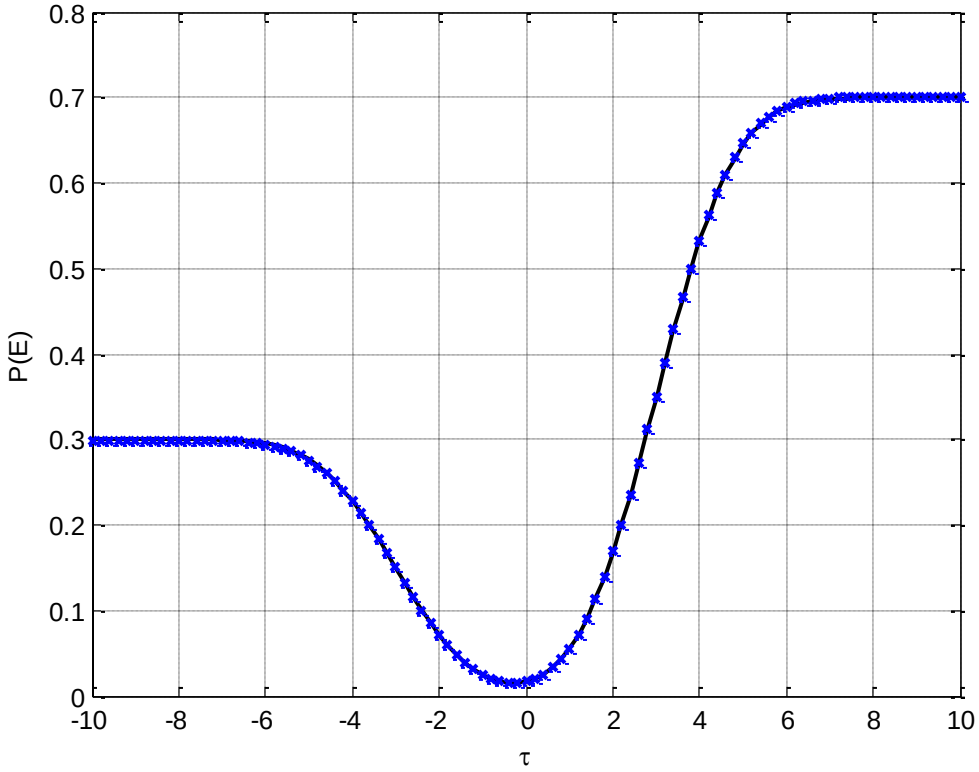
P($\mathcal{E}$) for Detector



The minimum point (best threshold) is the threshold for the MAP detector.

#trials = 1000

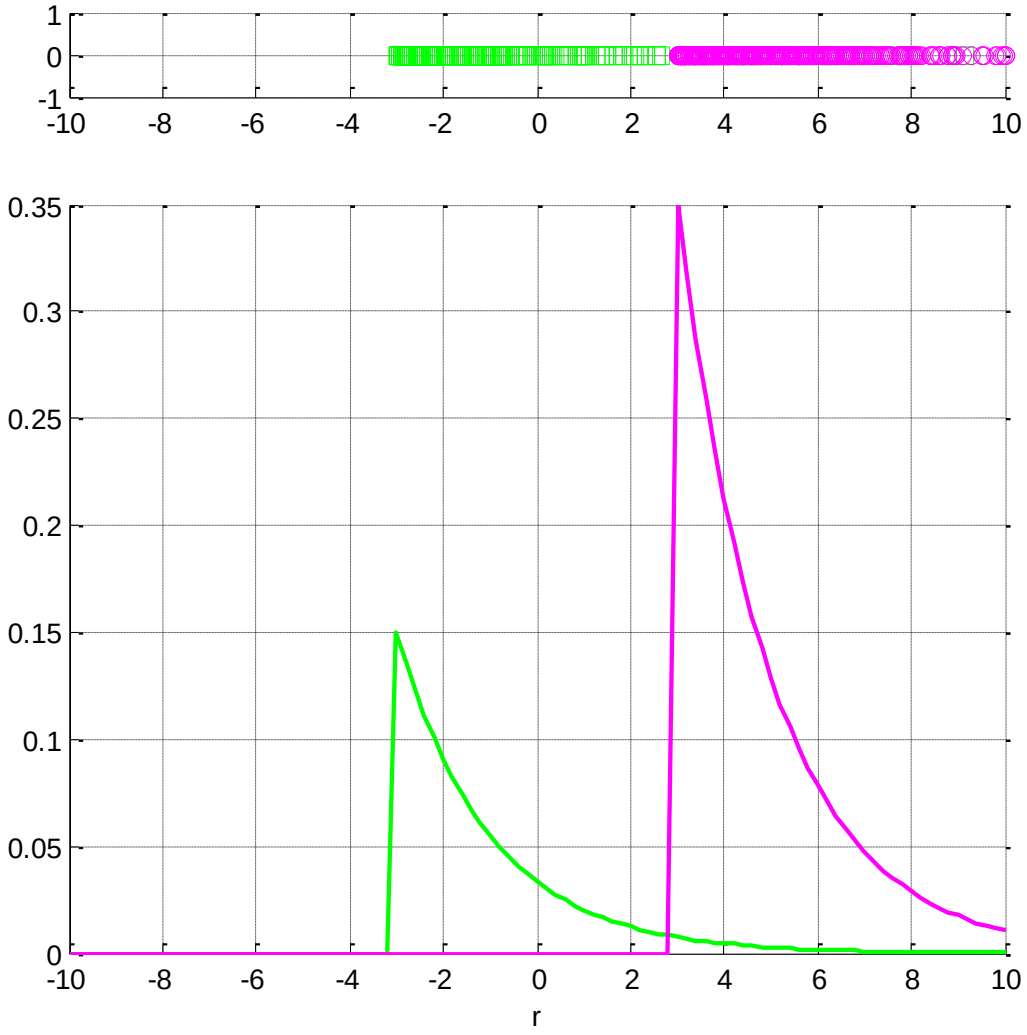
P($\mathcal{E}$) for Detector



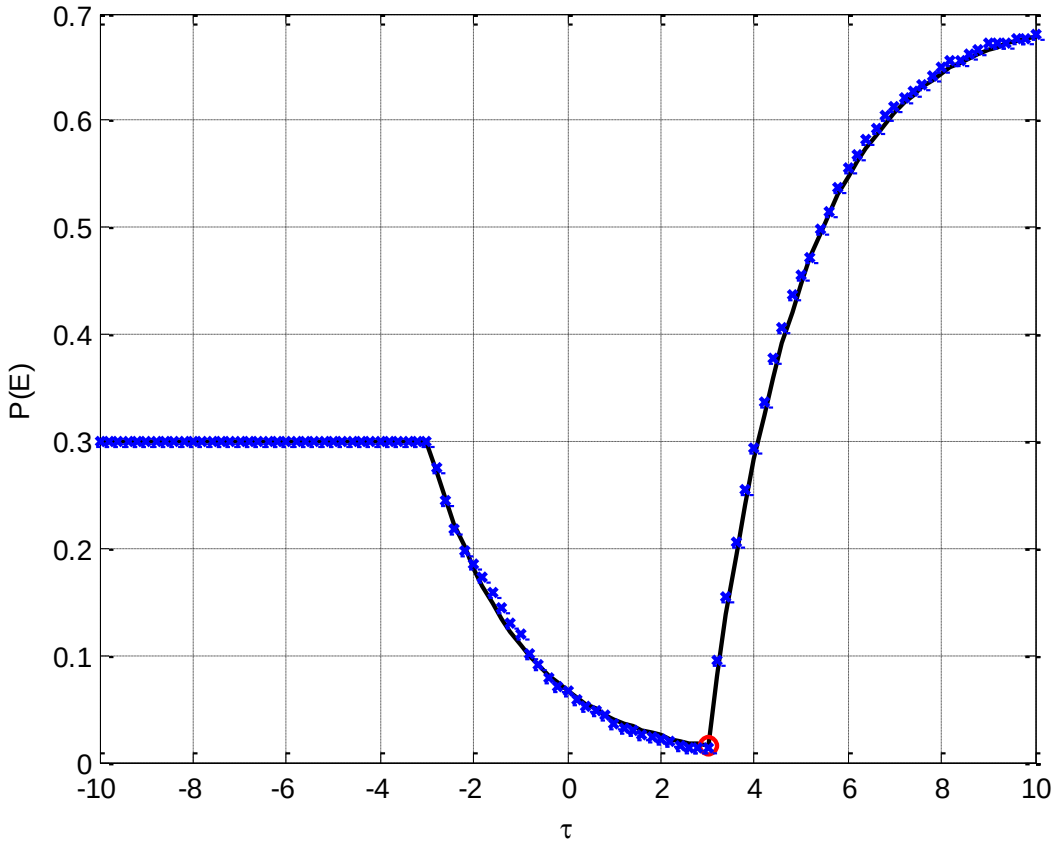
The minimum point (best threshold) is the threshold for the MAP detector.

#trials = 1,000,000

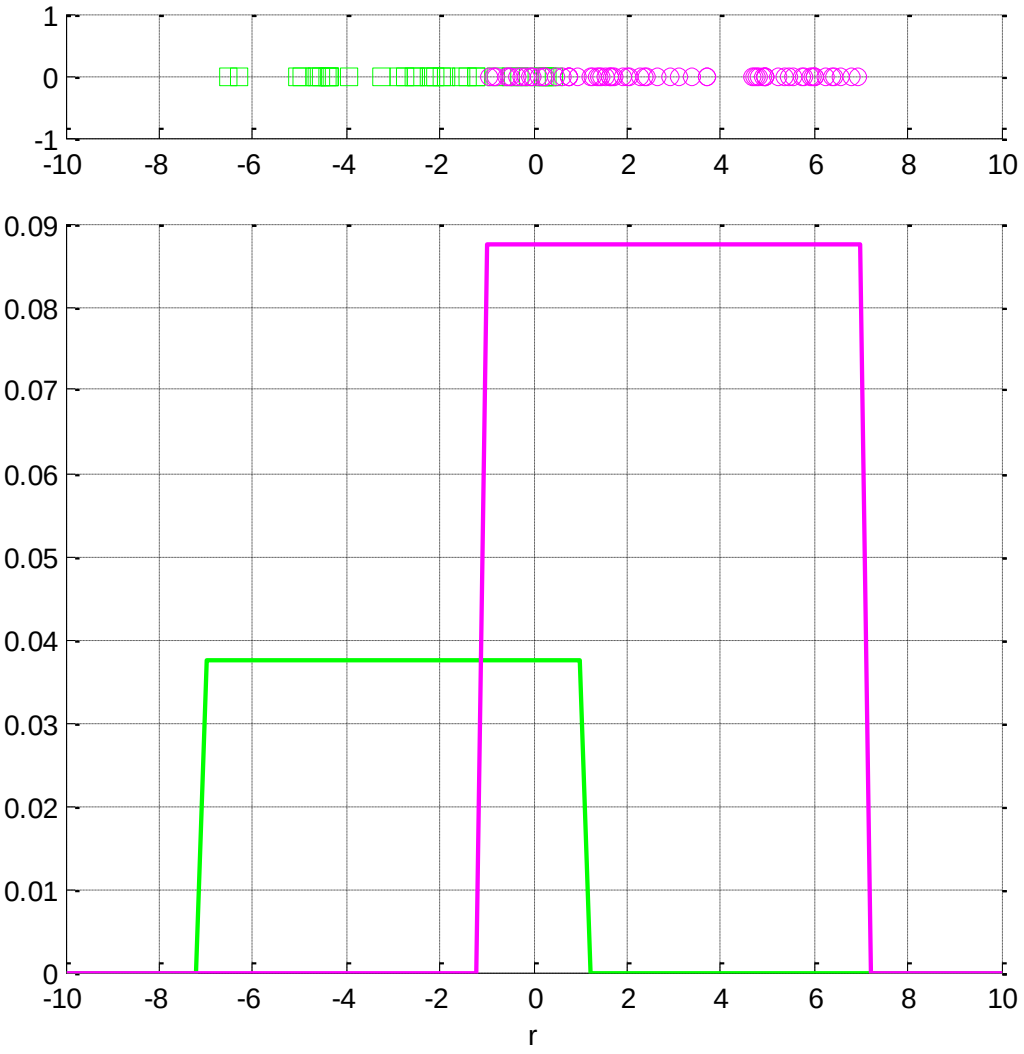
MAP Detector: Comparison Under Exponential Noise



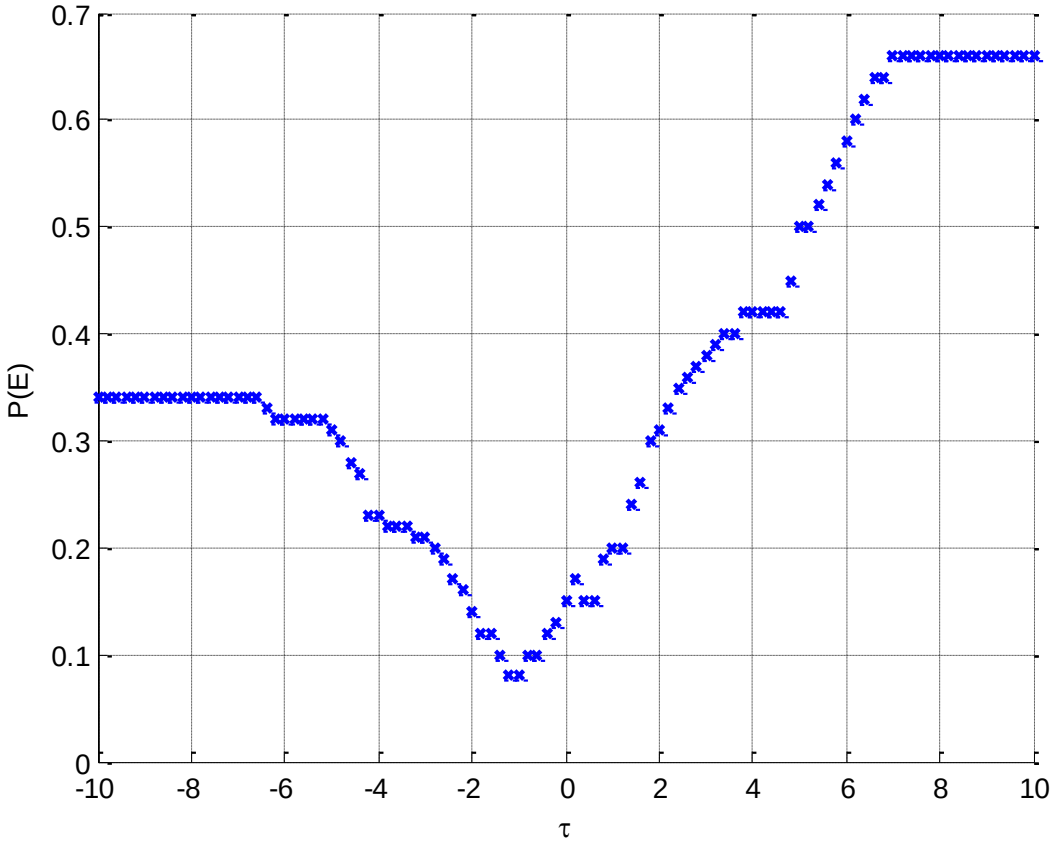
P($\mathcal{E}$) for Detector Under Exponential Noise



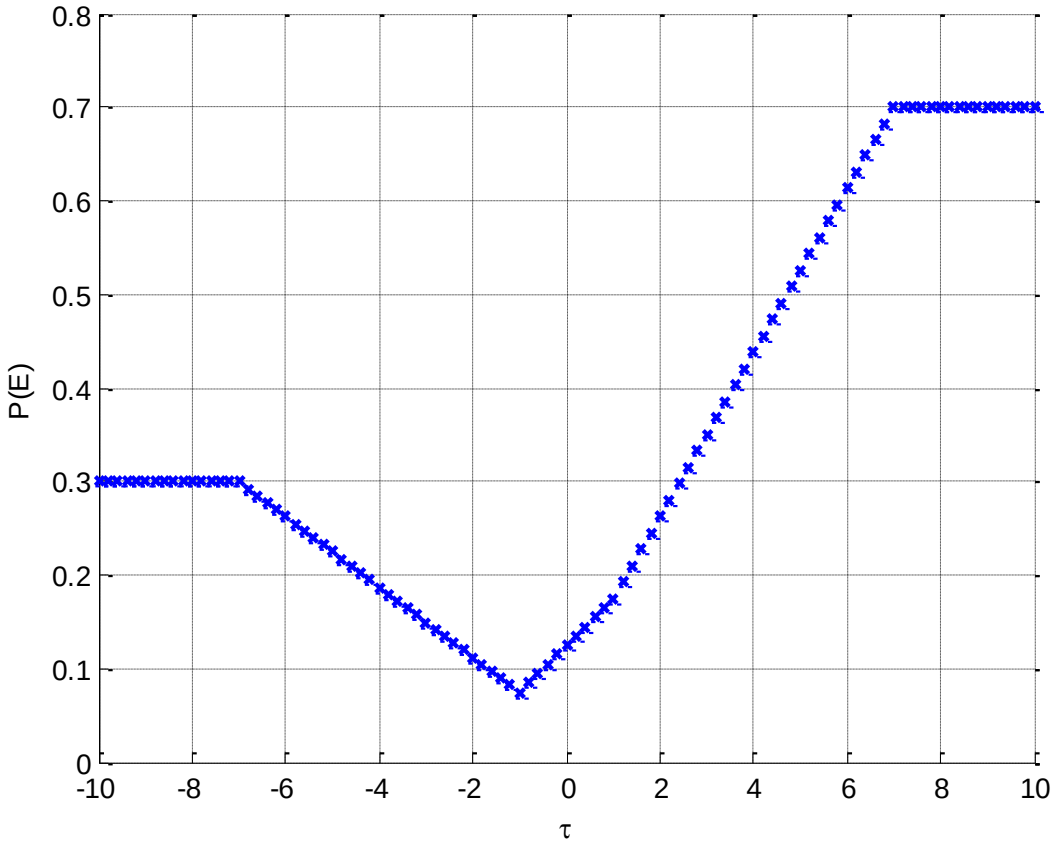
MAP Detector: Comparison Under Uniform Noise



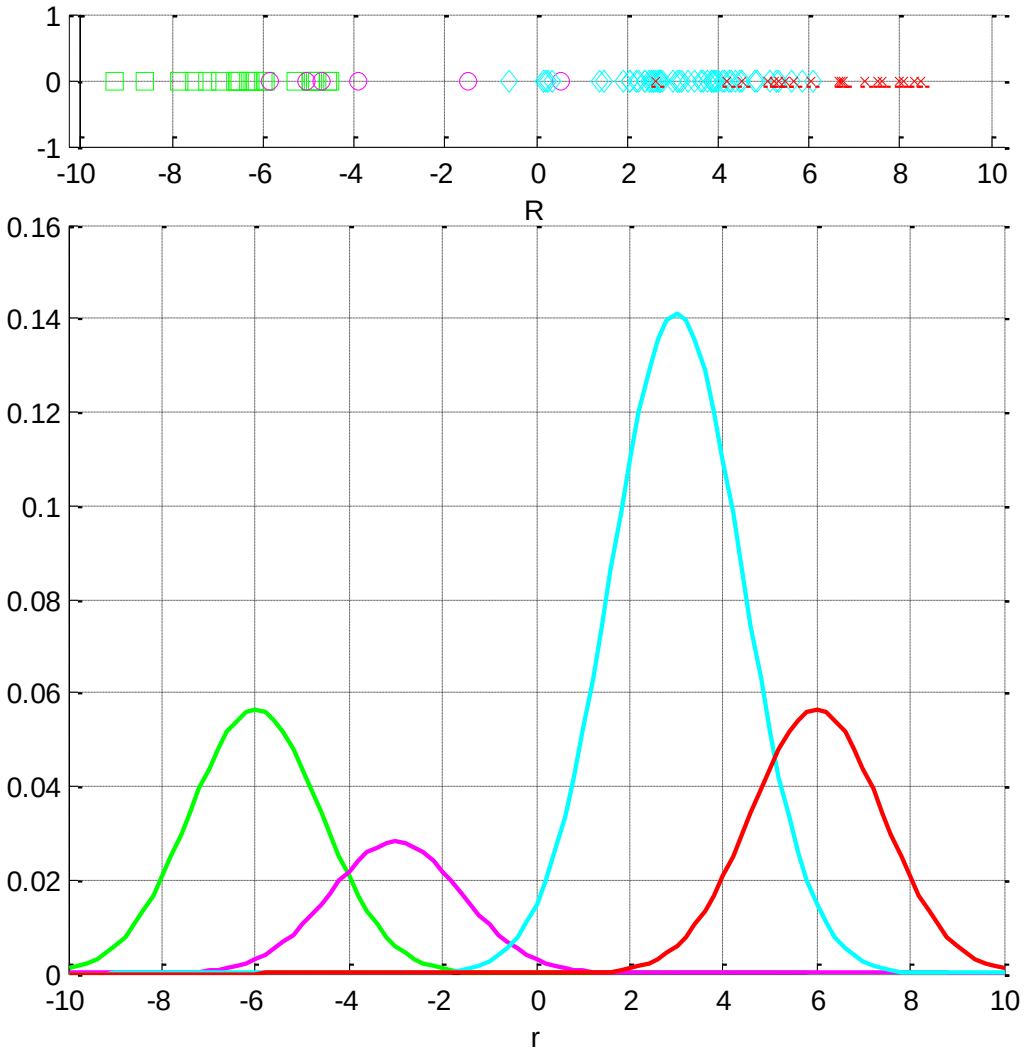
P($\mathcal{E}$) for Detector Under Uniform Noise



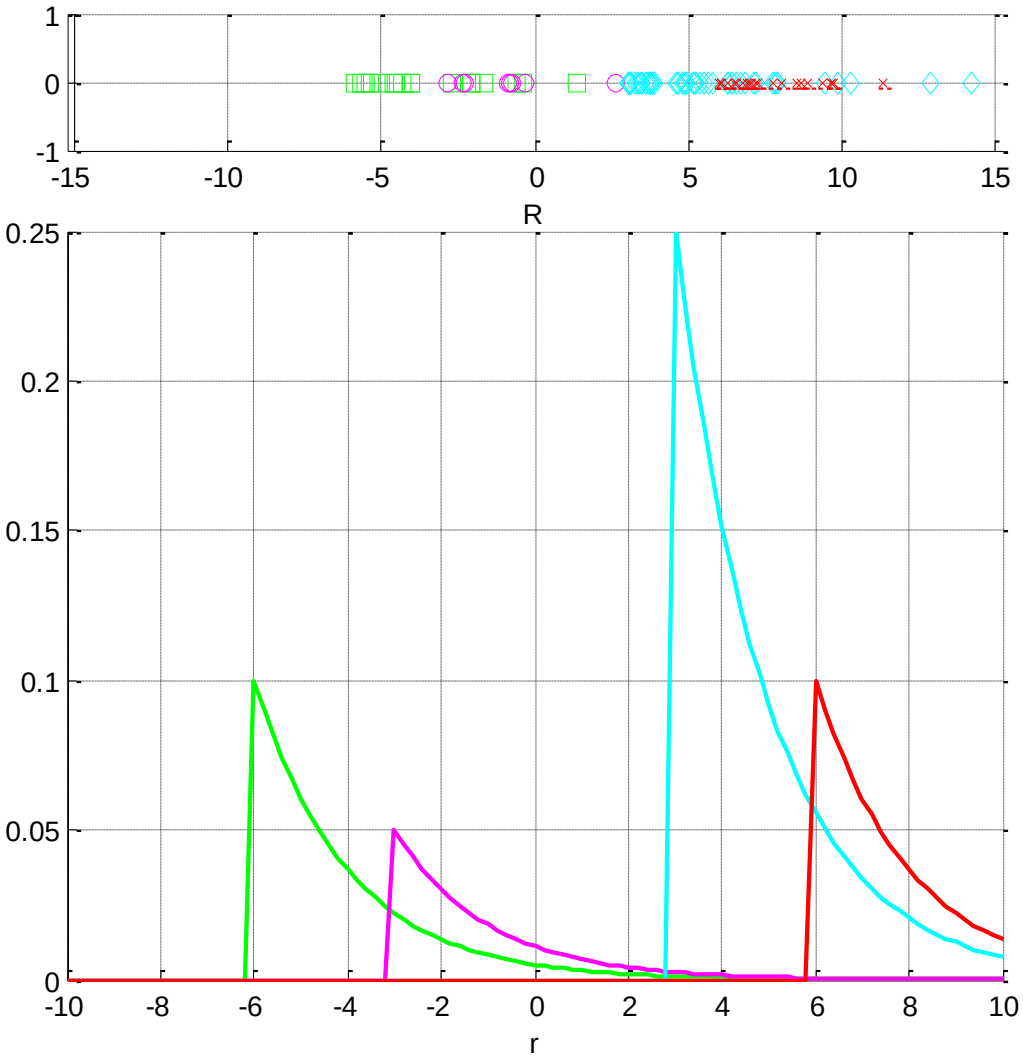
P($\mathcal{E}$) for Detector Under Uniform Noise



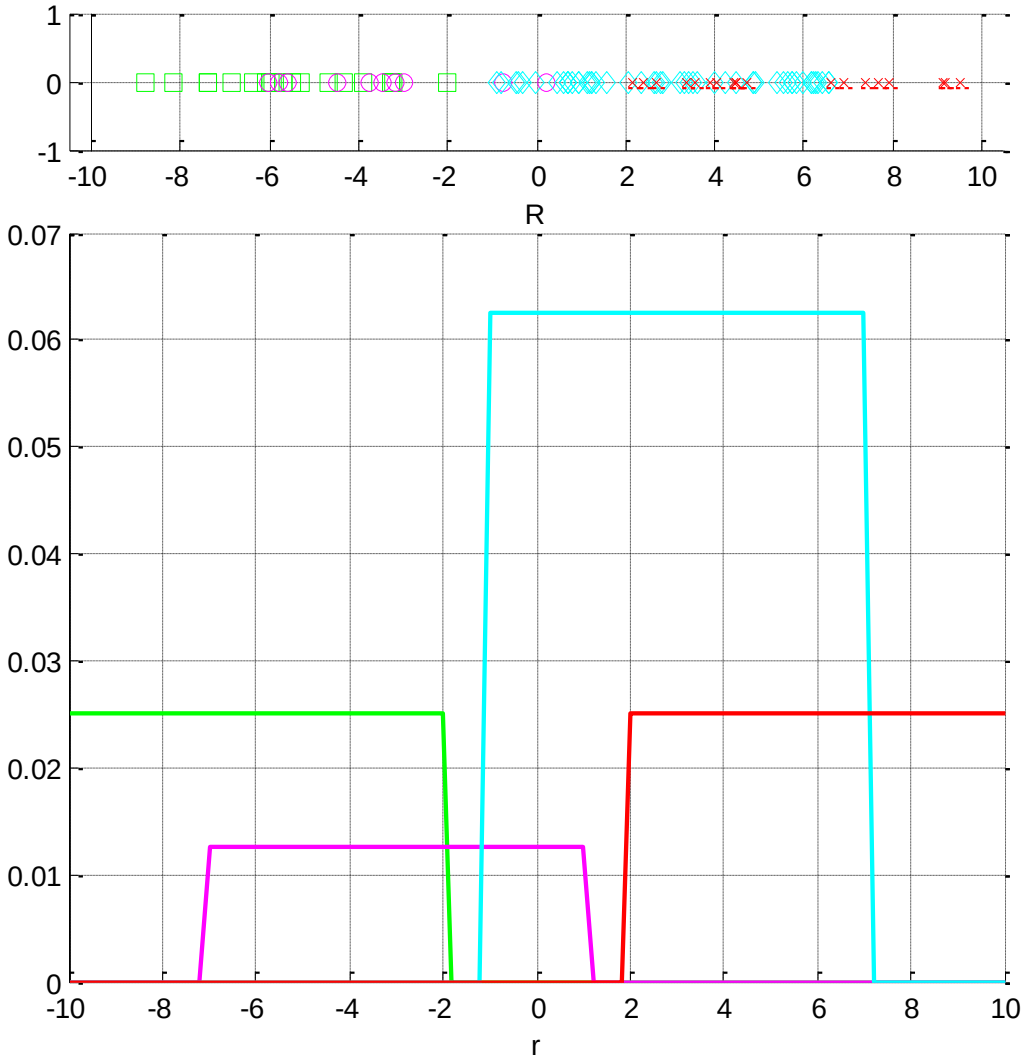
Multi-Level PAM under Gaussian Noise



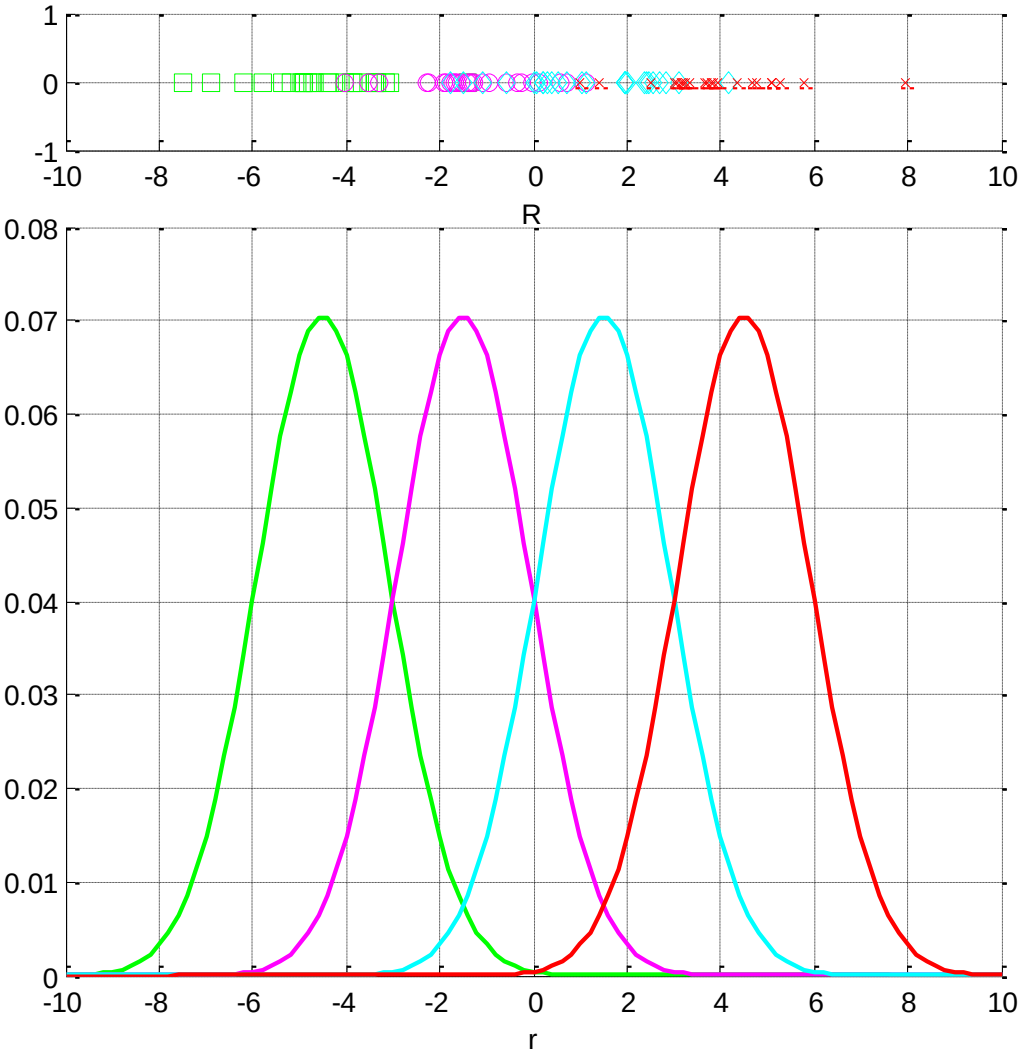
Multi-Level PAM under Expo. Noise



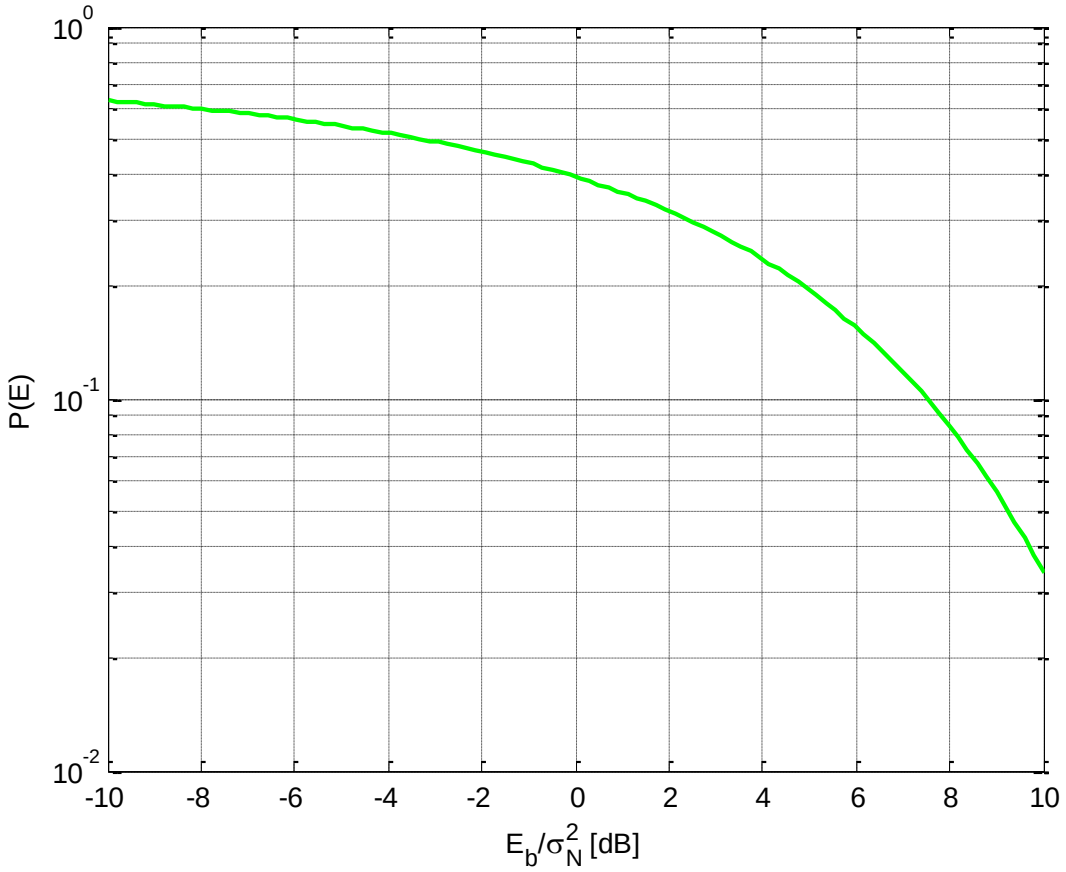
Multi-Level PAM under Uniform Noise



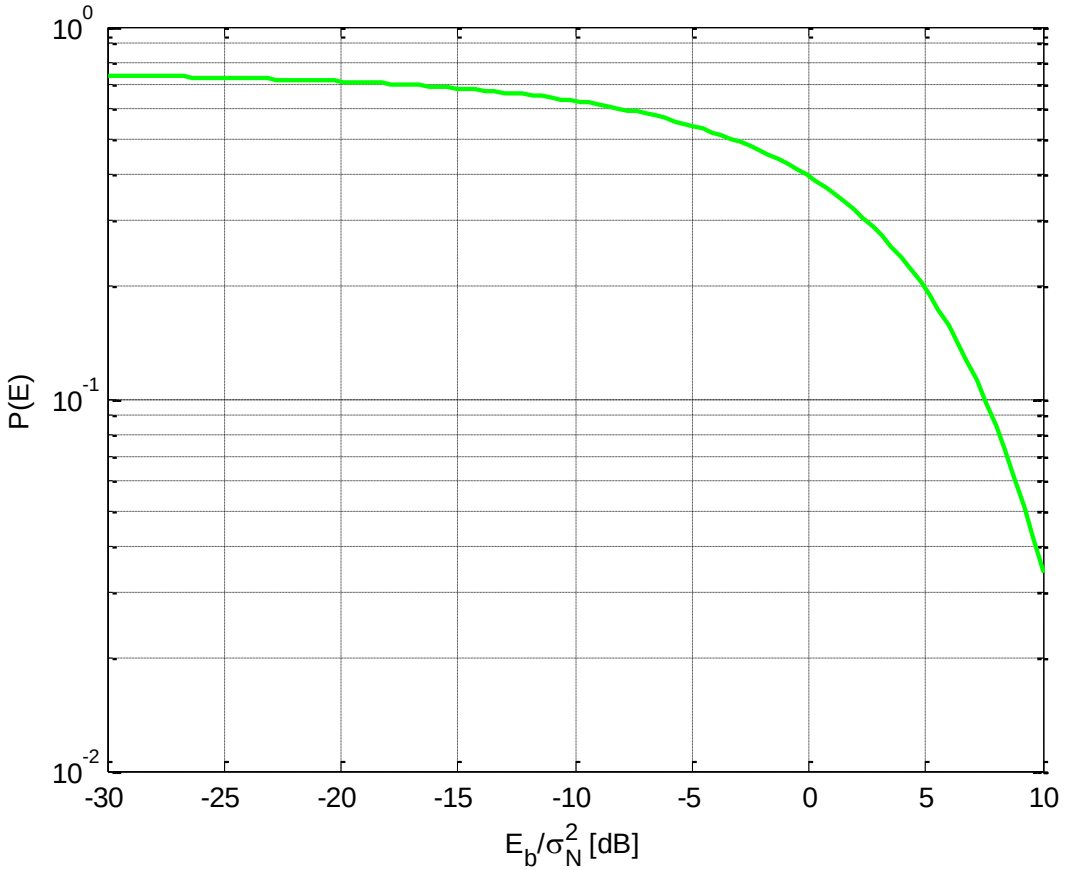
Standard Quaternary PAM



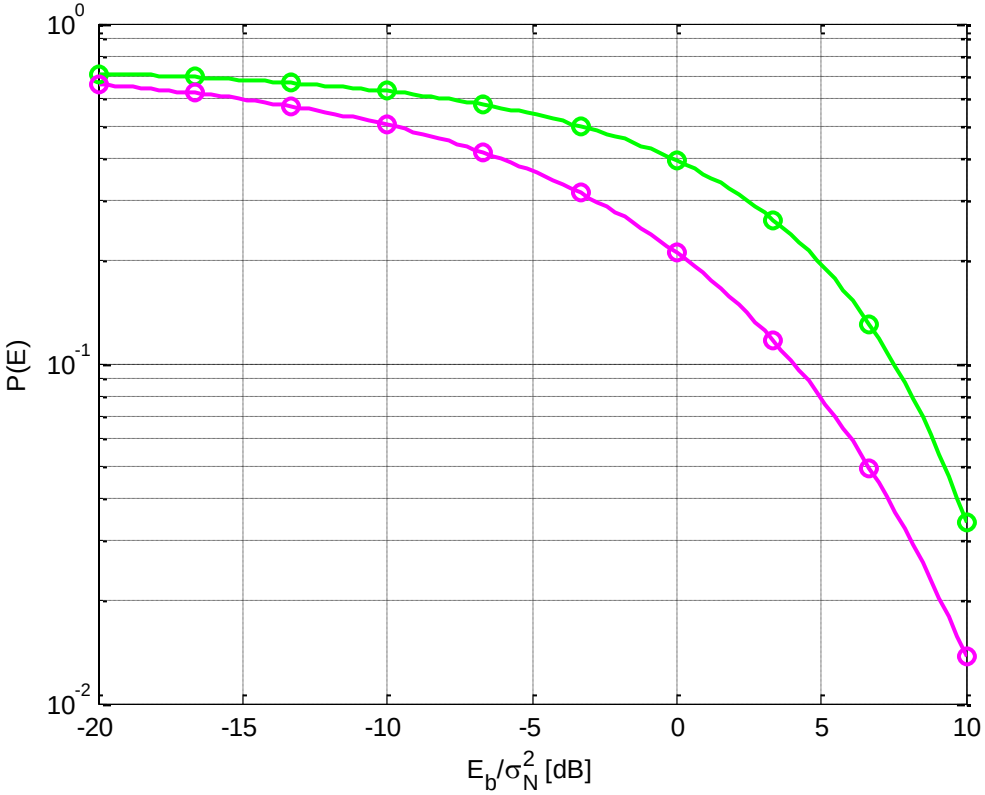
Standard Quaternary PAM



Standard Quaternary PAM



Standard Multi-level PAM
Gaussian vs Exponential Noise



Standard Multi-level PAM Comparisons for different *M*