

Physics 493L: Homework #1
Due March 8, 2012
10 points

For the following, write your own MATLAB script and functions.

Create a data set using the model $y = A + Bx$, with $A = 5, B = 2, x = \{1, 2, \dots, 50\}'$. Corrupt the result with normally distributed noise with known variance $\sigma^2 = 25$. Use the Maximum Likelihood Estimator to find A and B . Plot your results. Remember to use axis labels and a legend.

Repeat the above process assuming the observed values are Poisson distributed. Use the appropriate MLE for Poisson distributed data. See 'GenPoisson.m' on our class web page.

Turn in the MATLAB m-files (via e-mail) that I can use to reproduce your results.