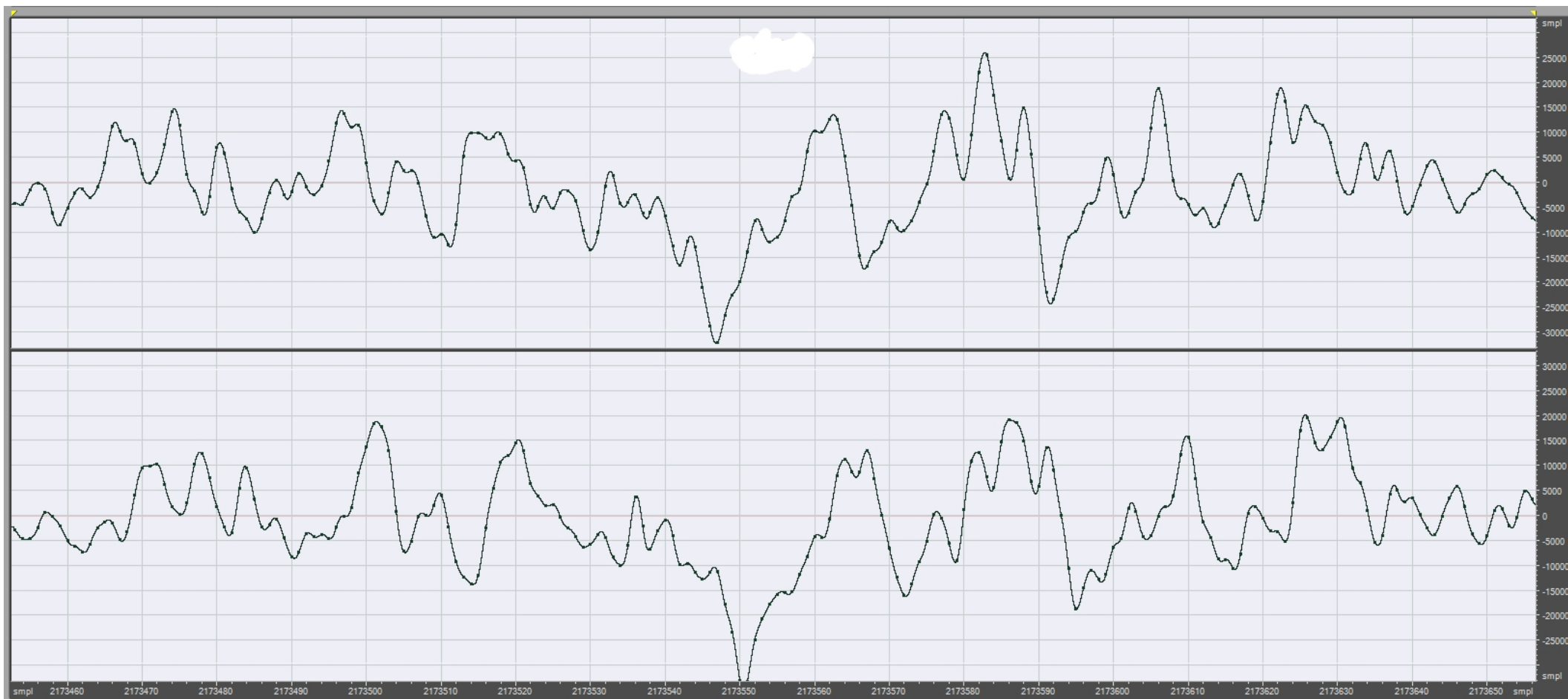


# A Markov Model for Audio Signals

(or: Information Calculations With Finite Strings)

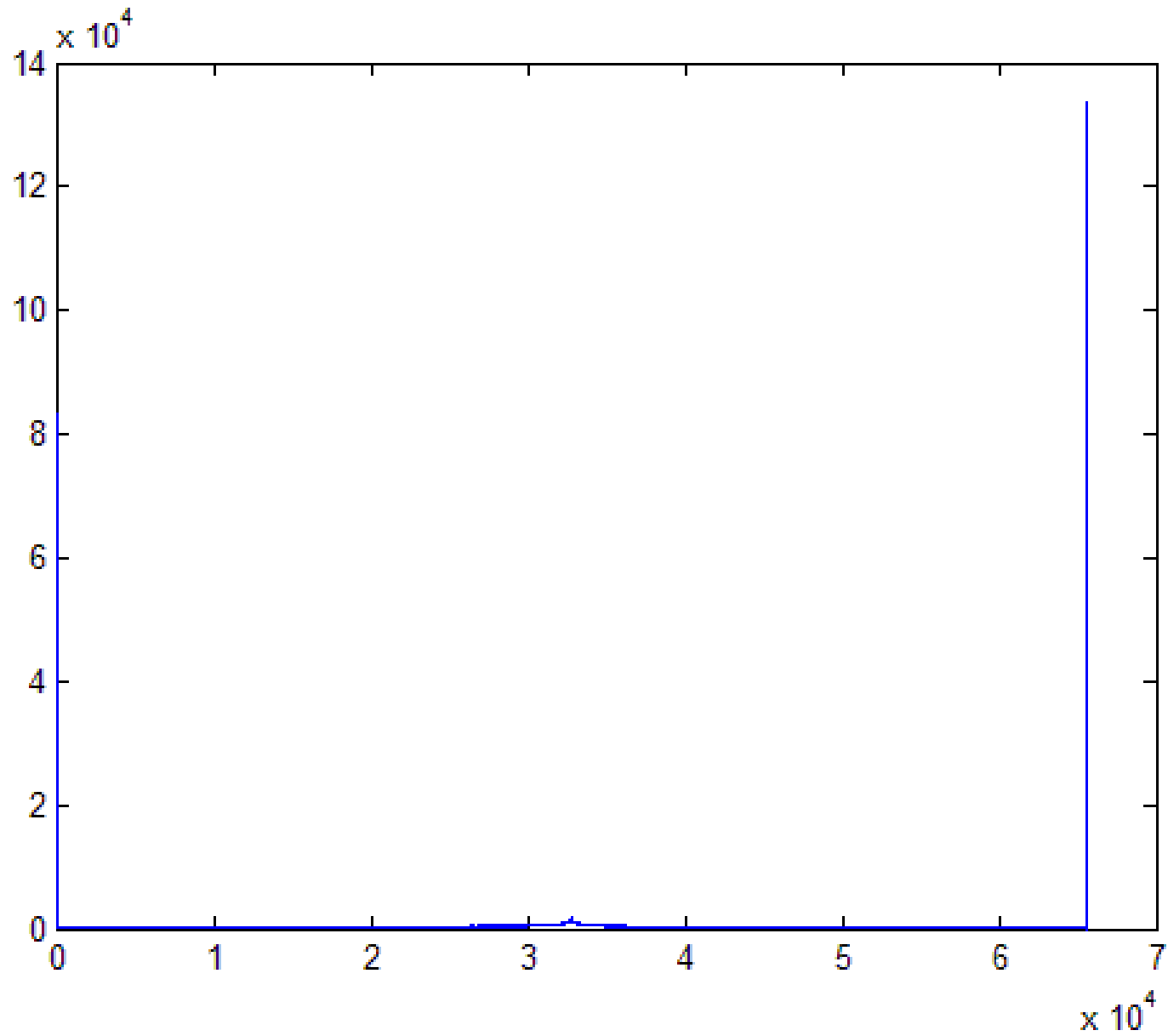
Jason Barnett  
Physics 256 final project

# Audio Signal

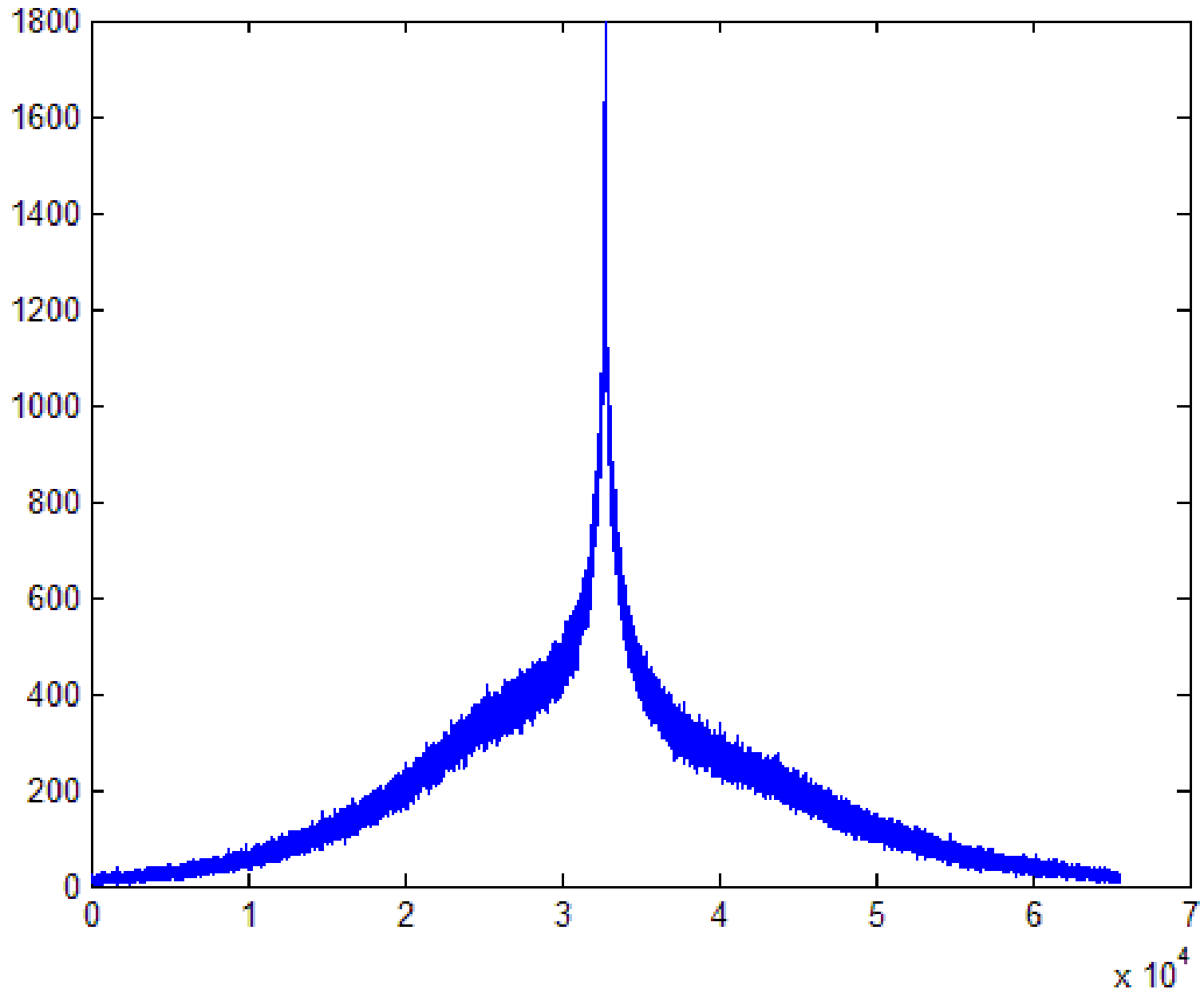




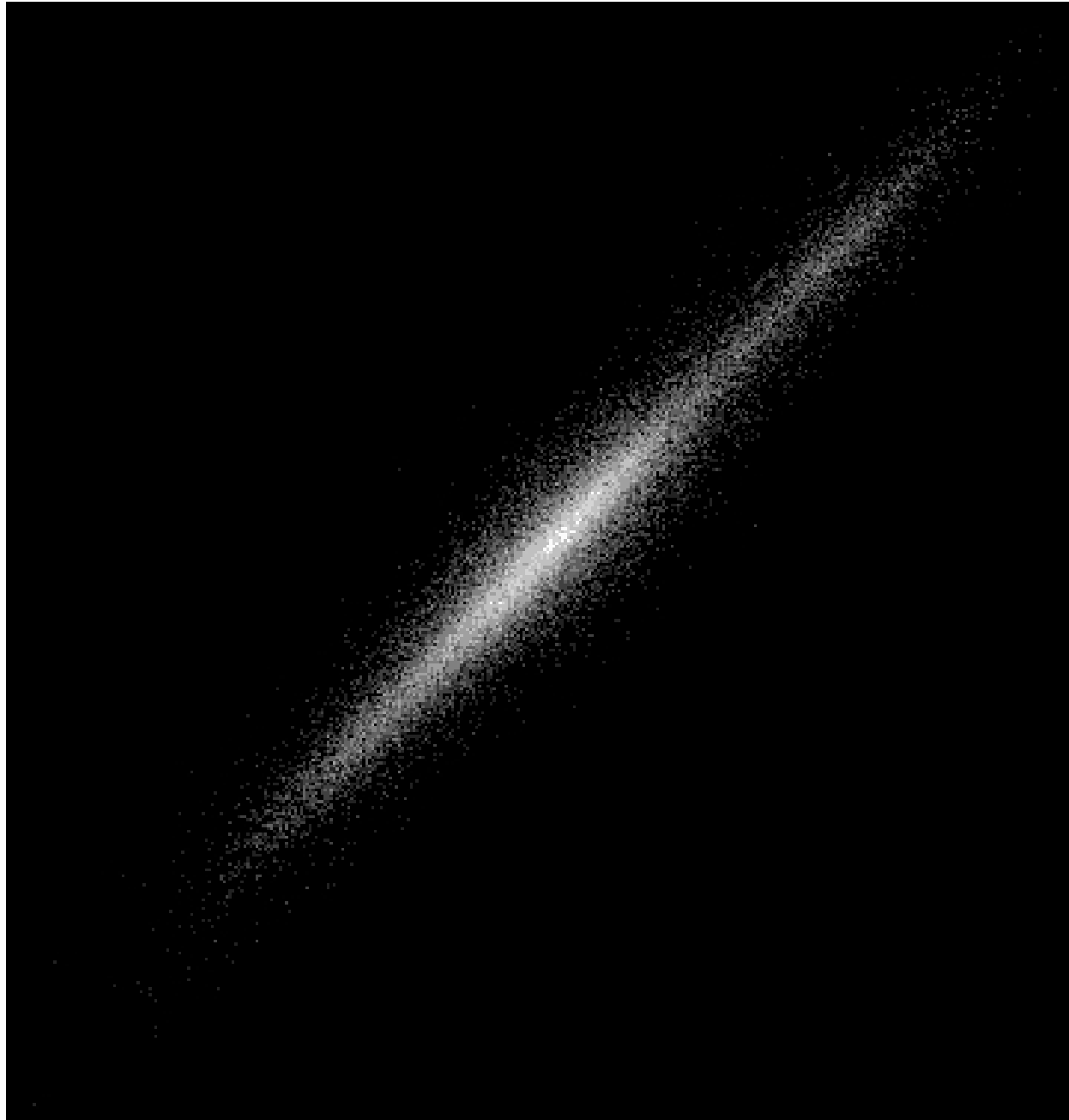
# L=1 Counts



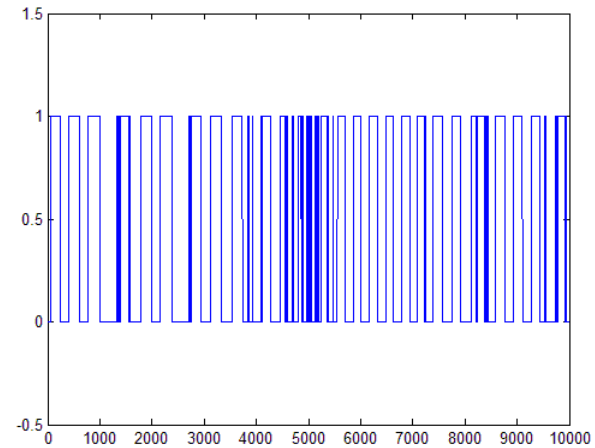
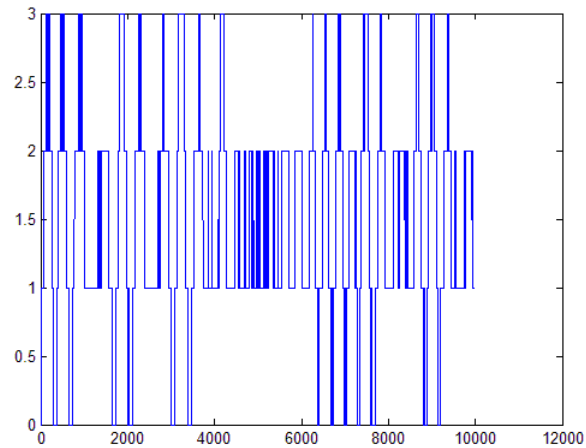
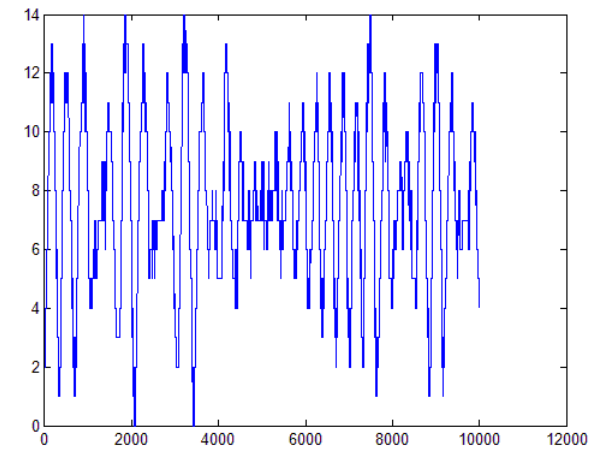
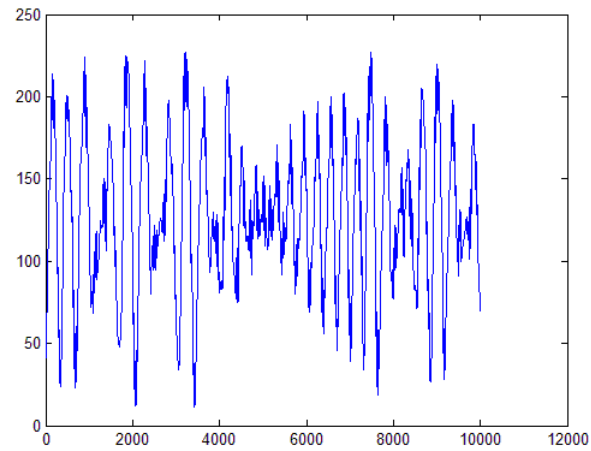
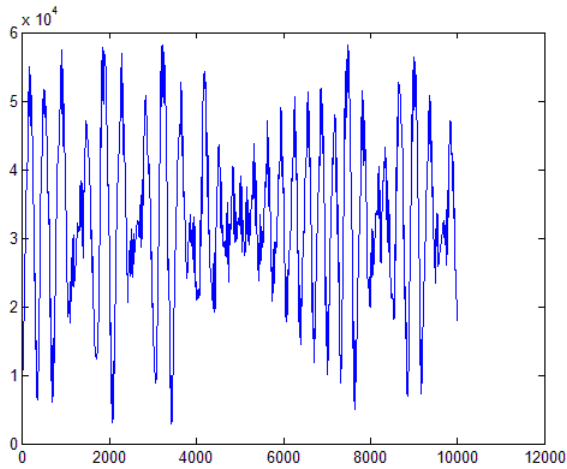
# L=1 Counts



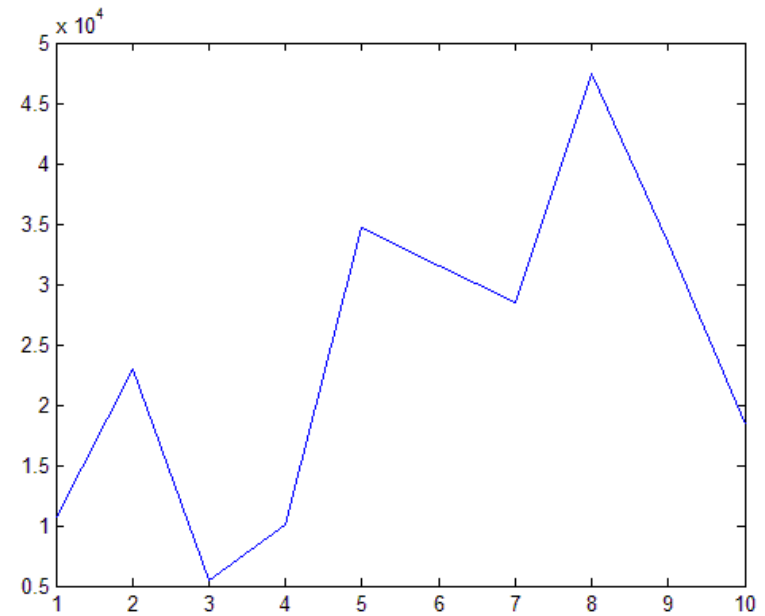
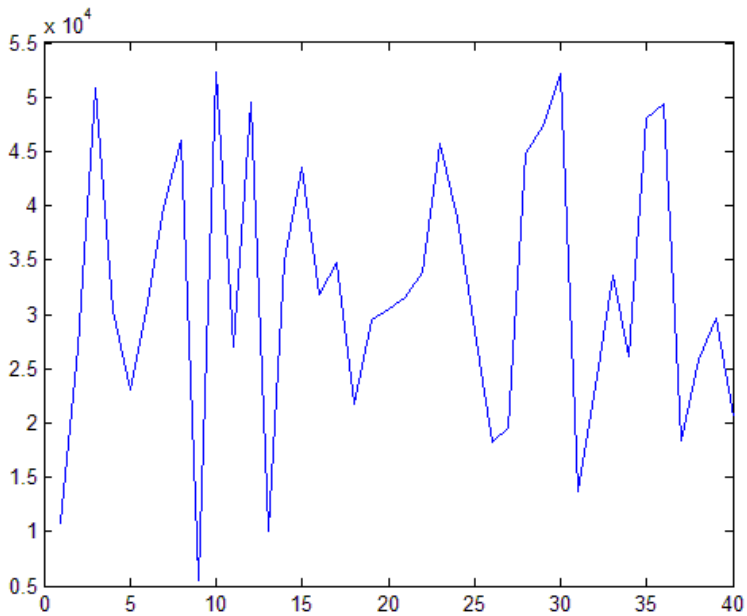
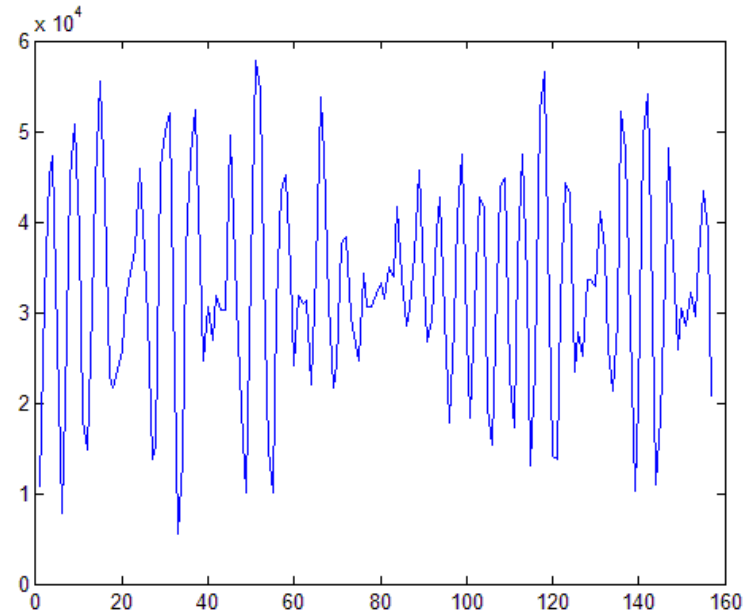
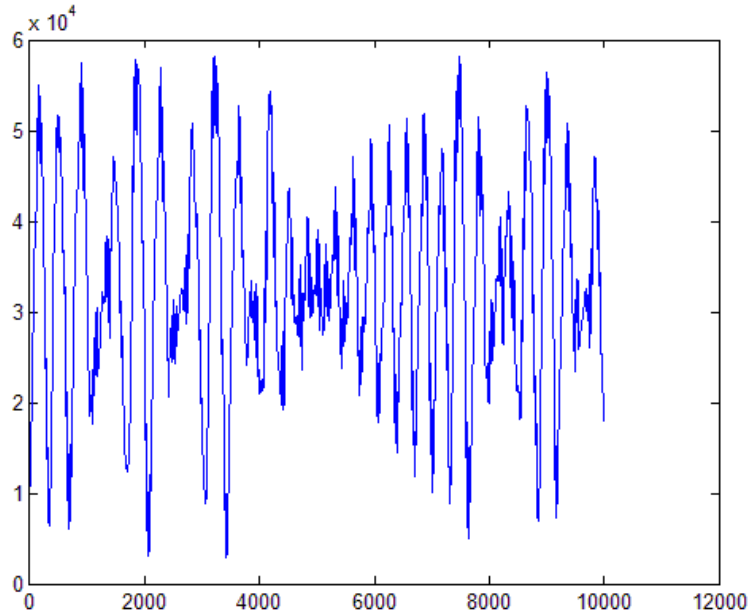
# L=2 Counts



# Coarsening the Measurements



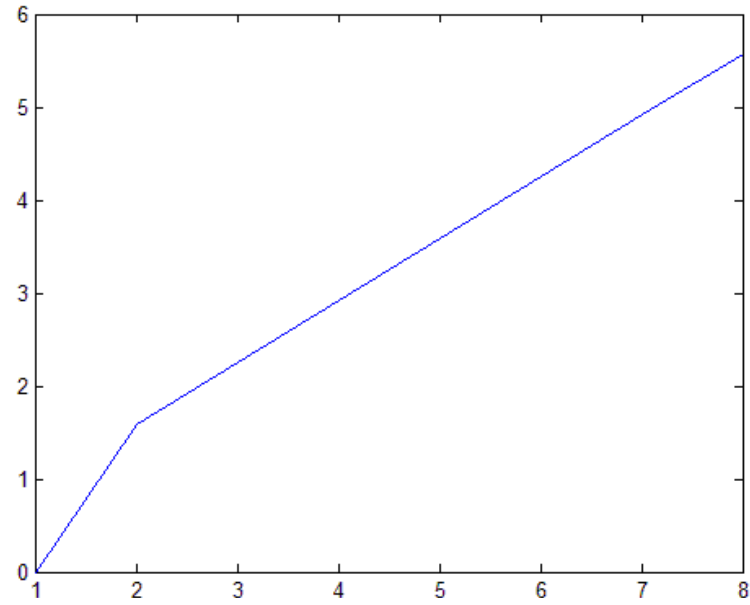
# Decreasing the Measuring Rate



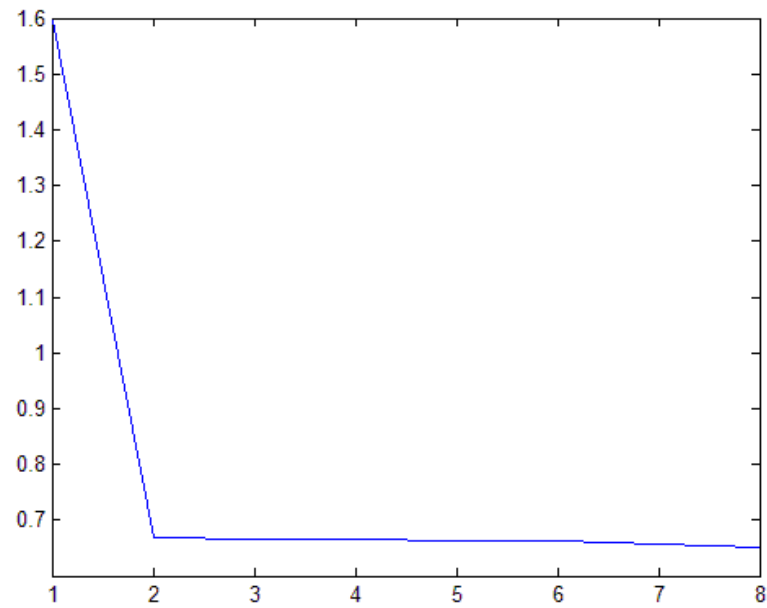


# Golden Mean

$H(L)$

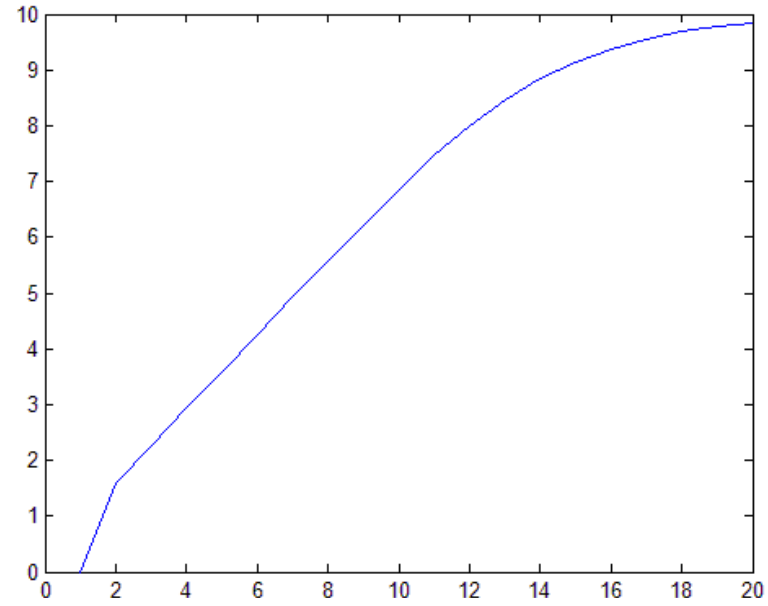


$dH(L)$

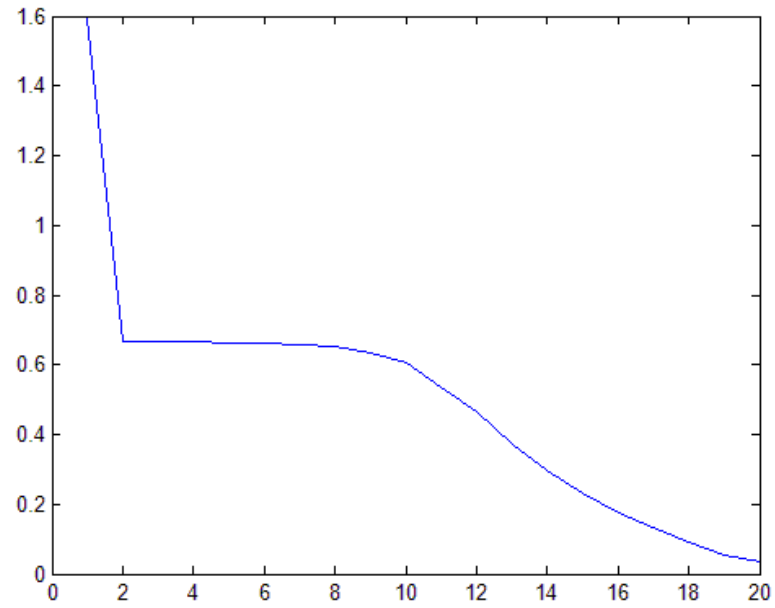


# Golden Mean

$H(L)$

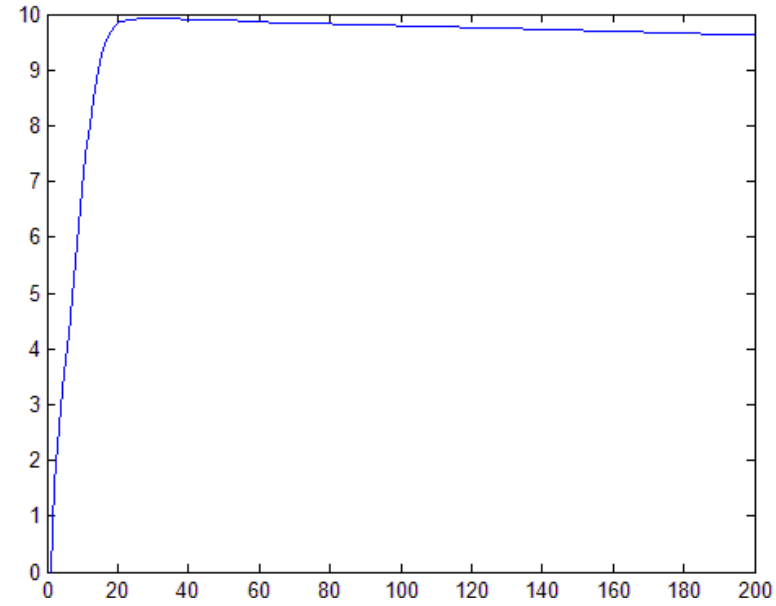


$dH(L)$

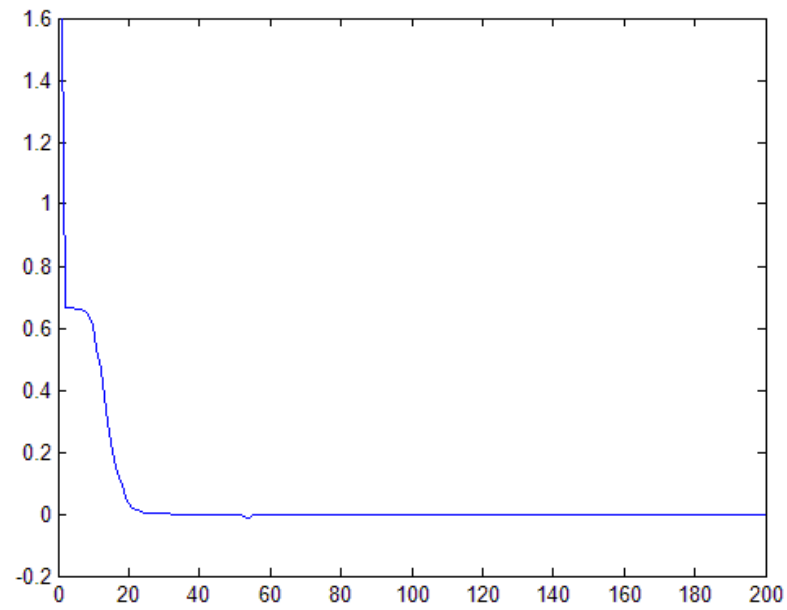


# Golden Mean

H(L)

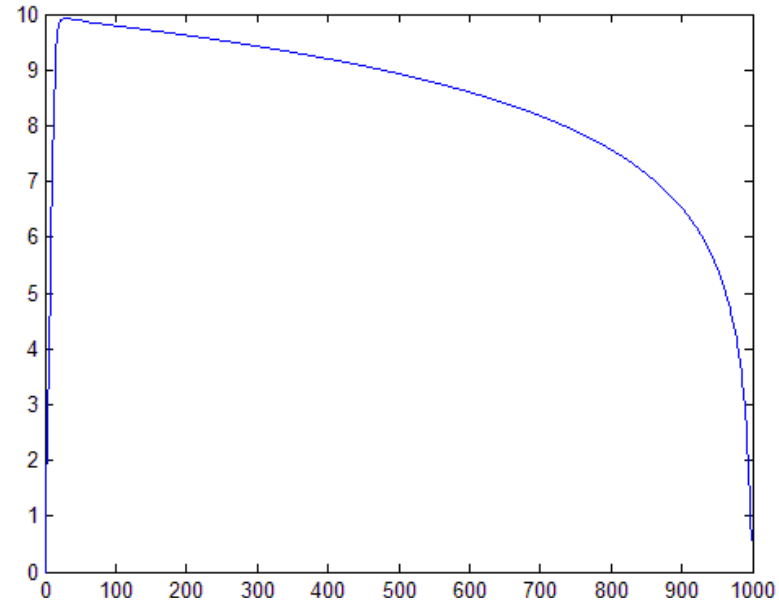


dH(L)

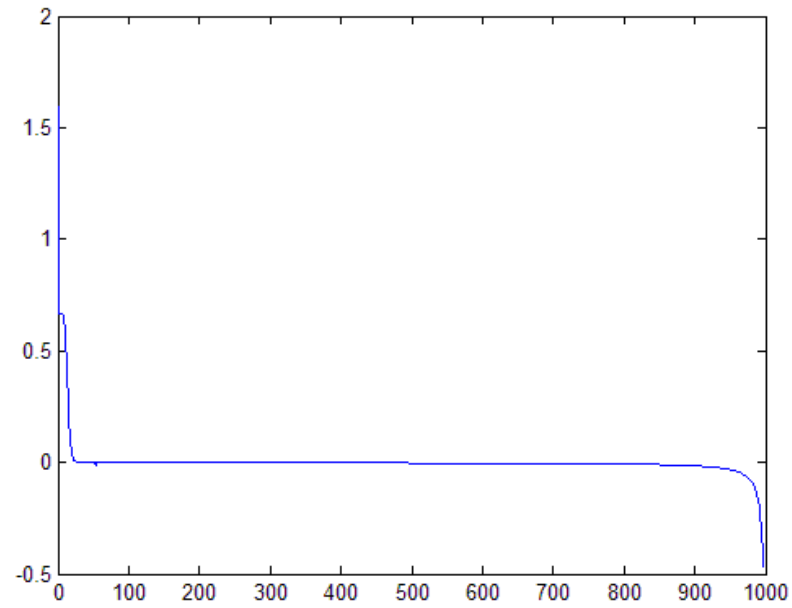


# Golden Mean

$H(L)$

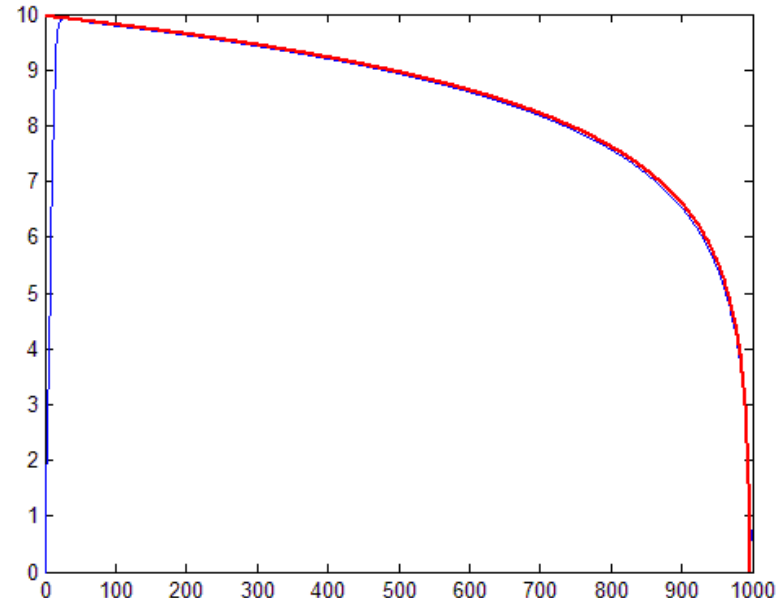


$dH(L)$

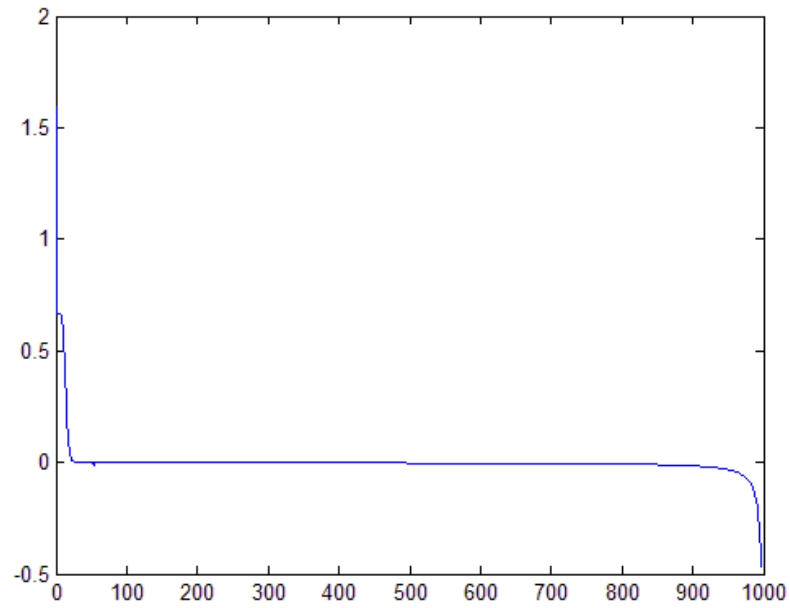


# Golden Mean

H(L)

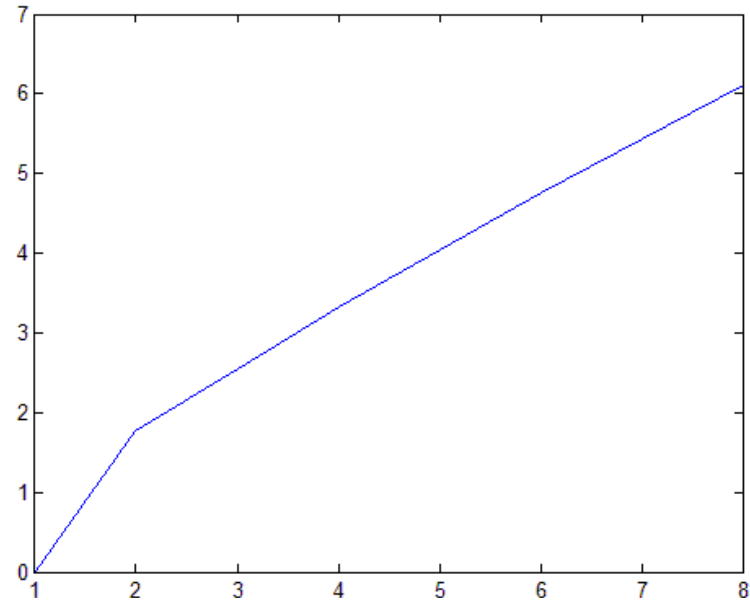


dH(L)

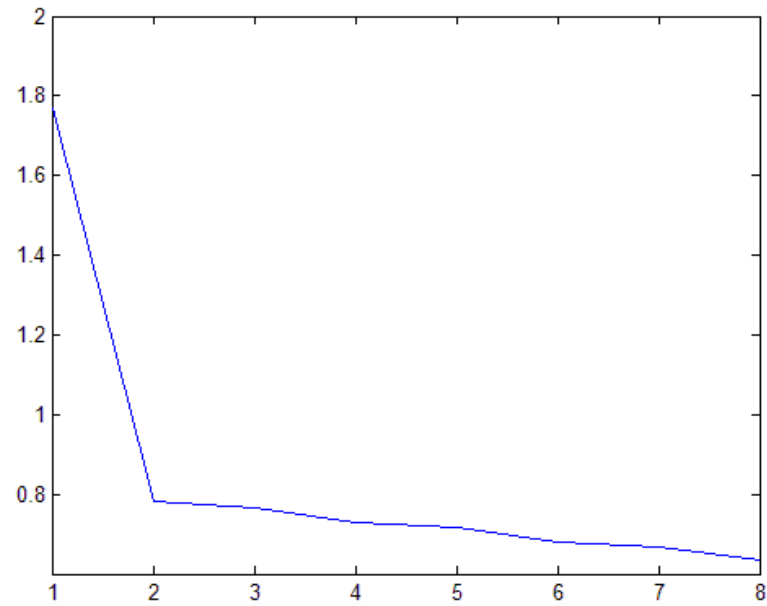


# Even Process

$H(L)$

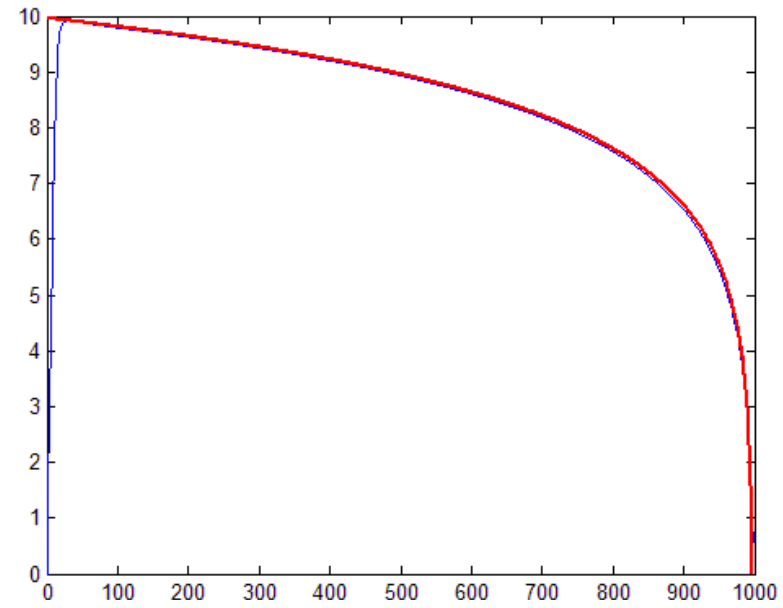


$dH(L)$

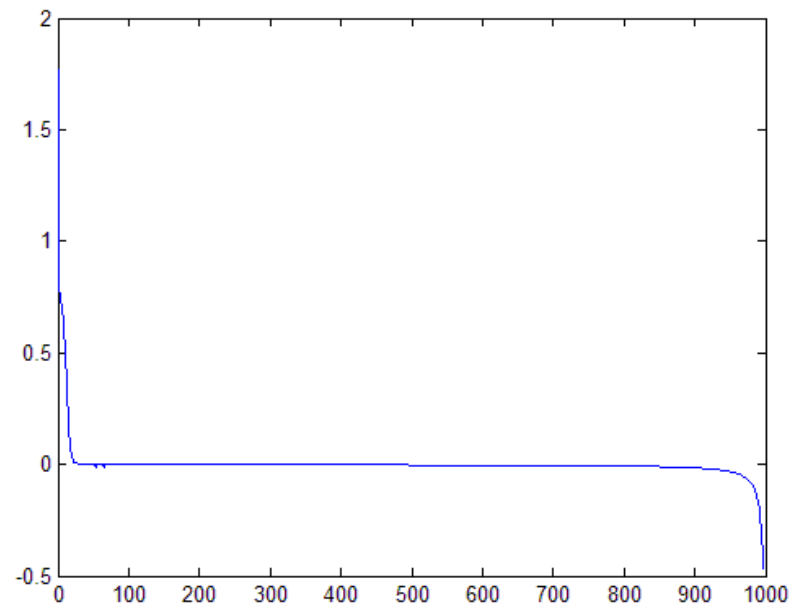


# Even Process

$H(L)$



$dH(L)$



**Thanks!**