

October 7, 2006

1. Results

I used the same function "makelike" defined exactly as in the lecture:

$$L = \frac{T}{2} \log(2\pi * \sigma^2) + \frac{\sum(y_t - \mu)^2}{2 * \sigma^2}$$

I used two functions: "fminsearch" and "csminwel" - to find the minimum.

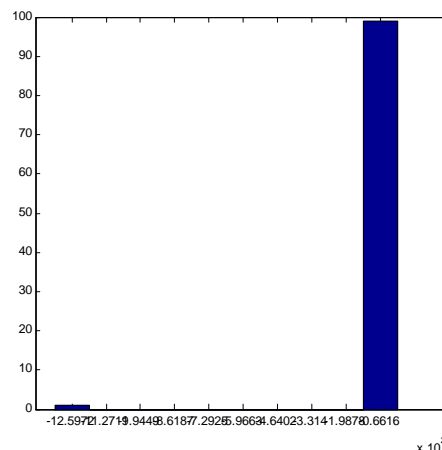
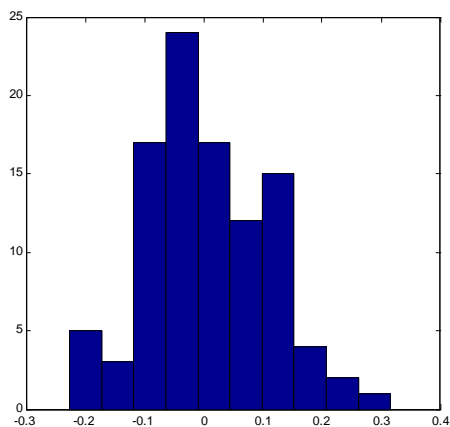
In both cases I used the same (true) x_0 .

Parameters: $\mu = 0$, $\sigma^2 = 1$, $x_0 = [0, 1]$ $H_0 = eye(2)$

Maximum number of iterations: 100 Precision: 0.00001

I repeated the whole procedure 100 times.

I plot the histogram of results for μ for both functions.



I find that "csminwel" about 50% of the time somehow enters the complex area, and then diverges.

At the same time "fminsearch" 100% of the time gives a reasonable solution.

The results for "csminwel" are even worse, if the initial values are altered from the true values.