In the name of God

Department of Physics
Shahid Beheshti University

ADVANCED COURSE ON COMPUTATIONAL PHYSICS AND OPTIMIZATION

Exercise Set 8

(Due Date: 1403/03/05)

1. Fitting formula: Using file which is called *dataexp2.txt* and consider $y_{theory} = ax^H$ compute a, H and their errors using MCMC method.

2. Hamiltonian Monte Carlo method for data modeling: Using file which is called *dataexp2.txt* and consider $y_{theory} = ax^H$ compute a, H and their errors using HMC method.

3. According to the simple Genetic Algorithm and considering the $y_{theory} = ax^H$ compute a and H for *dataexp2.txt*. Compare your results with those determined by MCMC and HMC done in previous question.

Good luck, Movahed