

Problem 1

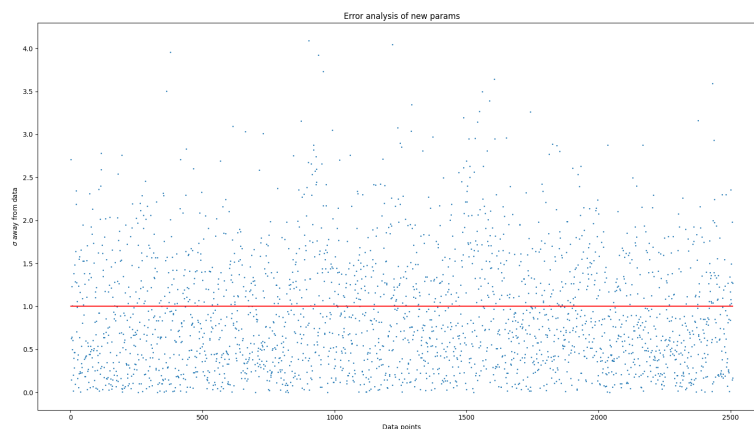
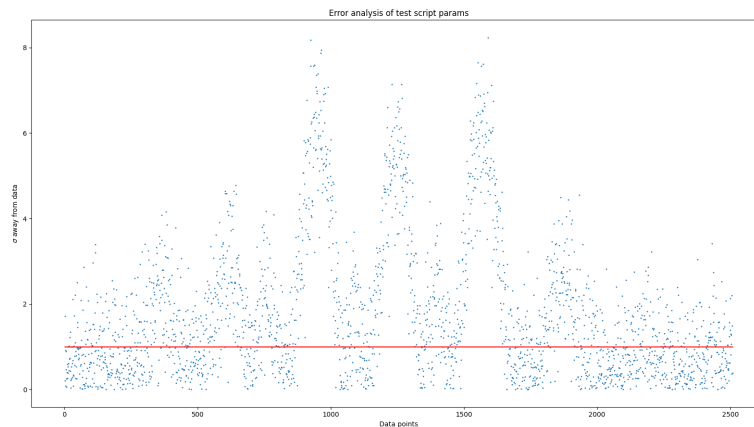
a) Are the test script parameters an acceptable fit?

It is not an acceptable fit, the χ^2 value for the test parameters is 15269.68. Our data implies $\langle \chi^2 \rangle = 2501$, with $\sigma = 70.72$. So, our test script's χ^2 is around 180.54σ away from the expected value.

b) What about new parameters?

The $\langle \chi^2 \rangle = 3271.66$. This is quite better than the test script results, however it is 10.9σ away from the expected value for $\langle \chi^2 \rangle$. Which is enough to say this is not an acceptable fit.

Below a few to illustrate the difference between the two models and the data;



these plots show that although the second set of parameters lead to a much more accurate model, a large portion of the values predicted are still not within error bars of the actual data.