# PROBLEM 2

I used the Levenberg-Marquardt method to find best-fit parameters.

Initial $\chi^2$ is 3272, so the same as in pt.2 of q1. $\chi^2$ just goes down from there.

I finally get a $\chi^2$ of ~2579

The best-fit parameters with my code are:

| | Parameters | Errors |
|---|---|---|
| $H_0$ | 6.787793764573899580e+01 | 2.800812060070191623e-02 |
| $\Omega_b h^2$ | 2.233585550723501956e-02 | 1.667495319816963980e-05 |
| $\Omega_c h^2$ | 1.186385715442713484e-01 | 5.342314704841942758e-05 |
| $\tau$ | 5.825513405803299516e-02 | 1.206355335562640574e-04 |
| $A_s$ | 2.105784762710451508e-09 | 5.073528840485232657e-13 |
| $n_s$ | 9.691547163761465855e-01 | 3.021548158404688657e-04 |

Curvature matrix will simply be the lhs outputted from by fit-lm-clean function.