1 Checkpoint 2012-07-01

Follow arXiv:1205.4688

1.1 What do the author say?

Transition redshift could be viewed as a new cosmological number in data fitting.

1.2 What is transition redshift and how do it enter cosmology?

Conventions

TR:Con-1 Conventions in *Cosmologia Notebook* 2012-A, Page ...

TR-BE-1 Deceleration parameter $q(z)$ at z.

TR-BE-2 Transition redshift zt is the redshift that make $\ddot{a} = 0$, thus $q(zt) = 0$.

TR-BE-3 Hubble function $H(z)$.

TR-BE-4 Friedmann equations with $\Omega_{k0} \neq 0$. And their simplifications.

TR-BE-5 Cosmography.

+ Angular diameter distance in RSM P19.

LCDM model equations on *Cosmologia Notebook* 2012-A.

1.3 Some basis concepts of statistics.

Likelihood under a model, posterior, prior,
Chisquare, reduced chisquare...

1.4 How to analysis SN data?

1.4.1 Chisquare fitting and Chisquare distribution

....
LogLikelihood, Under some assumptions

$$-2 \ln \mathcal{L} = \chi^2 \tag{1}$$

1.4.2 Program

I wrote a mathematica chisquare without marginalization of H_0.

I can use cosmomc and getdist and mathematica to get the MCMC results. I created a table of what is the output.

What to do next? Finish the python program or write a new mathematica program of mcmc for this simple LCDM model. Revise cosmomc to calculate LCDM. This requires a lot of revise.