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"COSMOLOGY IN THE ERA OF LARGE SURVEYS"
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LAB I: CAMB

https://camb.info/

How to run camb?
> make clean
> make
> ./camb file.ini (params.ini)

1) Choose a cosmological model (namely fiducial model) and plot the Cl's
(TT,EE,TE,BB). Compare them with the Cl's of other model such that:

a) the baryon density is 20% higher than the one of the fiducial model;
b) the CDM density is 15% lower than the one of the fiducial model;
c) the spectral index is 10% higher than the one of the fiducial model;
d) the optical depth is 25% lower than the one of the fiducial model.

For all cases, plot also the relative differences:
Delta C_l = [C_l – C_l(fiducial model)]/C_l(fiducial model)

2) Modify the power spectrum in CAMB, and plot the new P(k) and Cl's.

a) $P(k) = A*k^{(n-1)} \cos(k)$
b) $P(k) = A*k^{(n-1)} \cos(b*k)$, where b is a new parameter of the model.

3) Compute the Cl's for a cosmological model with dynamical dark energy using an
equation of state of the form w(a) = w0 + wa*(1-a), with w0=-0.92 \pm 0.11 and
wa=-0.32 \pm 0.40 (ref.: Sanchez et. al 2017).