I. FISHER_ESTIMATE

In this code I load the CAMB C_ℓs and I compute the Fisher estimates of the effect we are looking for, given a precise detector precision. The idea is expressed in Wayne's notes.

$$C_l = C_l^{\rm fid}\left[1 + \frac{\partial \ln(l^2 C_l^{\rm fid})}{\partial \ln l} s\right], \tag{1}$$

do a Fisher estimate of σ_s^2 (no other parameters marignalized) and compare it to σ_κ^2. It means it the code to compute

$$C_l = C^{\rm fid}\frac{\partial \ln(l^2 C_l^{\rm fid})}{\partial \ln l}, \tag{2}$$

using a spline function. after that in the fisher formalism

$$F_{ss} = \sum_\ell \frac{1}{(\delta C_\ell)^2}\left(C^{\rm fid}\frac{\partial \ln(l^2 C_l^{\rm fid})}{\partial \ln l}\right)^2$$

$$F_{ss} = \sum_\ell \frac{(2\ell+1)f_{\rm sky}}{2[C_\ell + N_\ell]^2}\left(C^{\rm fid}\frac{\partial \ln(l^2 C_l^{\rm fid})}{\partial \ln l}\right)^2$$

assuming SPT-pol $4\mu K$-arcminute noise and a beam of 1-arcmin

$$N_\ell = \exp\{-\ell(\ell+1)\theta_{FMWH}/(8\log 2)\} \tag{3}$$