

NILC-CMB APS from PICO simulations

Soumen Basak

Indian Institute of Science Education and Research (IISER)

Thiruvananthapuram, India

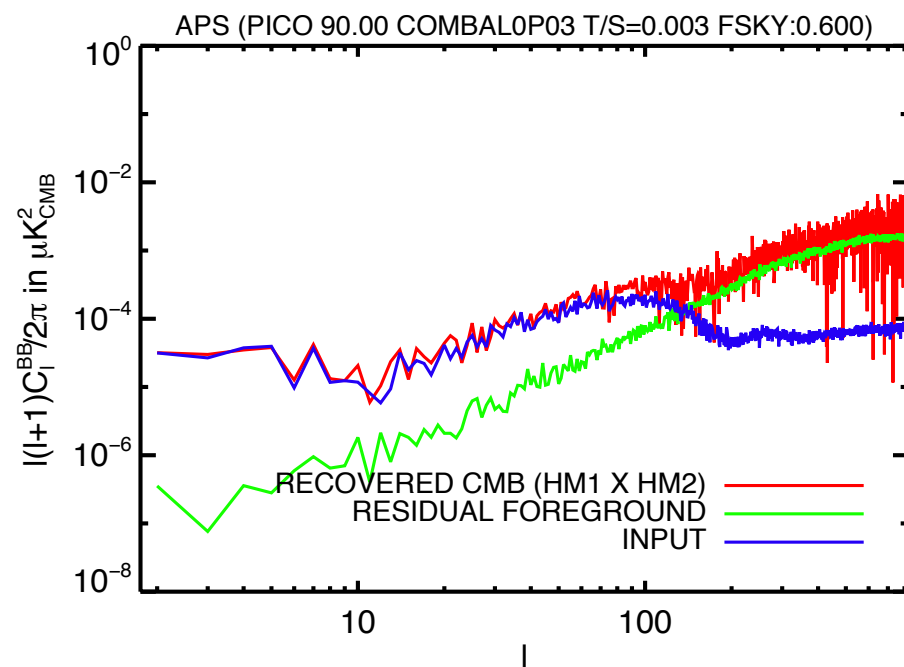
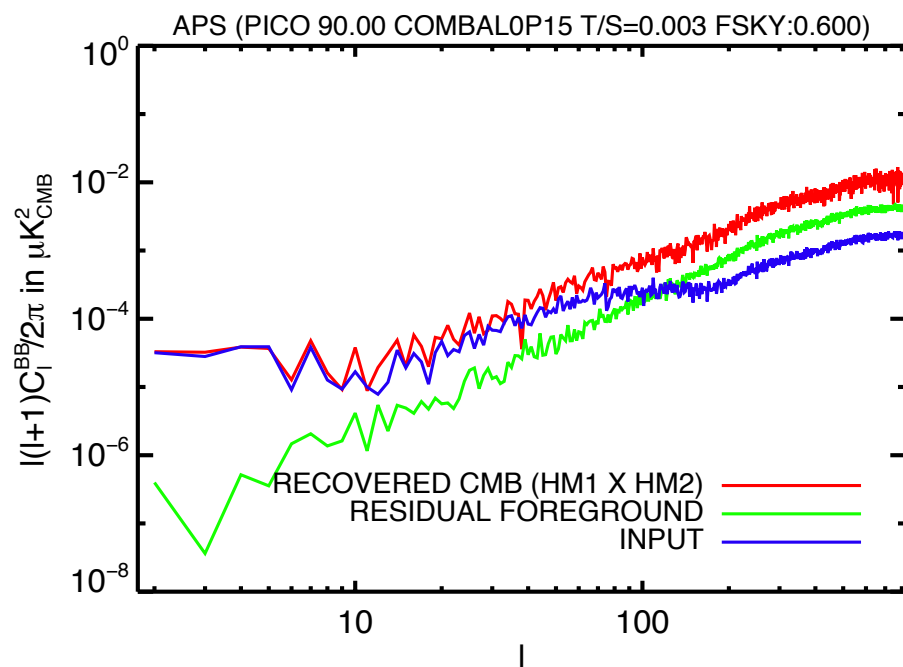
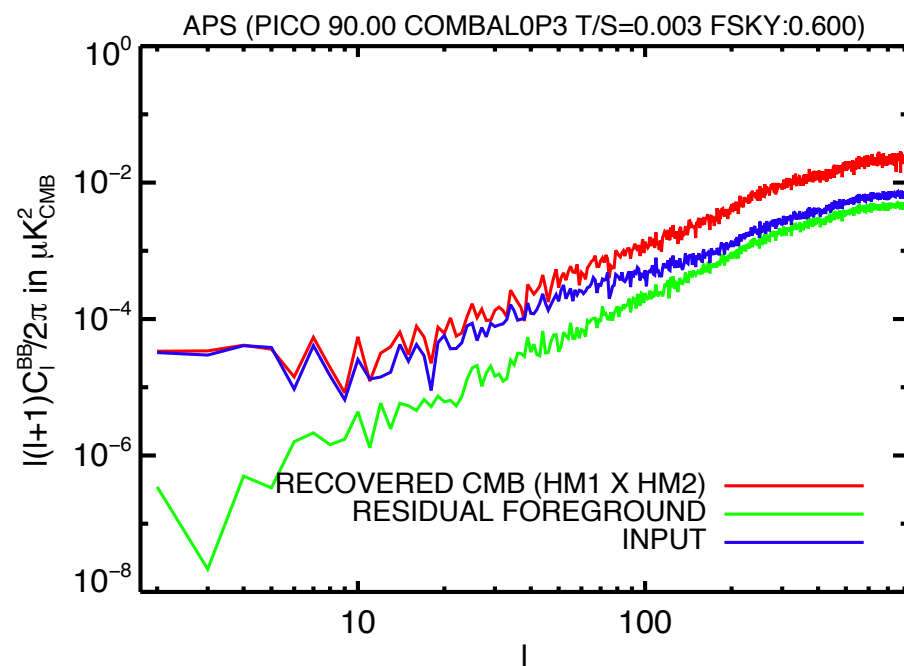
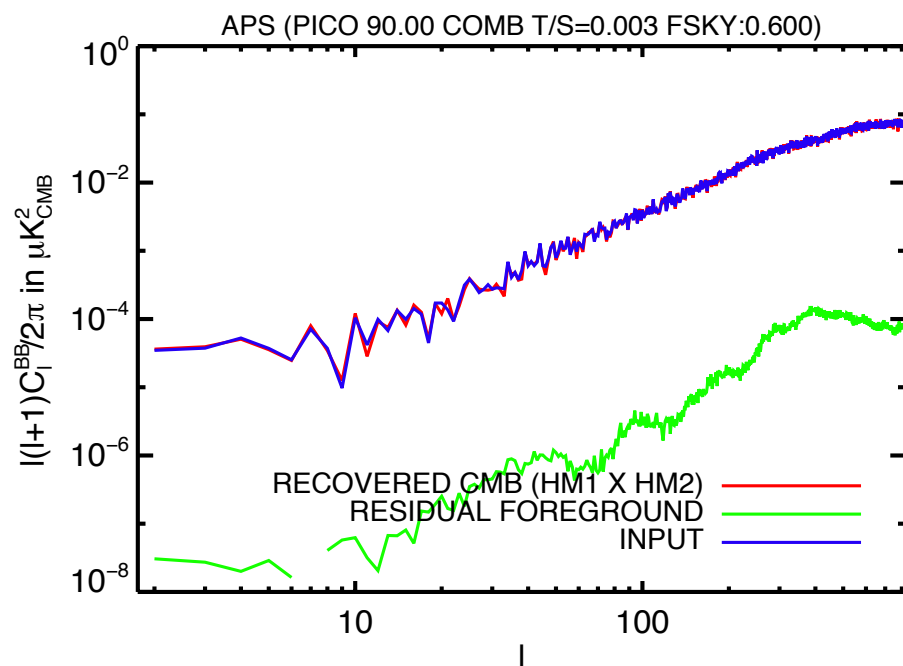


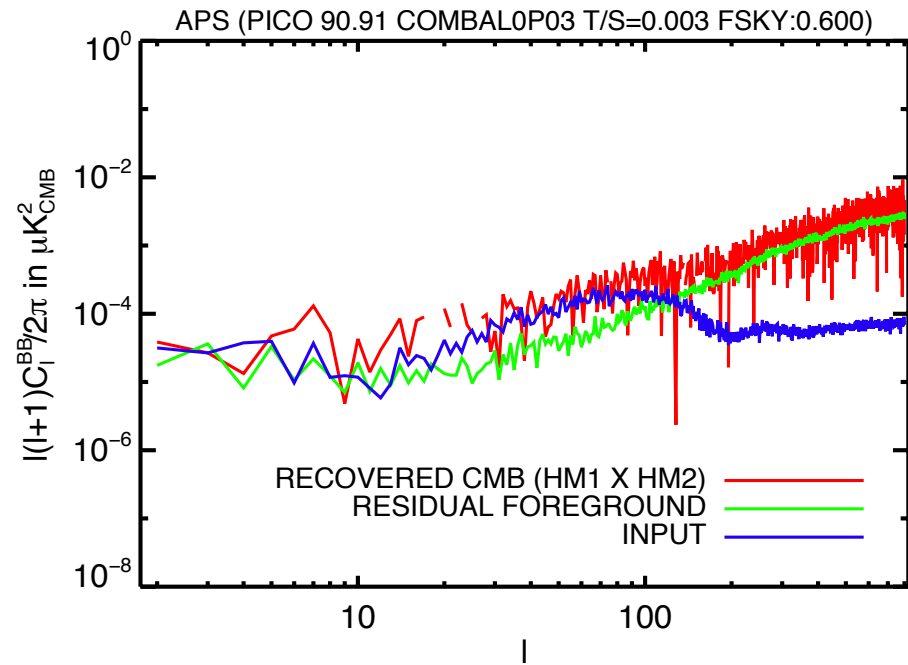
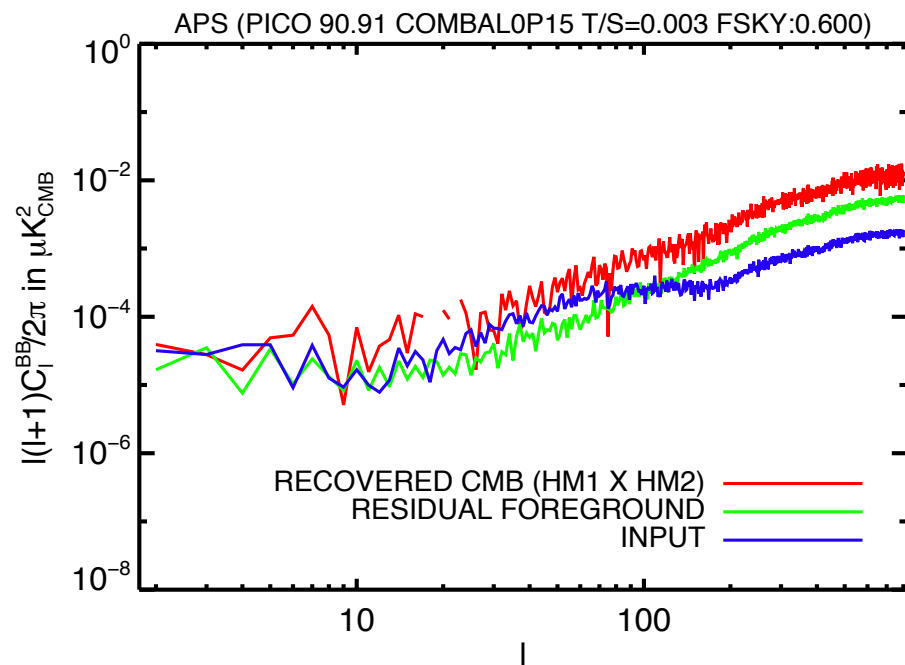
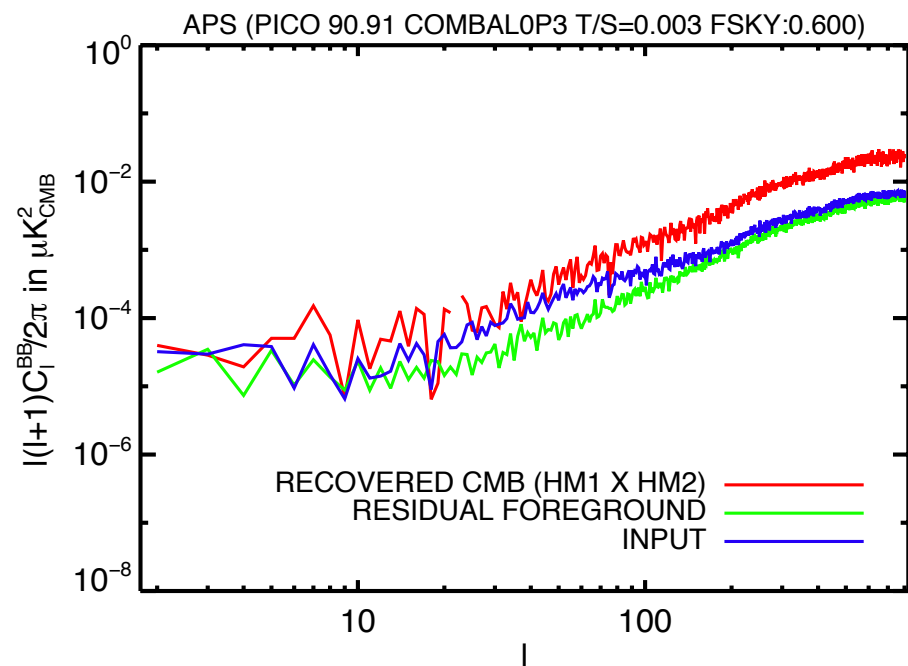
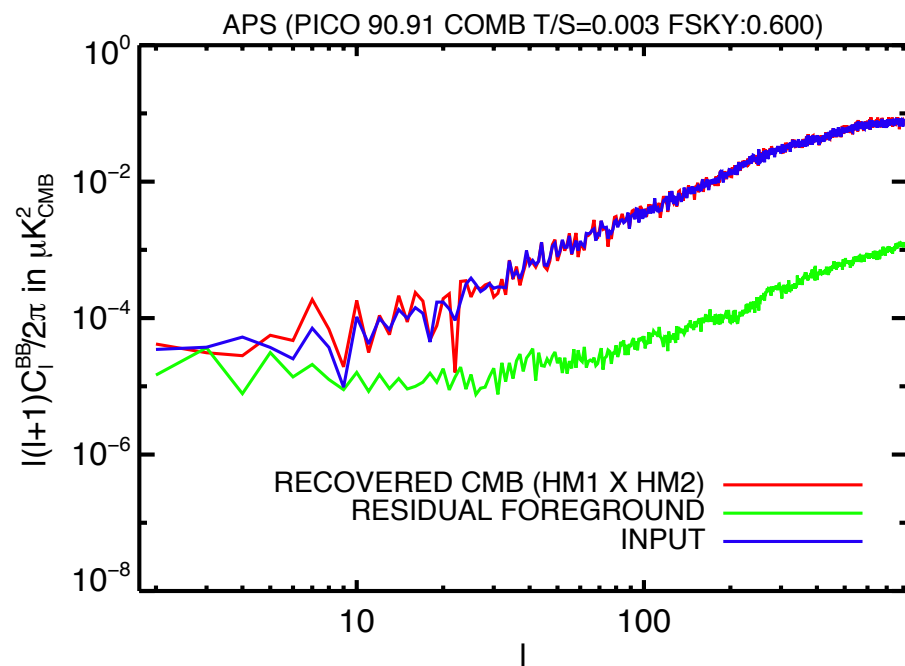
Summary

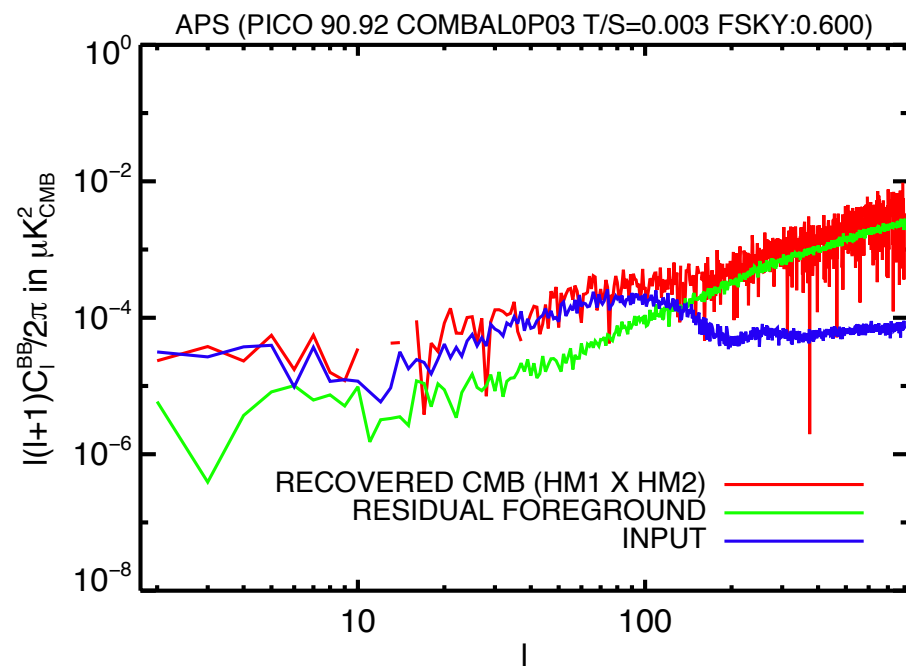
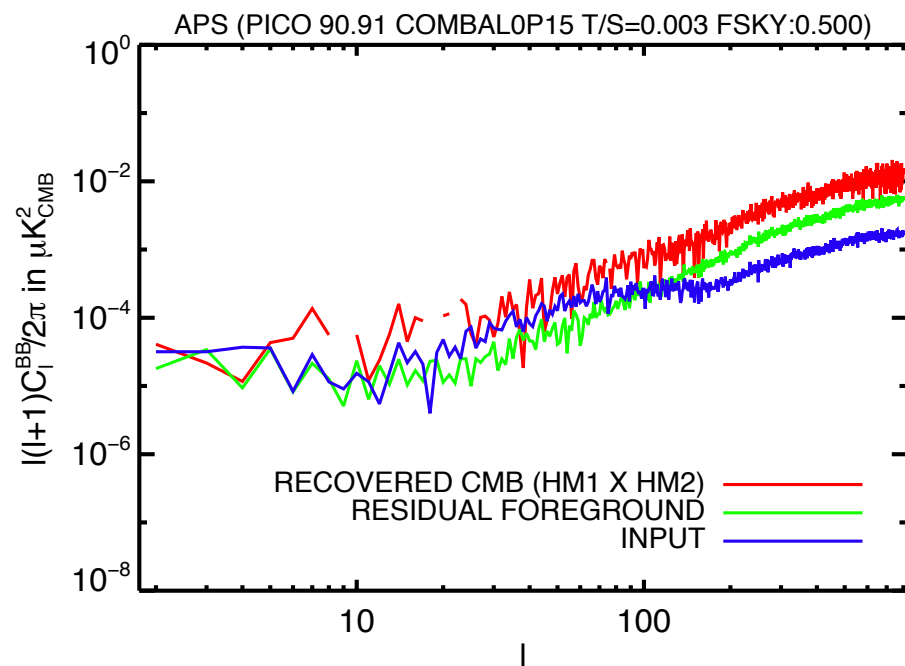
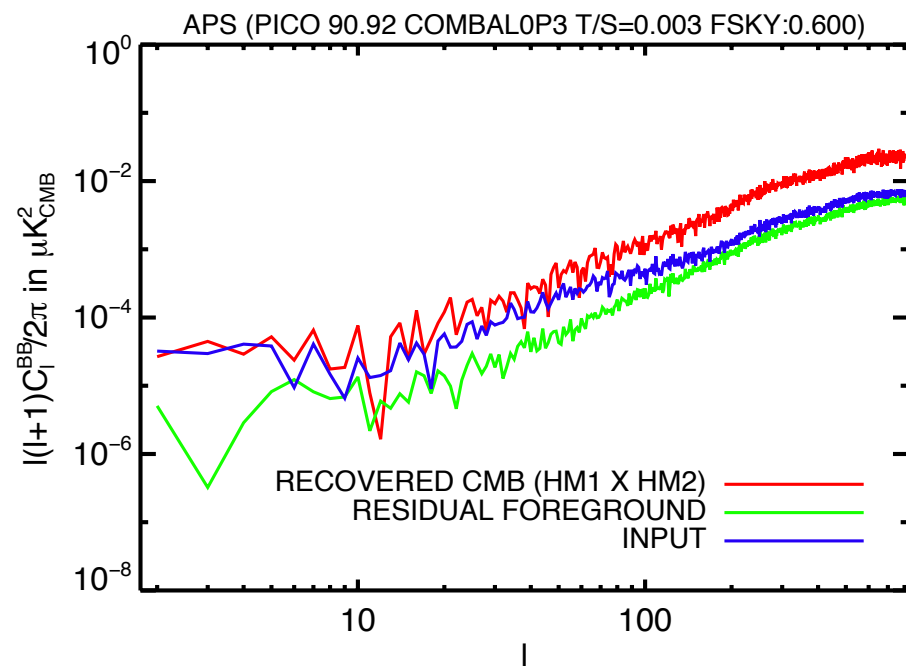
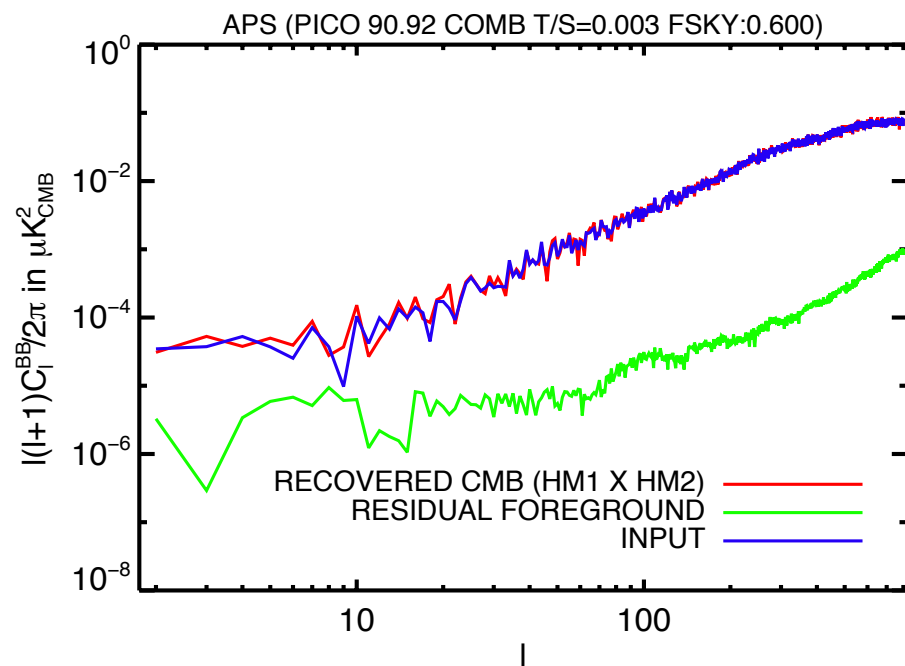
This report shows the Angular Power Spectra (APS) of the recovered CMB maps obtained from PICO simulations using NILC pipeline. The pipeline has been implemented separately on 24 simulations of sky (4 Lensing amplitudes and 6 Foreground models) and an identical set of masks has been used to reduce the impact of residuals of foreground on the measurement of APS. The title of the plots show all the relevant information.

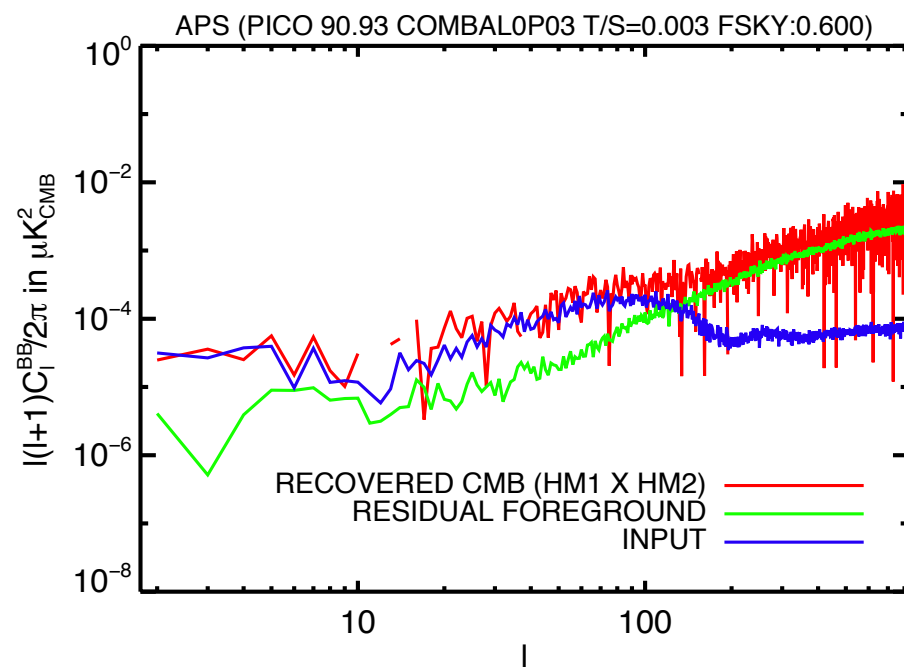
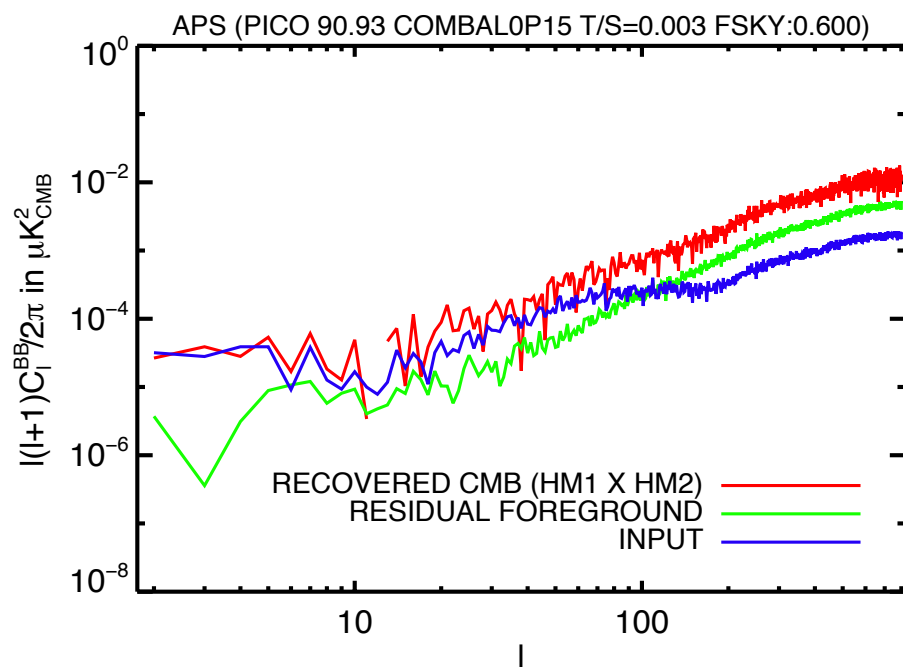
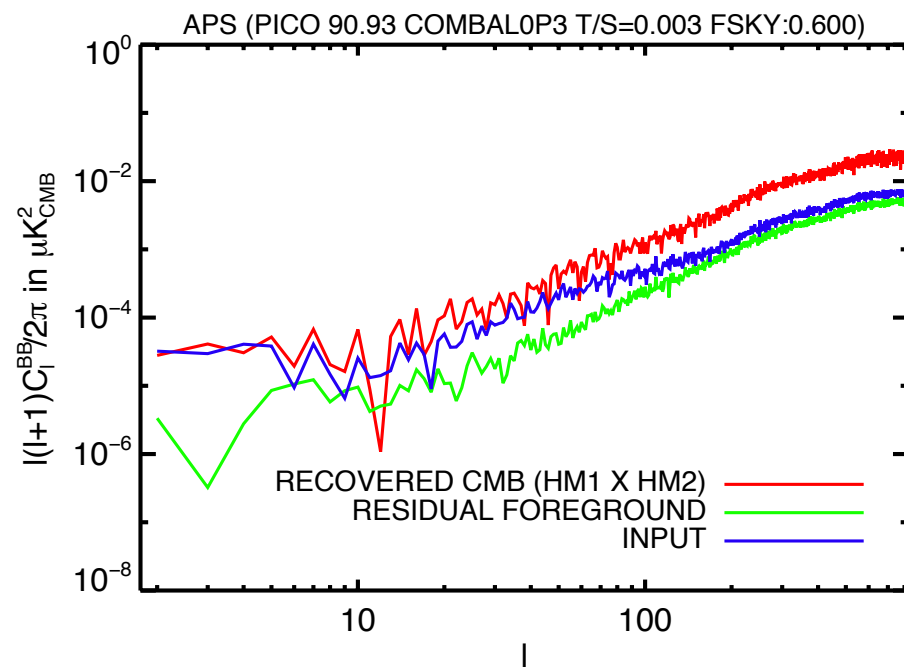
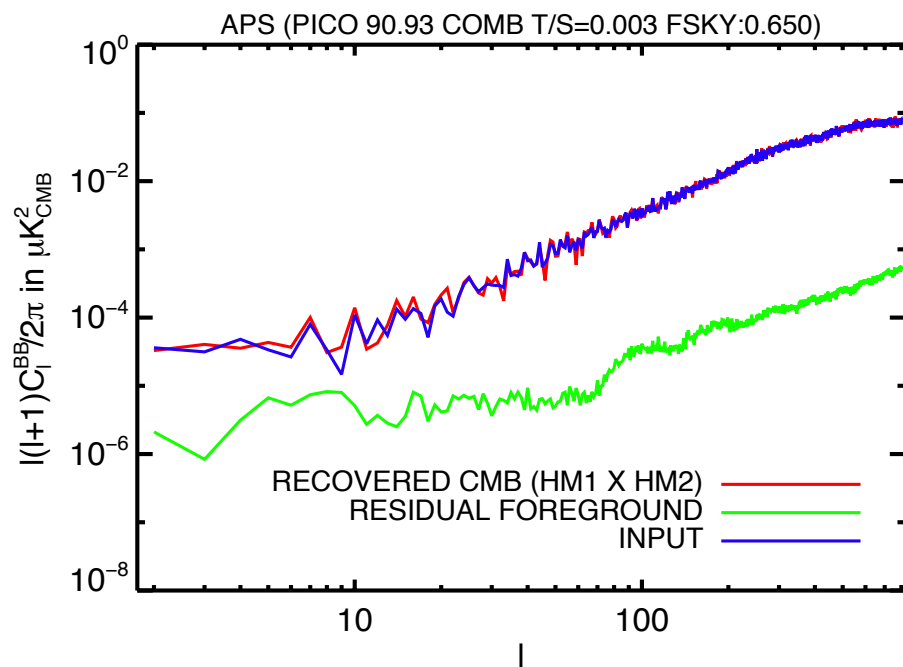
Comparison of input and recovered CMB shows better results for cases with foreground model 90:00 (i.e. simplest among all the foreground models under consideration) and lensing amplitude reduced to 3% of the original (i.e. COMBALOP03).

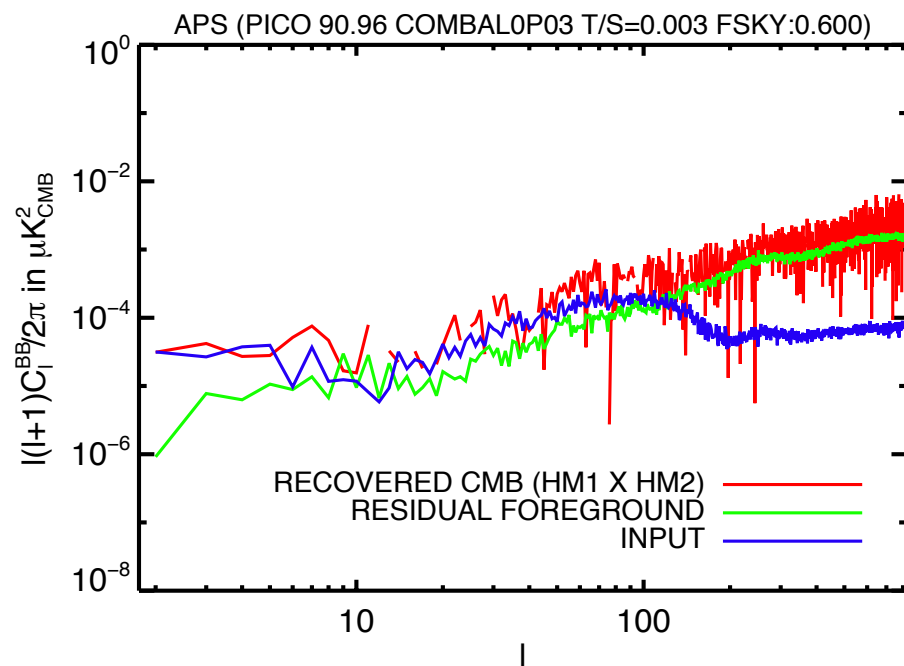
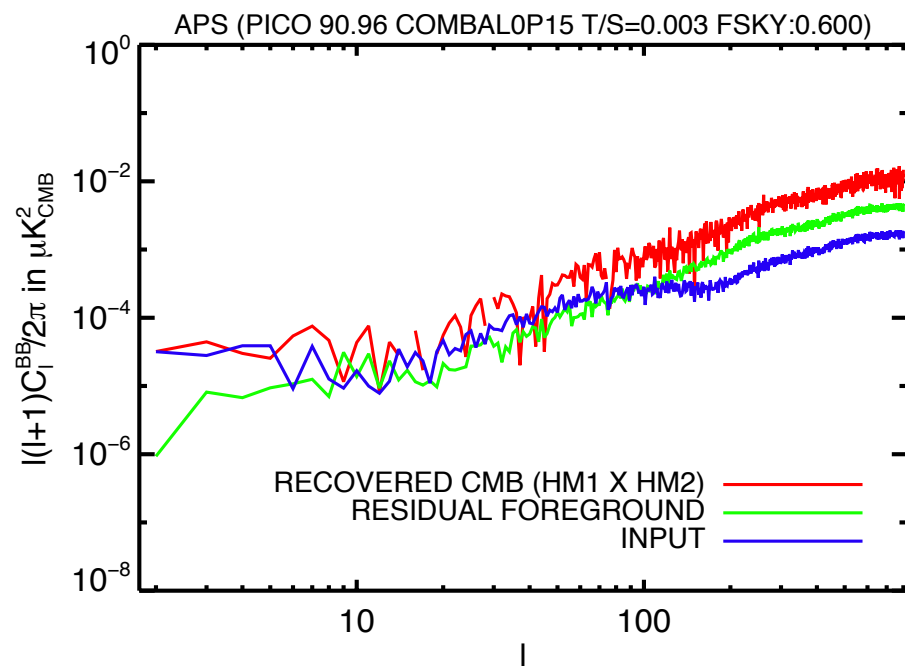
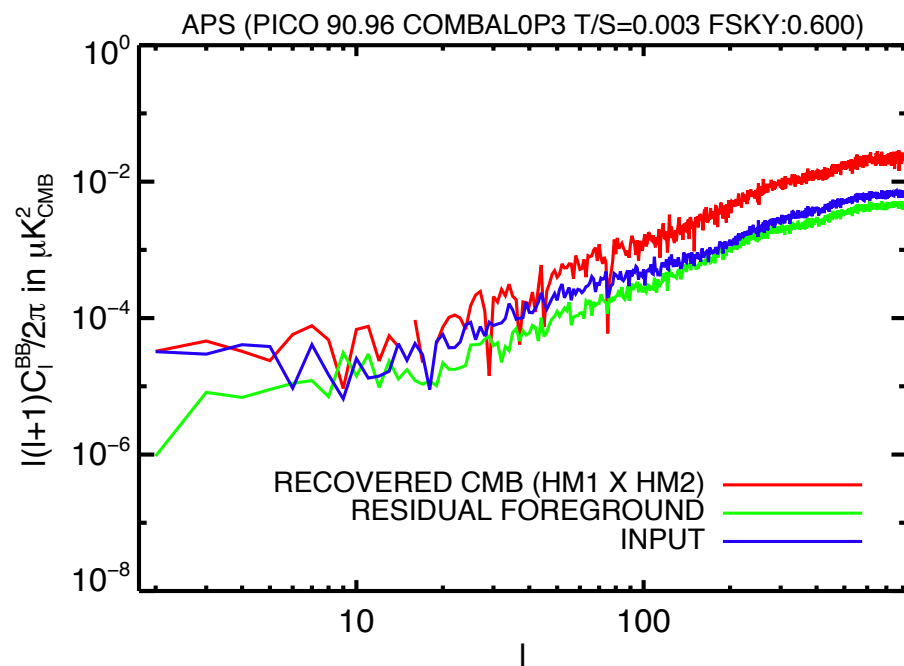
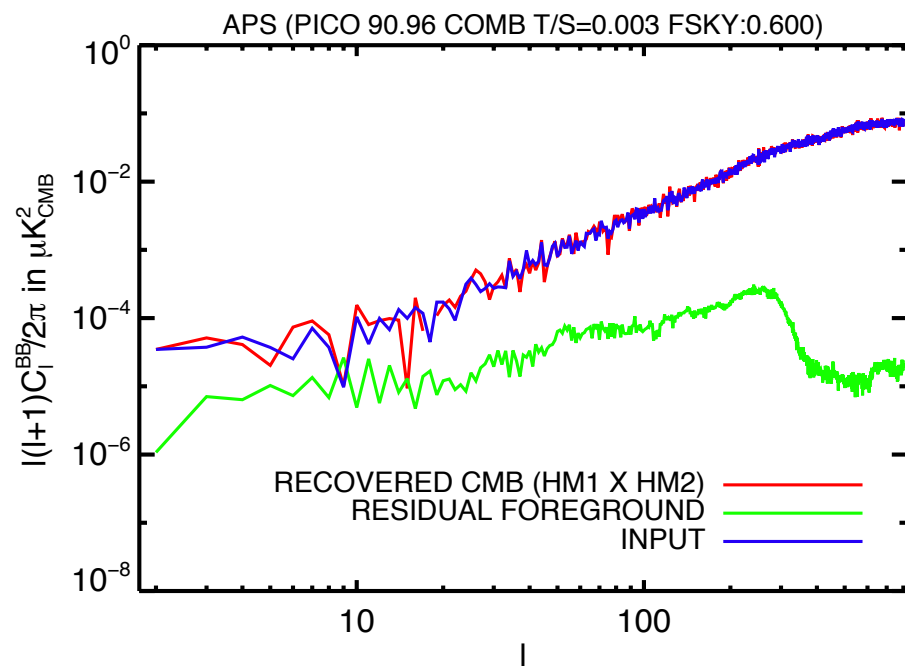
In case of COMBALOP03 we have a clear detection of the picks of the primordial B-mode of CMB polarization. So the next step would be to propagate the NILC weights obtained from COMBALOP03 to the other 3 sets (i.e. COMBALOP3, COMBALOP15 and COMB) of simulations.

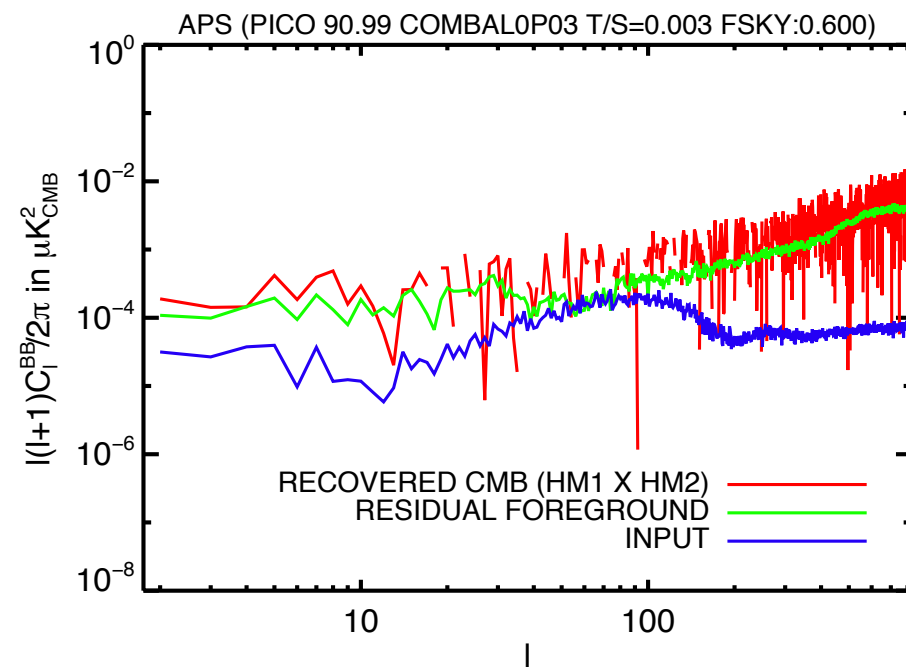
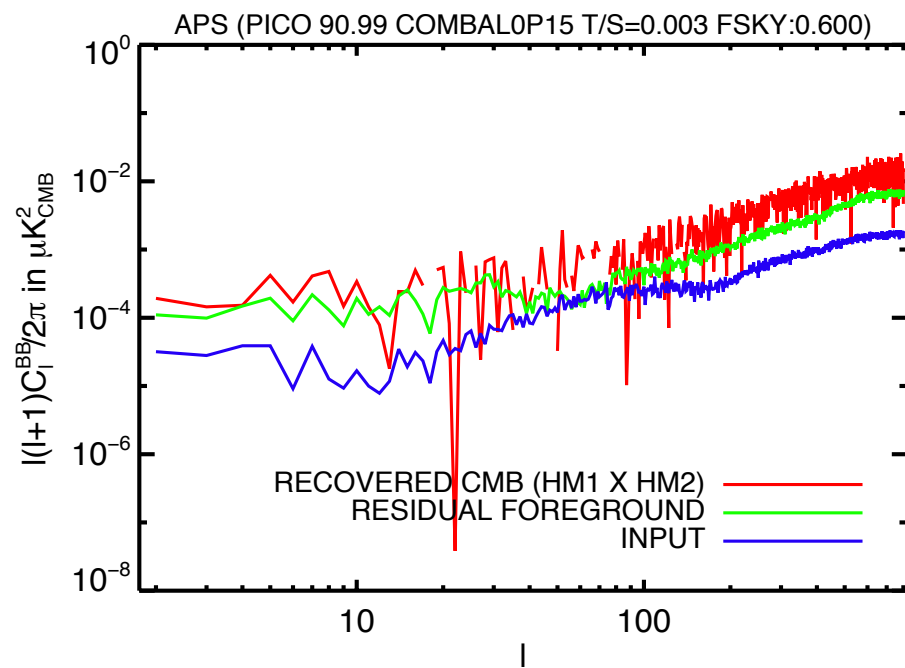
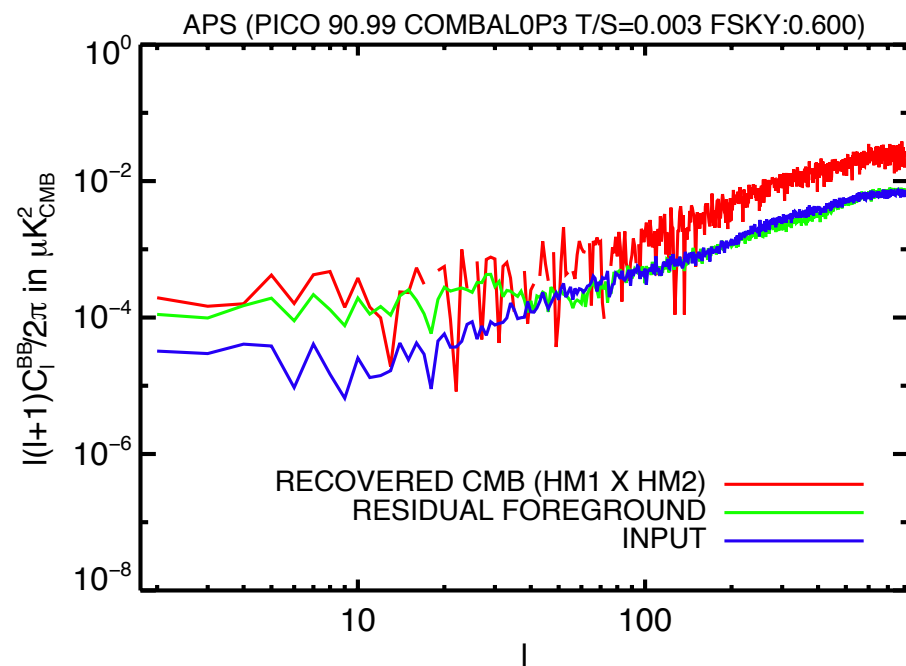
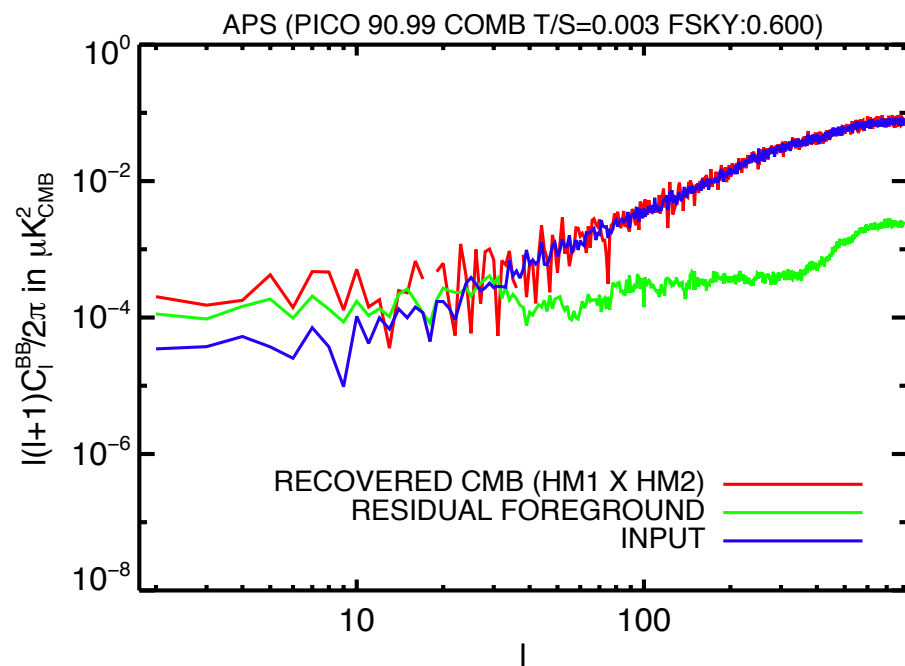












Thank you