EB correlations will improve this result significantly with an uncertainty at the level of 10^{-3} degrees [41]. Instead of an isotropic rotation, some mechanisms may lead to an anisotropic rotation, due to for example inhomogeneities in the coupling. With Planck, an anisotropic rotation can be constrained down to 0.01 deg^2 [42], while with EPIC this can be improved down to the level of 10^{-5} deg^2 [43].

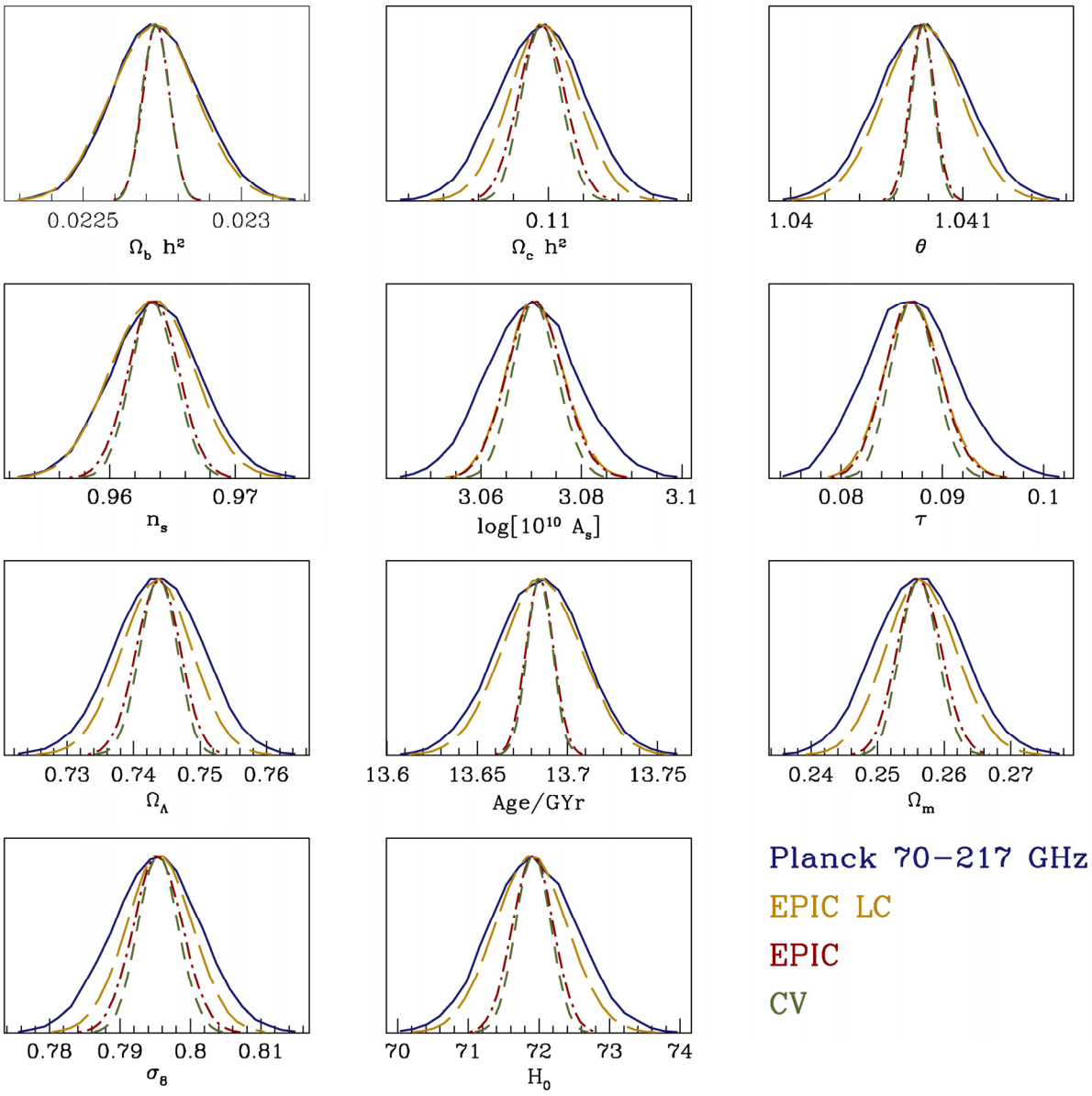

Fig. 1.3. Marginalized distributions of various cosmological parameters showing the expected uncertainty from Planck (using channels between 70 and 217 GHz) [35], EPIC *Low Cost* version [18], and EPIC-IM. For reference, we also calculate the uncertainty in a cosmic variance limited experiment out to $\ell = 2500$ using all information in CMB temperature and polarization. The mocks analyzed for this exercise are centered on the WMAP 5-year ΛCDM best-fit cosmology with r = 0.01. The analysis assumes f_{sky}=0.8 and makes use of isotropic instrumental noise for each of Planck and two versions of EPIC. While EPIC-LC improves over Planck uncertainties for cosmological parameters listed above, new version of EPIC presented in this report reach the cosmic variance limit of all the parameters listed above within 5 % of the error.