CMB-S4 Planning

Plan optimum multi-band, ground-based survey to target inflation, neutrino properties and dark energy. Degree (recombination bump) to arcminute (CMB lensing, D.E.) resolution over ≳ 70% of sky

$r \gtrsim 0.05$?

Re-optimize B-mode and de-lensing survey to constrain n_T

Improved knowledge of foregrounds?

Re-optimize bands and performance metrics?

$r \gtrsim 0.01$?

Optimize survey for cosmic variance limited r measurement

$r < 0.01$?

Optimize survey for highest r sensitivity, $\sigma(r) < 10^{-4}$

Exploit synergy of satellite frequency coverage at low ell (reionization bump) with CMB-S4 at higher ell (recombination bump and de-lensing) for B-mode science. No change to neutrino & DE plan.

Litebird satellite decision?

PIXIE satellite decision?

Adapt low-ell strategy to target reionization bump B-modes?

Stage 3 demonstration of low ell feasibility?

Maintain CMB-S4 strategy for precision mass determination.

Evidence for high neutrino mass?

CMB-S4 Ops