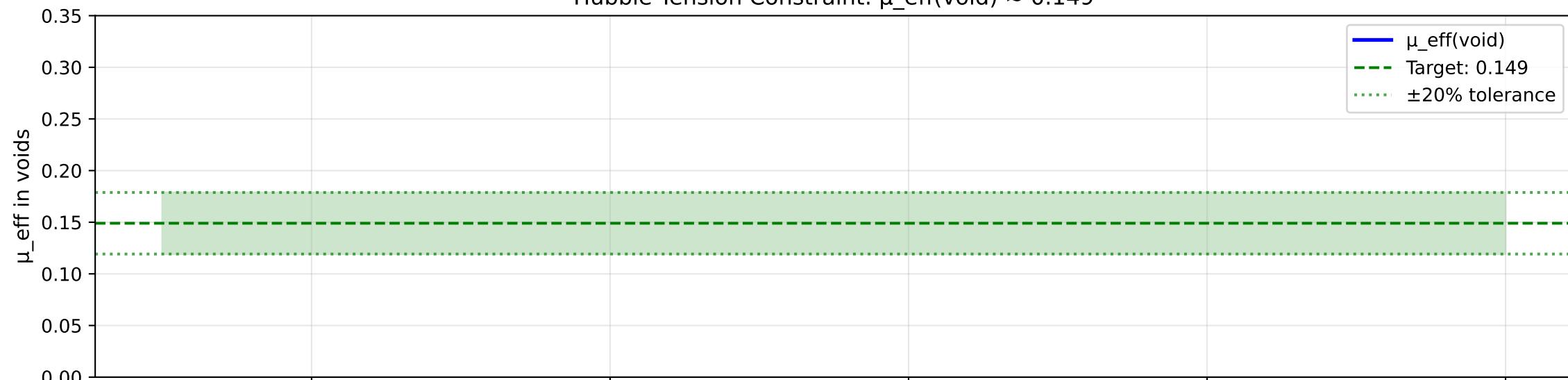
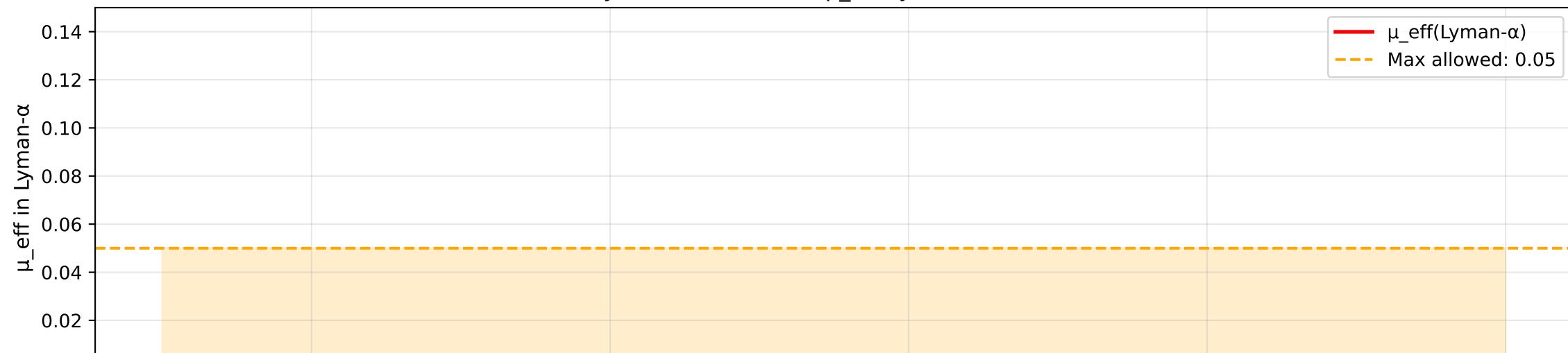


### Hubble Tension Constraint: $\mu_{\text{eff}}(\text{void}) \approx 0.149$



### Lyman- $\alpha$ Constraint: $\mu_{\text{eff}}(\text{Lyman-}\alpha) < 0.05$



### Combined Constraint Satisfaction (Green = Valid Parameter Space)

