Data-Anchored Two-Pager — Brane rho^2 Cosmology

Effective FRW on a brane: $H^2 = (8*pi*G/3)*rho*(1 + rho/(2*lambda)) + Lambda\_4/3 + C/a^4$ (k=0).
Prediction: one lambda controls a GW spectral break $f\_br \sim lambda^{(1/4)}$ and correlates with Delta N_eff.
Inputs: PTA = PTA_public_anchor_NANOGrav15_20250812_211641.csv; CMB prior: CMB_Planck2018_DeltaNeff_20250812_211641.json
Toy result: $f\_br \approx 7.07e-09$ Hz; Delta N_eff ≈ -0.06. Units for lambda require a calibrated map; this PDF demonstrates the pipeline.

Posteriors (toy, anchored to supplied data)

Joint posterior (toy)

Break frequency f_br [Hz]

Delta N_eff

1D posterior: f_br

f_br [Hz]

Posterior

1D posterior: Delta N_eff

Delta N_eff

Posterior