FRB UNIFIED COSMIC ANALYSIS — SUMMARY DOCUMENT

1. Overview
This document summarizes the sequence of statistical tests performed on the FRB sky distribution, their methodology, and the final combined likelihood result.

2. Major Tests Performed
• Axis alignment tests (FRB unified axis, CMB hemispheric axis, sidereal modulation).
• Residual anisotropy tests (footprint-corrected).
• Radial structure tests (broken-power, polynomial, layered).
• Width-layer significance tests.
• Phi-structure azimuthal tests (axisymmetry, lobe periodicity).
• Multipole spectrum tests (dipole, quadrupole, octupole).
• 3D anisotropy reconstruction.
• Hemisphere stability tests.
• Unified axis stacking.
• Combined likelihood aggregation.

3. Key Results
• Axis clustering p-value ~ 3.8e-8.
• Radial break ΔAIC = 52.6 (p ~ 4.6e-7).
• Width-layers p ~ 9e-3.
• Phi-structure strong: p ~ 1e-5.
• Multipole anisotropy: p ~ 1e-4.

4. Combined Likelihood
The unified cosmic likelihood test aggregated all independent p-values using -log10(p):
Total = 24.796

Equivalent combined p-value:
$p \approx 1.6 \times 10^{\blacksquare 2 \blacksquare}$

This indicates extremely strong non-isotropic structure.

5. Scientific Interpretation
Results consistently indicate:
• A shared preferred cosmic direction.
• A non-trivial radial break around ~25 degrees.
• Significant quadrupolar and octupolar contributions.
• Azimuthal structure inconsistent with perfect axial symmetry.

6. Conclusion
Independent FRB-derived diagnostics converge on a common preferred axis, and combined evidence strongly disfavors isotropy.