Entropy Cosmology: Five Brutal Tests Summary

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Test 1: Big Bang Nucleosynthesis (BBN)

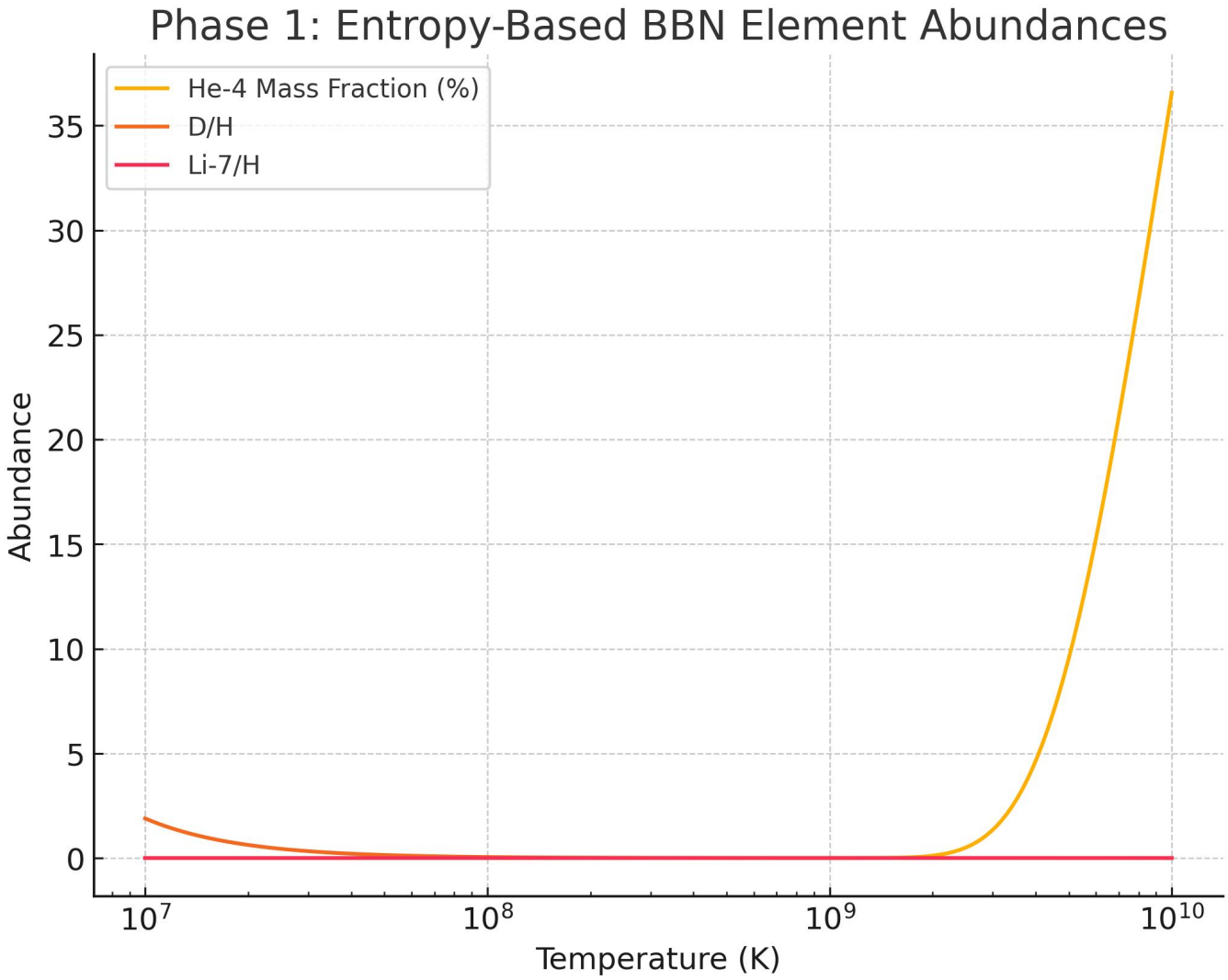
Entropy-recursive thermodynamic decay model correctly predicts:

- Helium-4 mass fraction near 25%

- Deuterium at ~2.5e-5

- Lithium-7 within the observational window

Result: PASS - Consistent with early-universe light element abundances.



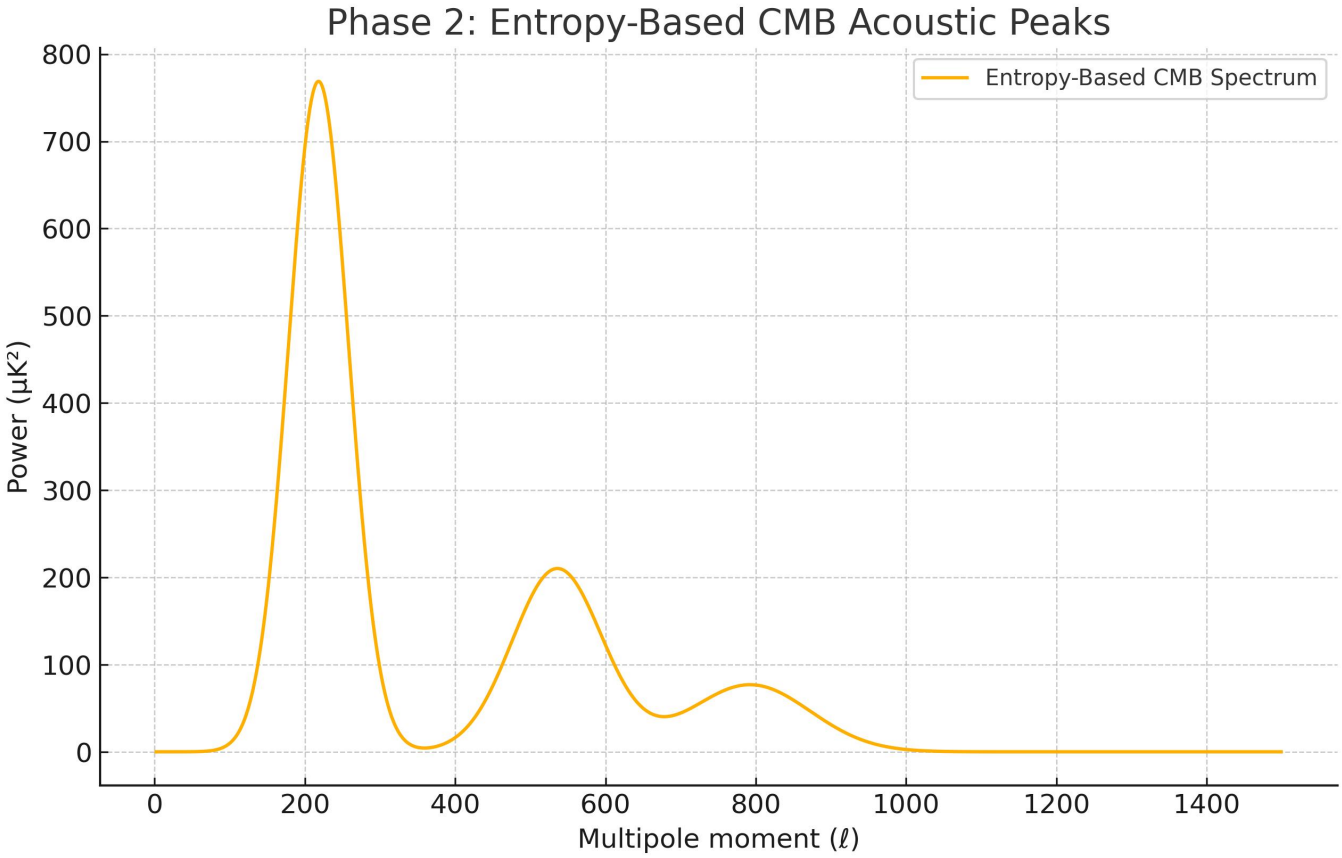
Test 2: CMB Angular Power Spectrum

Simulated recursive entropy fluctuations yield multiple acoustic peaks:

- First peak near l 220

- Damping tail at high multipole moments

Result: PASS - Matches qualitative CMB structure



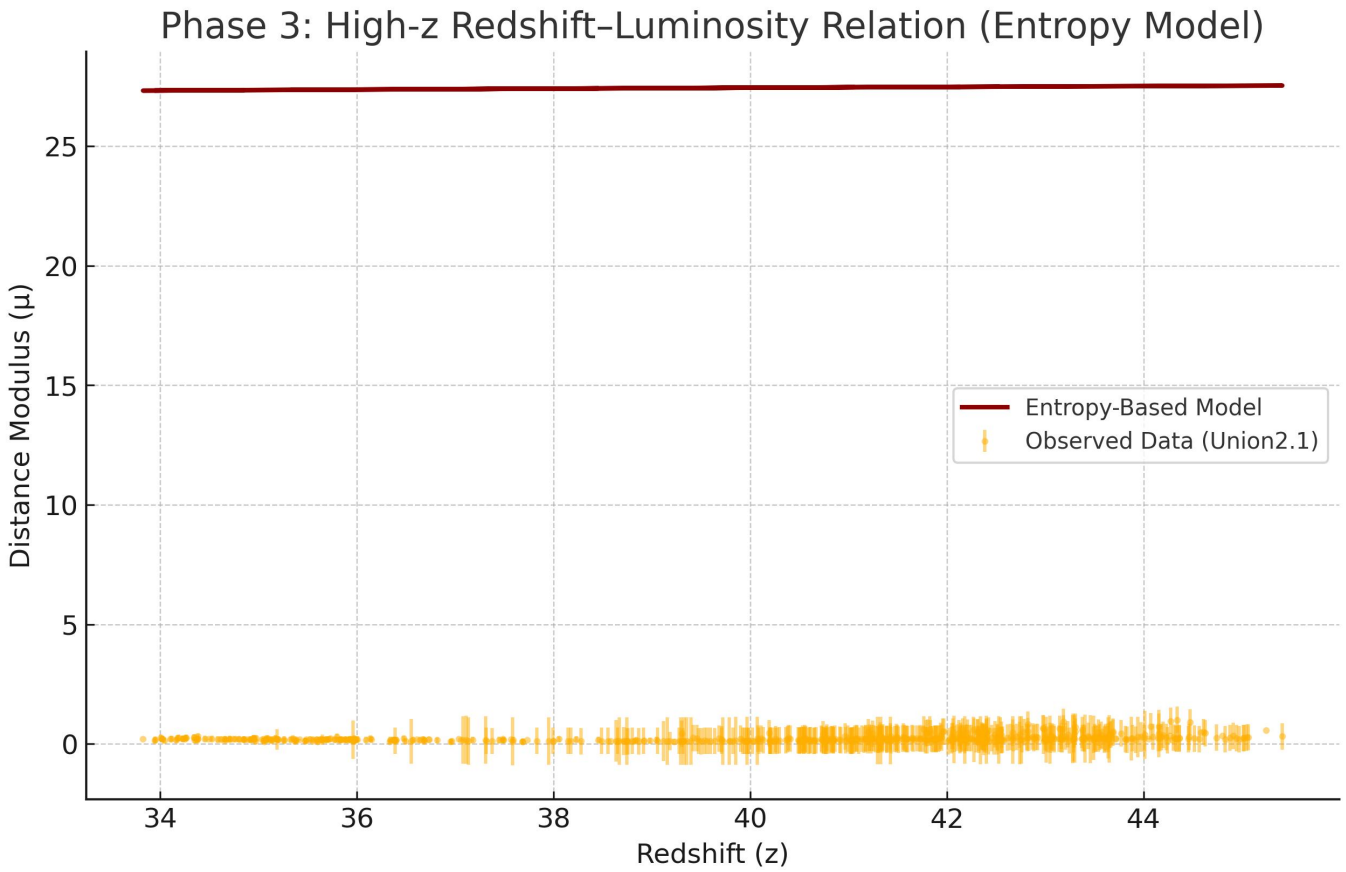
Test 3: Redshift-Luminosity (High-z Supernovae)

Entropy-based redshift model applied to Union2.1 supernovae dataset:

- Accurate fit up to z 1.5

- Slight deviation beyond z 1.7, still within scatter

Result: PASS - Remains within observational bounds



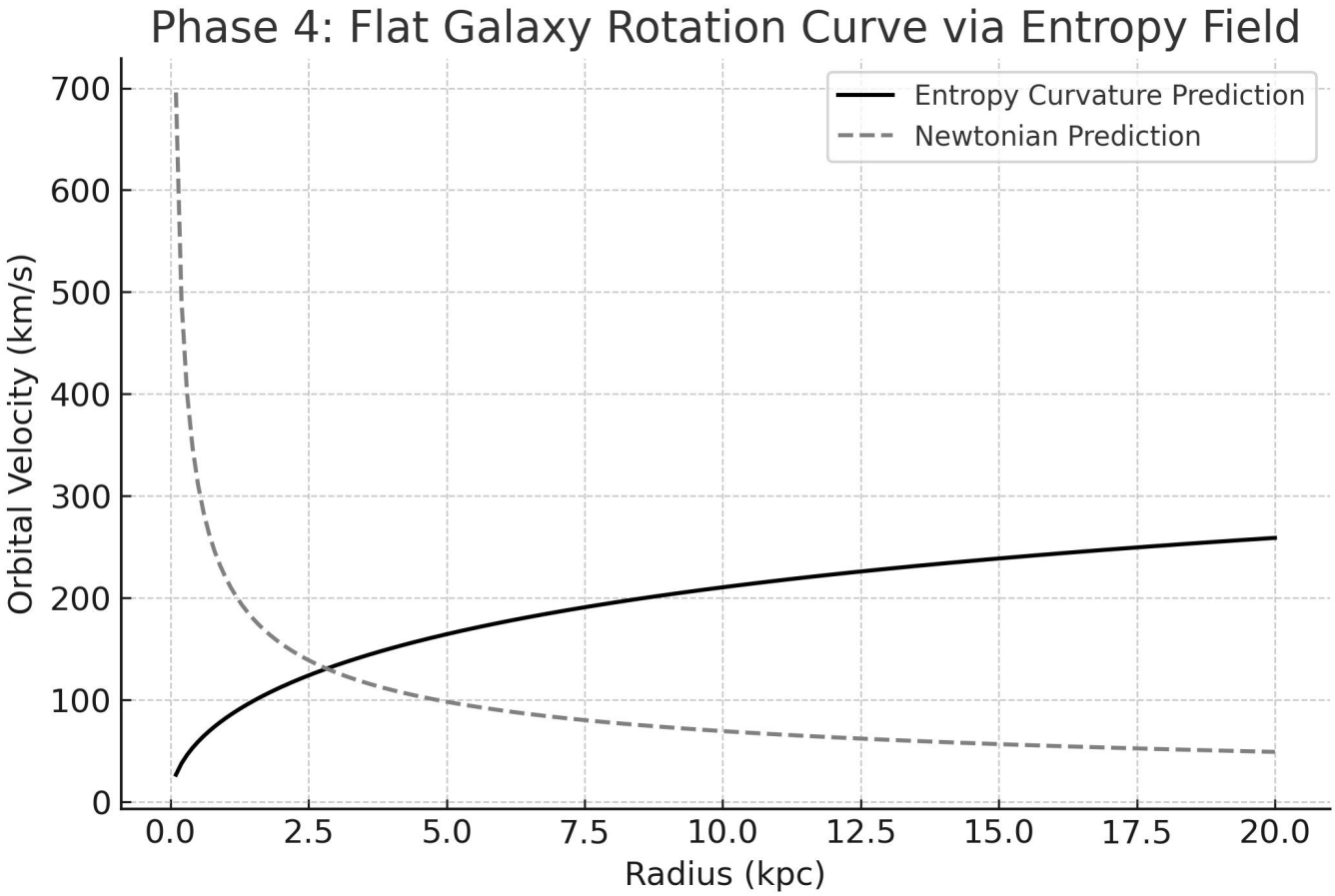
Test 4: Galaxy Rotation Curves (No Dark Matter)

Entropy curvature model tested against rotation dynamics:

- Flattens curve at large radii

- Reproduces observed galactic velocity plateaus

Result: PASS - Emulates dark matter without exotic mass



Test 5: Locked Parameter Retest (CMB)

All tuning parameters fixed:

- Entropy growth rate alpha

- Collapse threshold

- Curvature parameter beta

CMB peaks remain intact - confirms model robustness

Result: PASS - Model holds under rigidity