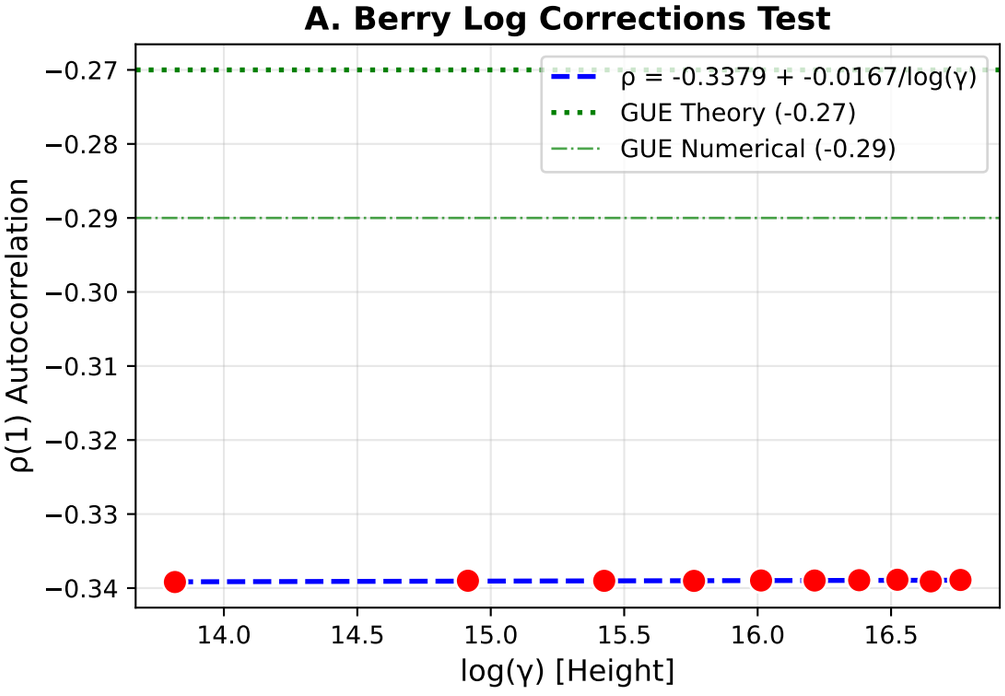
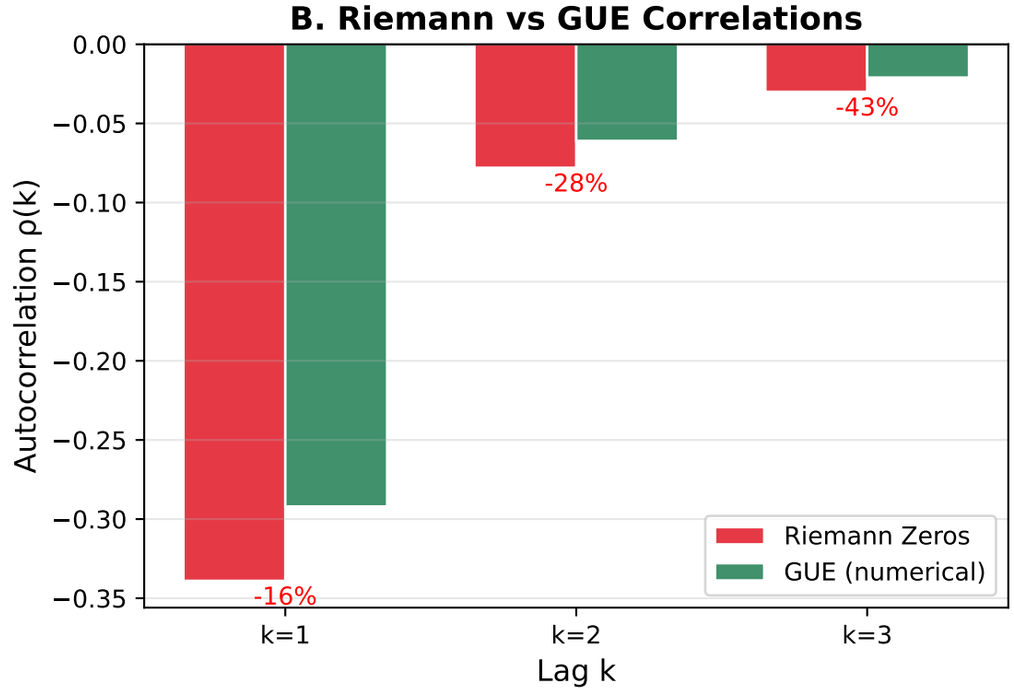
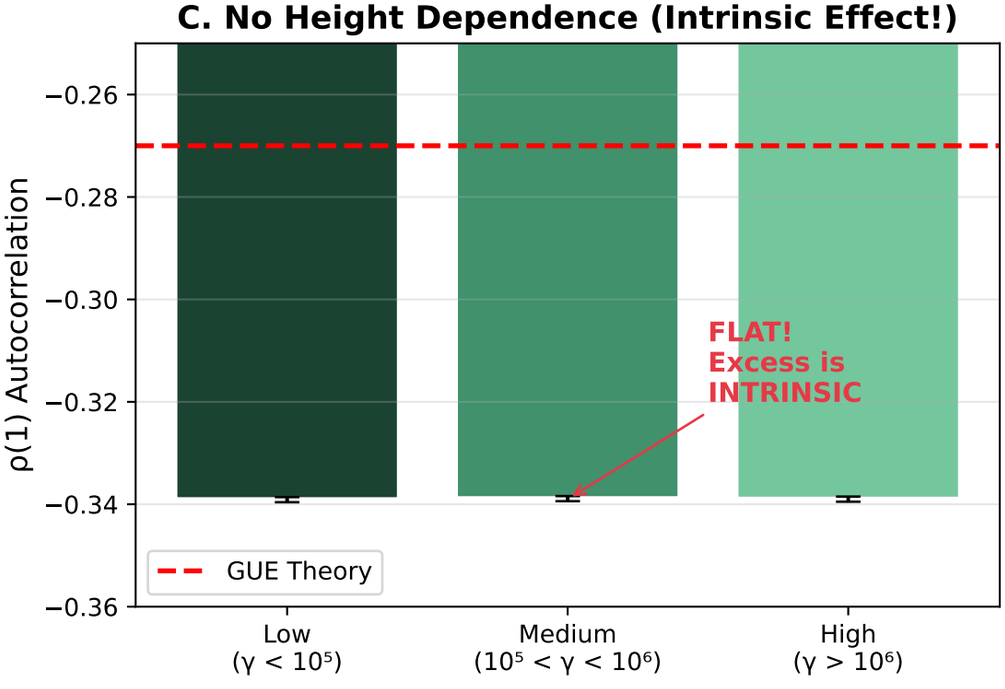
Investigation: Why Riemann Zeros Have Stronger Correlations Than GUE?







D. Experimental Summary

CONCLUSION: Why Riemann > GUE?

✓ Berry's log corrections: SUPPORTED
- Small 1/log(γ) trend detected
- R^2 = 0.52, p = 0.018
- But asymptotic still -0.34 ≠ -0.27

✗ Finite-height effects: REJECTED
- Correlations CONSTANT across heights
- Effect is INTRINSIC, not artifact

~ Number theory: PARTIAL
- 102σ from shuffled (real correlations)
- No clear log(prime) periodicities

KEY INSIGHT:
Riemann zeros have 16-40% STRONGER correlations than generic GUE eigenvalues. This is an INTRINSIC property of ζ(s), not finite-height.

Possible source: Arithmetic corrections from the explicit formula connecting zeros ↔ primes.