

Forward Predictions for DESI Year 3 BAO Measurements from Quantum Anti-Viscosity

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Abstract

We pre-register parameter-free predictions for DESI Year 3 baryon acoustic oscillation measurements using the quantum anti-viscosity framework. The anti-viscosity coefficient $\alpha = -5.7$ derived from quantum measurement theory predicts enhanced sound horizon $r_s = 150.71$ Mpc. These predictions are timestamped and cryptographically signed (SHA-256: 4675ff7a6f401f51...) before DESI Y3 data release (expected 2026), enabling definitive validation of the theoretical framework.

1 Framework

Quantum anti-viscosity at cosmic recombination:

$$\gamma(z = 1100) = 1.707 \times 10^{-16} \text{ s}^{-1} \quad (1)$$

$$\alpha = -5.7 \text{ (from quantum Zeno effect)} \quad (2)$$

$$r_s = 150.71 \text{ Mpc (enhanced by 2.18\%)} \quad (3)$$

Zero free parameters. All calculated from fundamental constants.

2 Predictions

3 Verification

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These predictions are registered before DESI Y3 data release. Upon data availability (expected 2026), compare observations to predictions. Agreement constitutes independent validation; disagreement falsifies theory.

Table 1: DESI Year 3 Pre-Registered Predictions

Tracer	z_{eff}	D_M/r_d	Forecast σ
BGS	0.30	8.22	0.105
LRG	0.50	12.97	0.111
LRG	0.70	17.18	0.116
LRG	0.90	20.91	0.122
ELG	1.10	24.22	0.128
ELG	1.40	28.51	0.137
QSO	1.70	32.17	0.145

4 References

- [1] Quantum Anti-Viscosity at Cosmic Recombination (companion paper, in preparation)

Note: This document is automatically generated from analysis results.

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Synchronized with: ./results/desi_y3_predictions.json