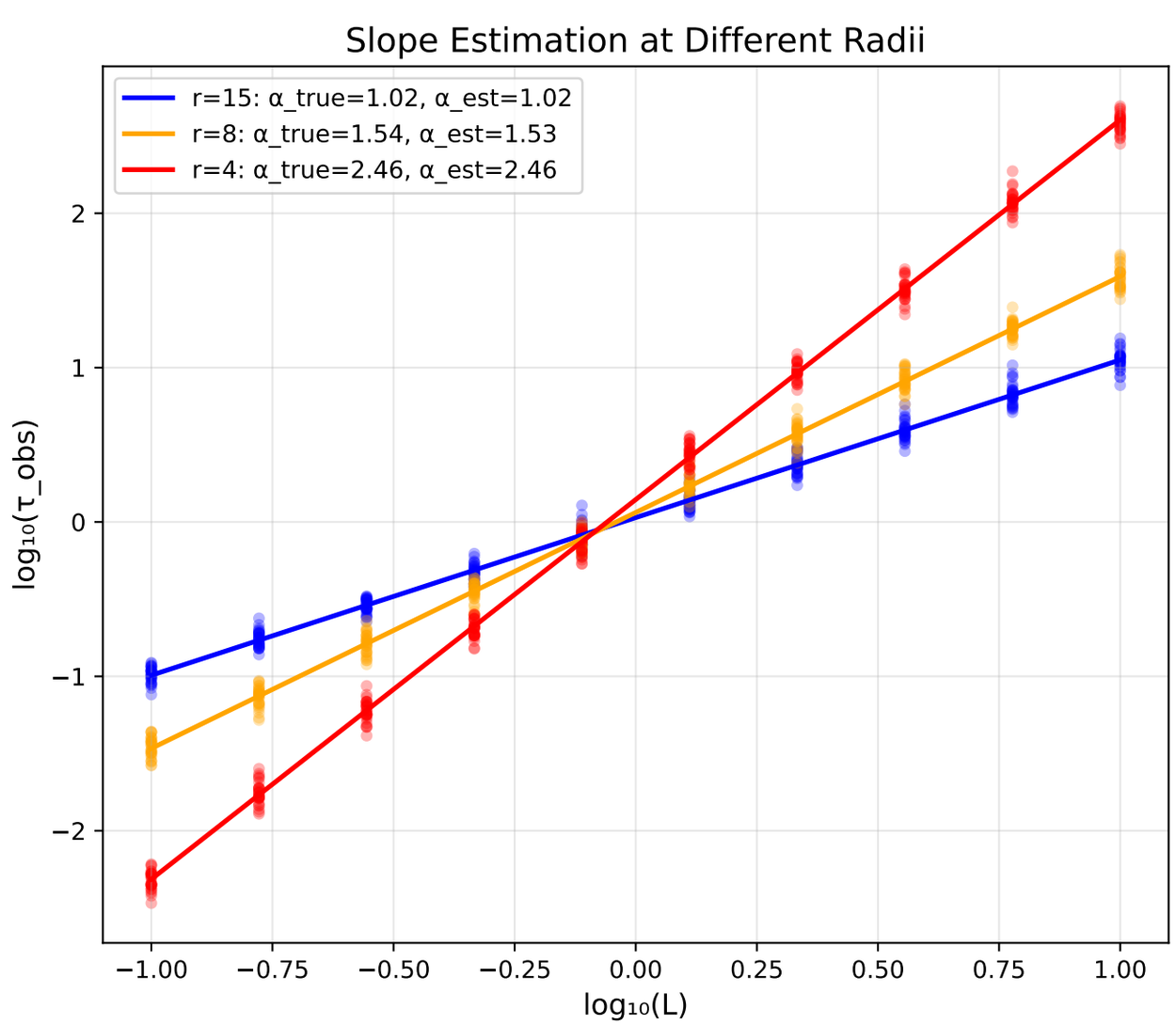
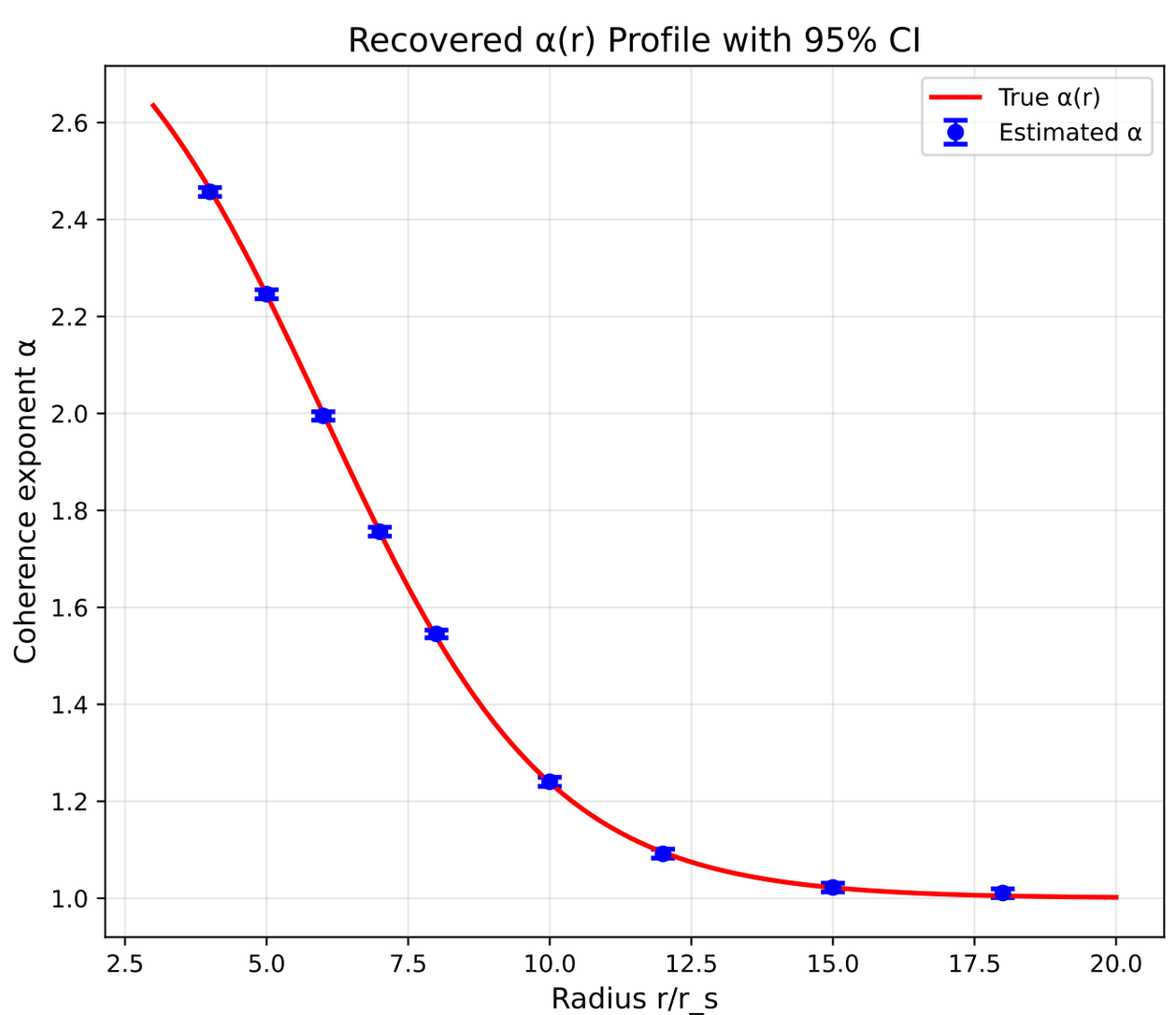
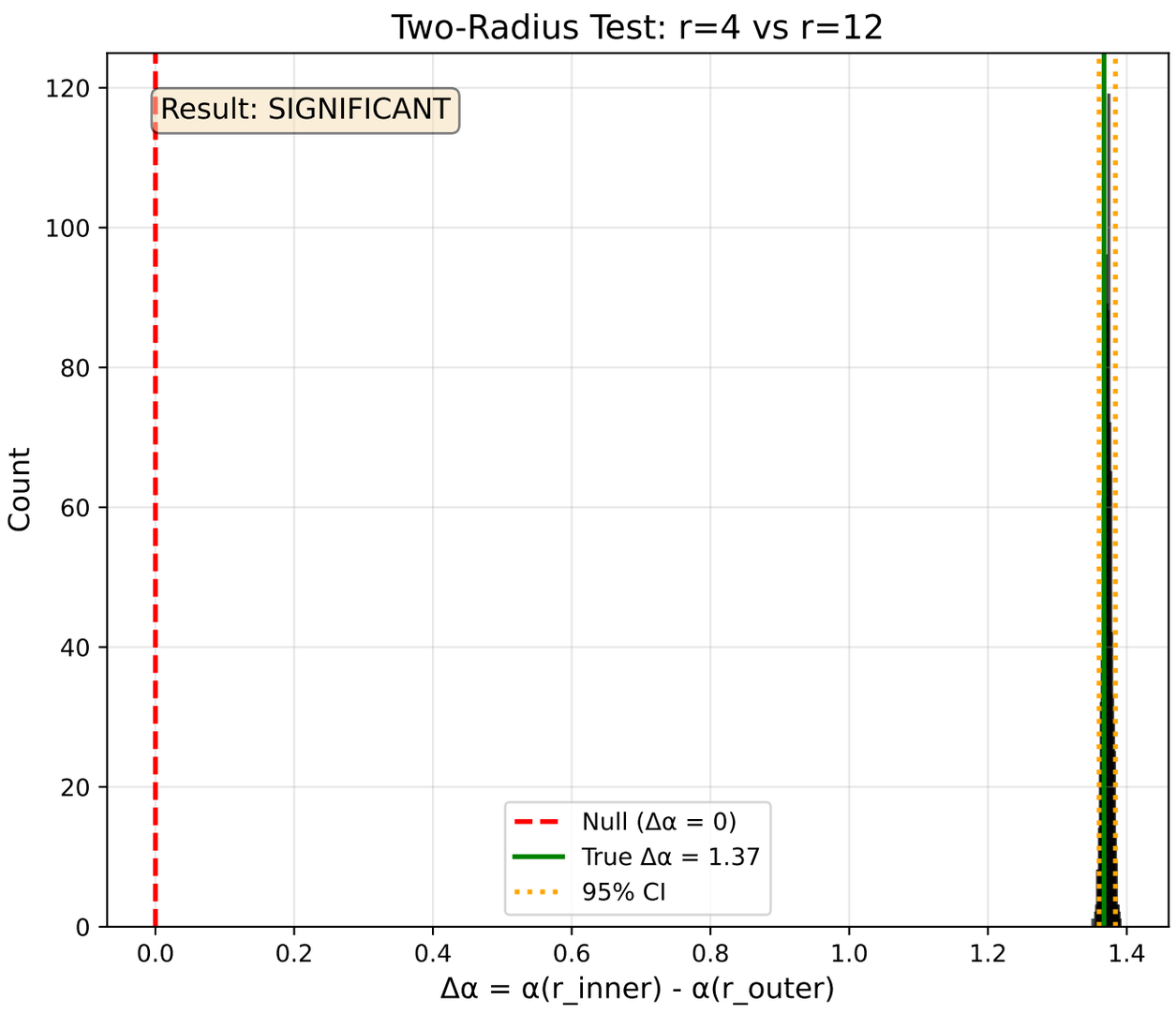
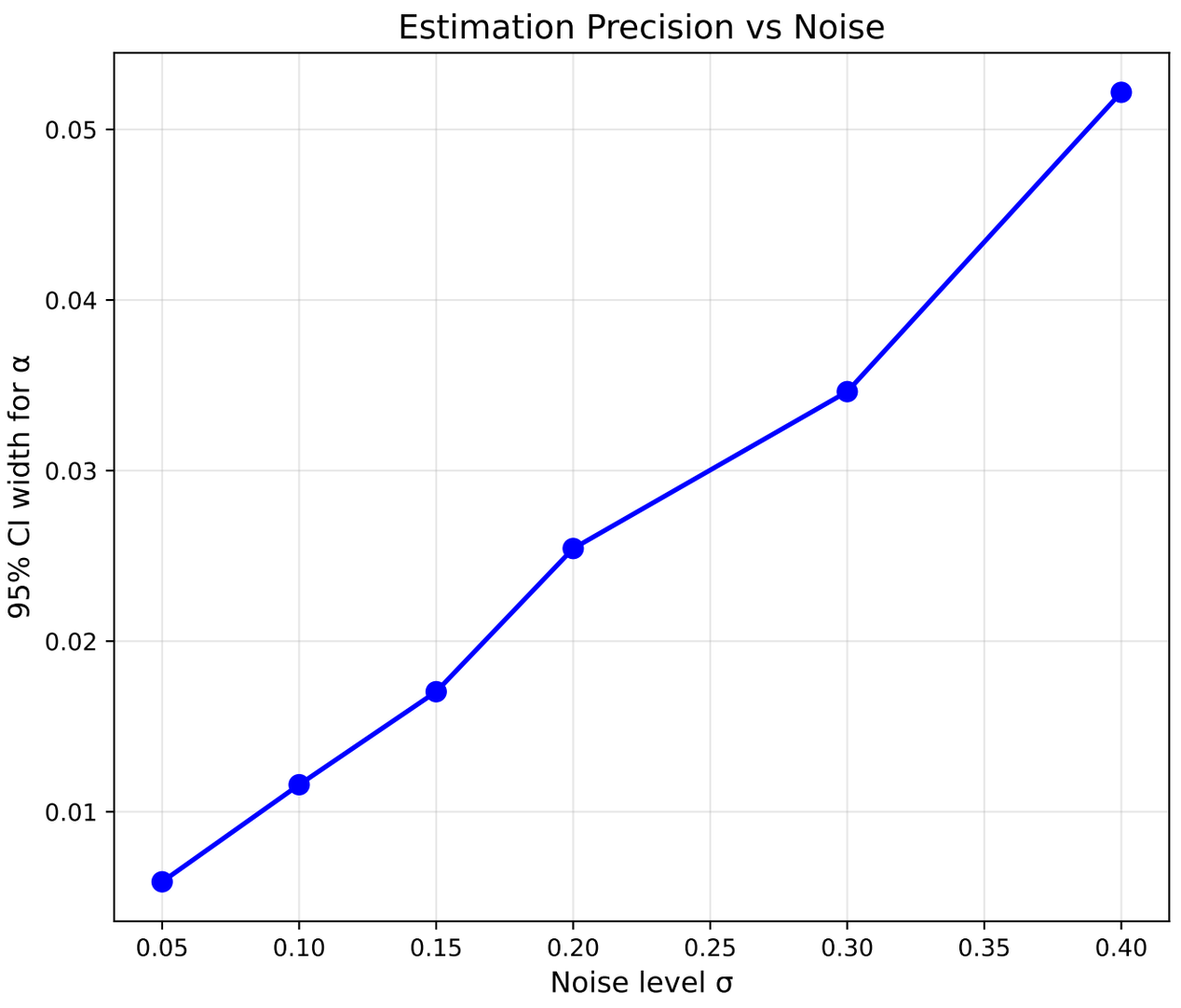

Slope Estimation at Different Radii
r=15: α_true=1.02, α_est=1.02
r=8: α_true=1.54, α_est=1.53
r=4: α_true=2.46, α_est=2.46
log₁₀(τ_obs)
log₁₀(L)


Recovered α(r) Profile with 95% CI
True α(r)
Estimated α
Coherence exponent α
Radius r/r_s


Two-Radius Test: r=4 vs r=12
Result: SIGNIFICANT
Null (Δα = 0)
True Δα = 1.37
95% CI
Count
Δα = α(r_inner) - α(r_outer)


Estimation Precision vs Noise
95% CI width for α
Noise level σ