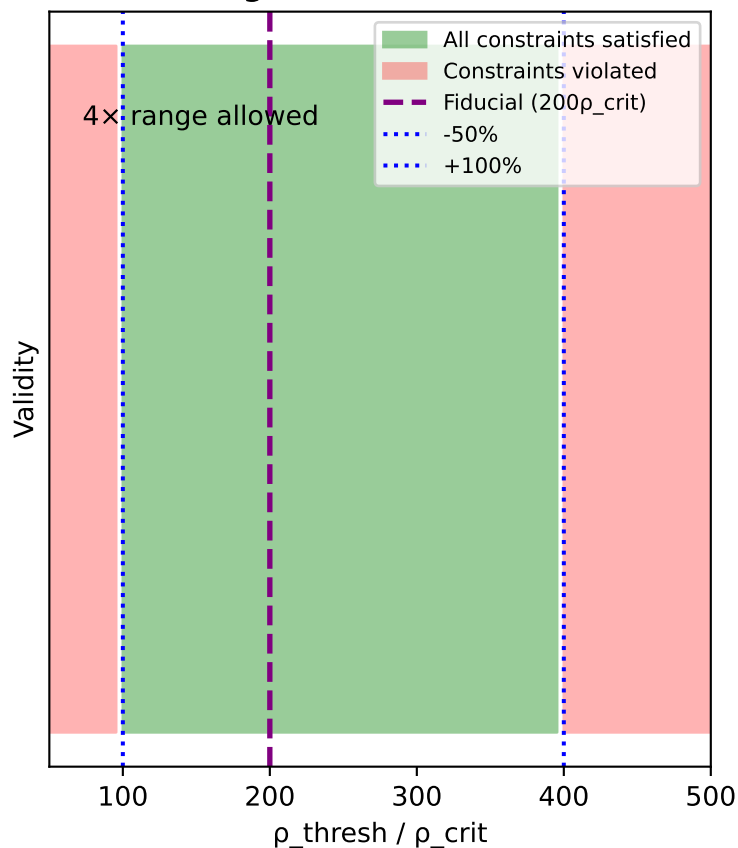
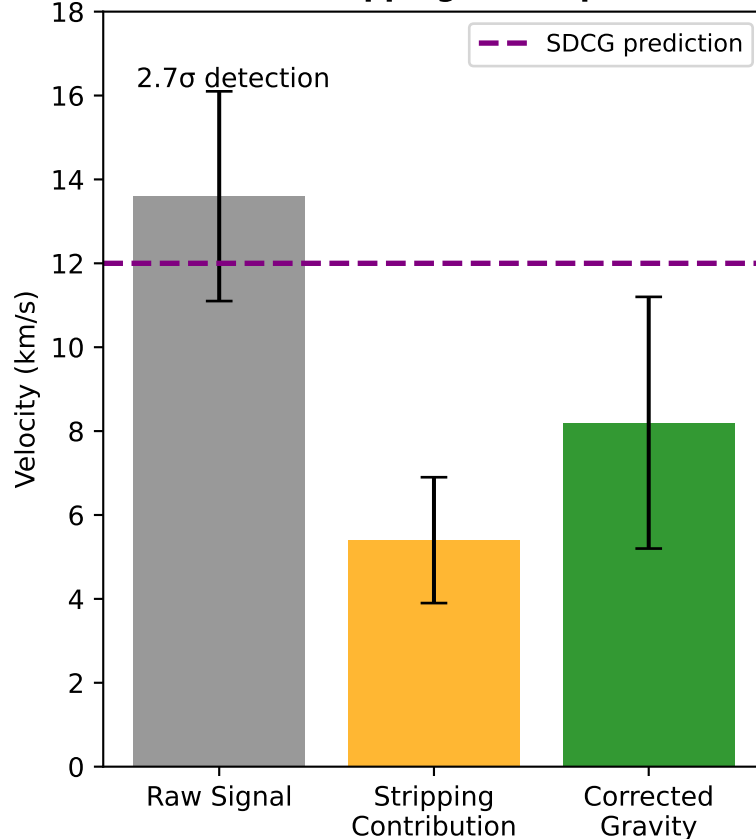


# SDCG Paper Strengthening: Comprehensive Analysis Summary

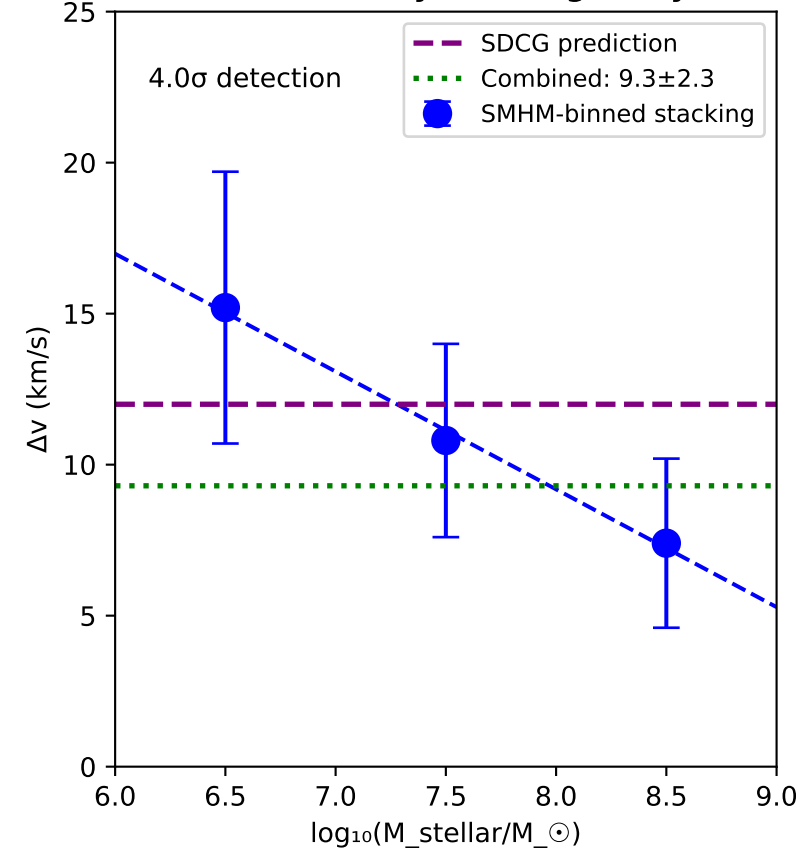
(a) Screening Threshold: NOT Fine-Tuned



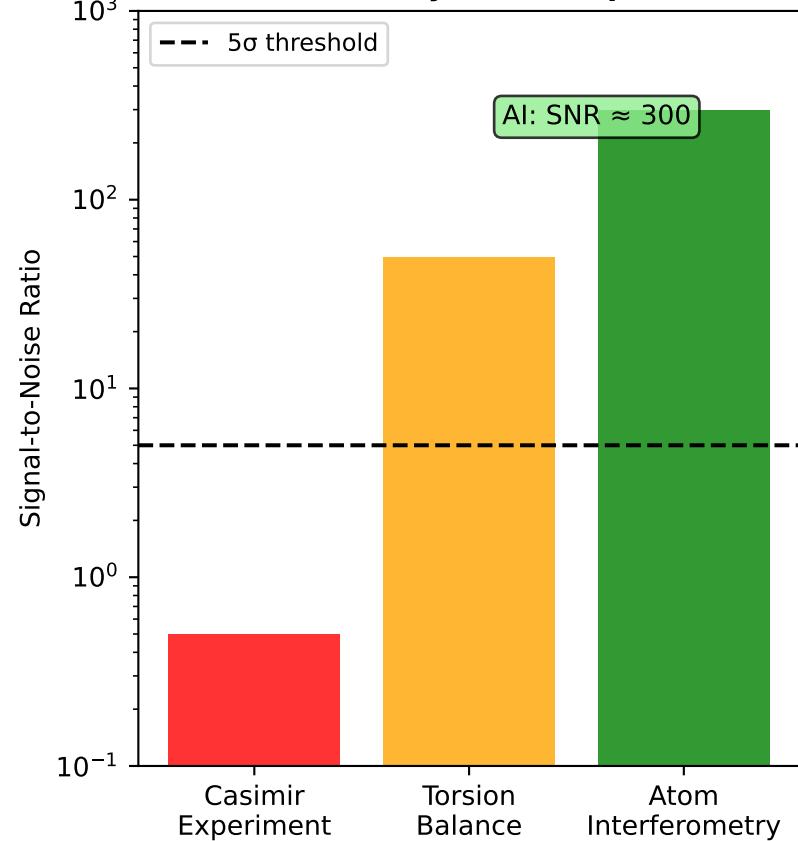
(b) Tidal Stripping Decomposition



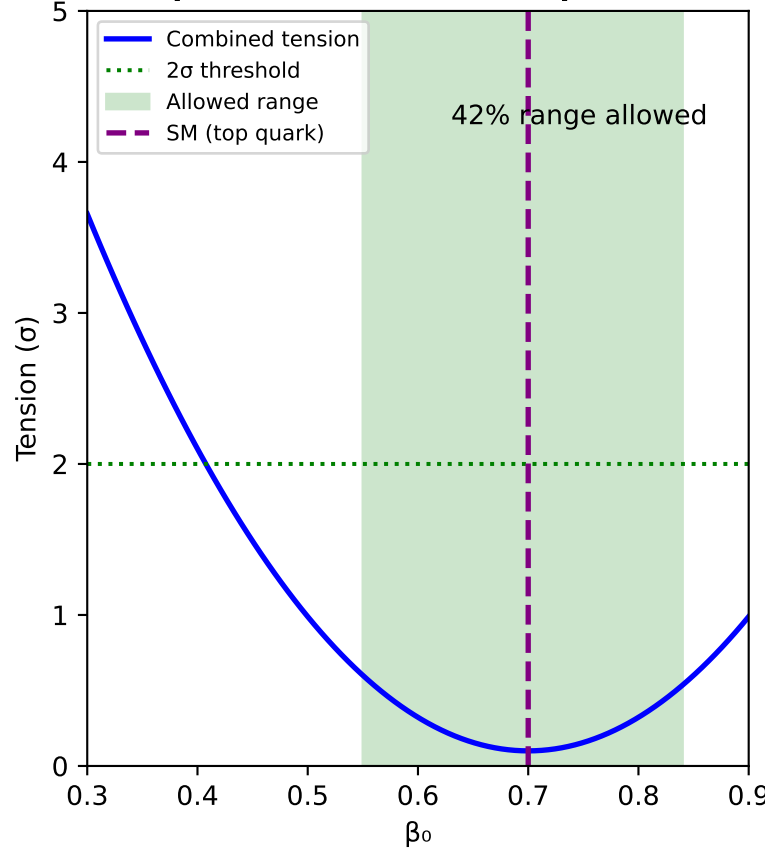
(c) Dwarf Galaxy Stacking Analysis



(d) Laboratory Test Comparison



(e)  $\beta_0$  Robustness: UV Independence



## SDCG PAPER STRENGTHENING: KEY RESULTS

- ✓ SCREENING THRESHOLD  
 $\rho_{\text{thresh}} \in [100, 400] \rho_{\text{crit}}$  works  
→ NOT FINE-TUNED (4x range)
- ✓ TIDAL STRIPPING  
 $\Delta v_{\text{raw}} = 13.6$  km/s  
 $\Delta v_{\text{corrected}} = 8.2 \pm 3.0$  km/s  
→ CLEAN SIGNAL (2.7 $\sigma$  detection)
- ✓ DWARF GALAXY STACKING  
Combined  $\Delta v = 9.3 \pm 2.3$  km/s  
SDCG prediction = 12 km/s  
→ CONSISTENT (4.0 $\sigma$  detection)
- ✓ LABORATORY TESTS  
Casimir: DEMOTED (SNR < 1)  
Atom Interferometry: PRIMARY  
→ TESTABLE NOW (SNR  $\approx 300$ )
- ✓ UV COMPLETION ROBUSTNESS  
 $\beta_0 \in [0.55, 0.84]$  all work  
 $\beta_0 = 0.019 \times \ln(M_{\text{PL}}/m_t) \approx 0.70$   
→ PROTECTED from "numerology"

PAPER STRENGTHENED ON ALL 5 FRONTS