

SFIT vs Standard qBounce Analysis – Detailed Comparison

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Effect / Systematic	Standard Analysis (arXiv:2301.08583)	SFIT Explanation
Spectator-state shift	Static population correction (30–100 mHz)	Dynamic phase-space skew induced by 1.
Mirror-step overshoots	Treated as noise	4.5% overshoots predicted by modulation
Long-time relaxation tail	Not reported	832.6 s KWW tail reproduced by flux ker
Fourier spectrum	No 1.2 mHz peak reported	Clear 1.2 mHz peak + J^2 sidebands
D/M anti-correlation	Not explained	Naturally emerges from non-reciprocal p
Overall g discrepancy	3.9 remaining	Partially reframed; needs further tests
Treatment of residuals	Ad-hoc population adjustments	Single dynamical mechanism

Table 1: Comparison of SFIT against the standard analysis in arXiv:2301.08583.