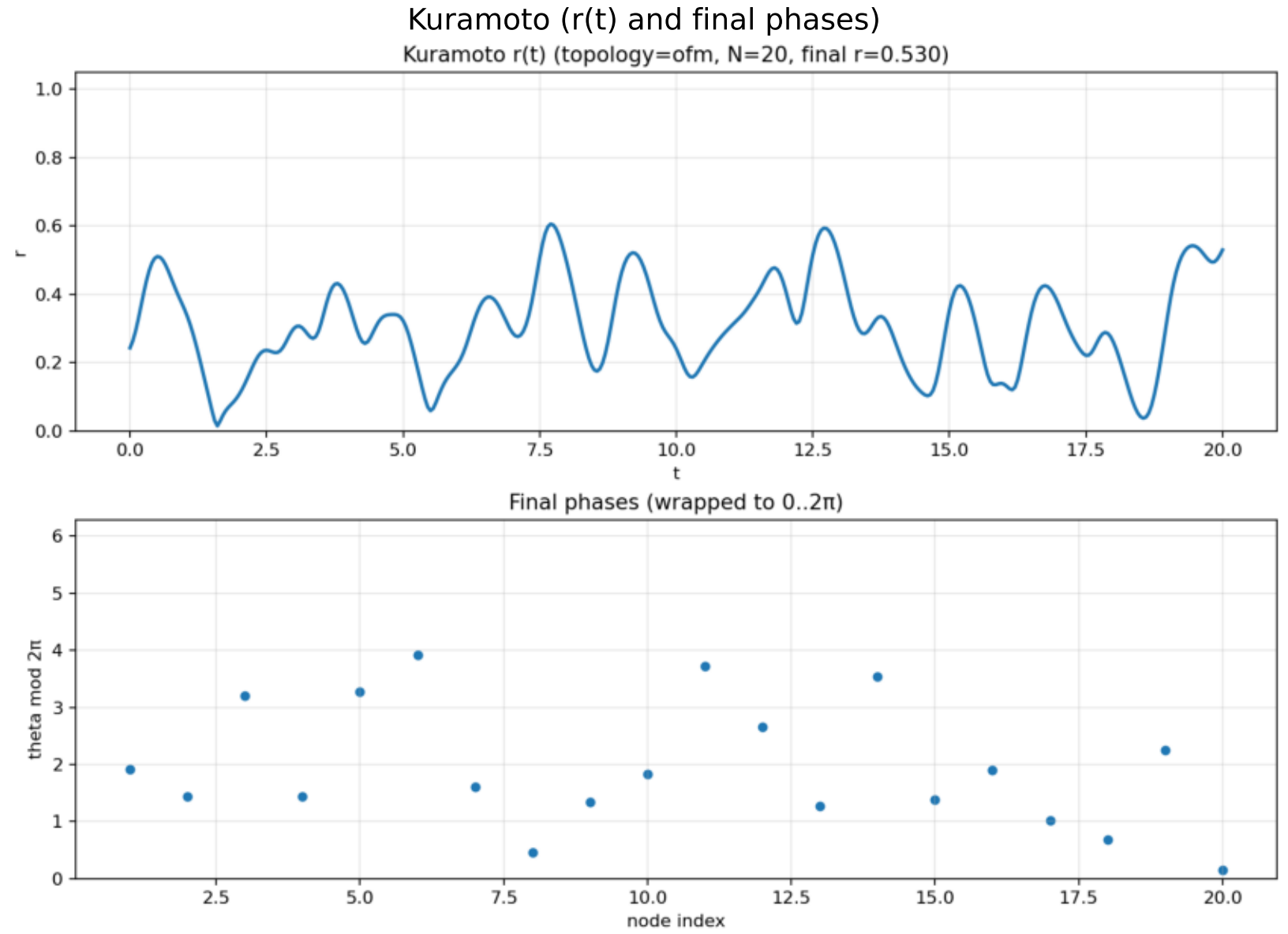
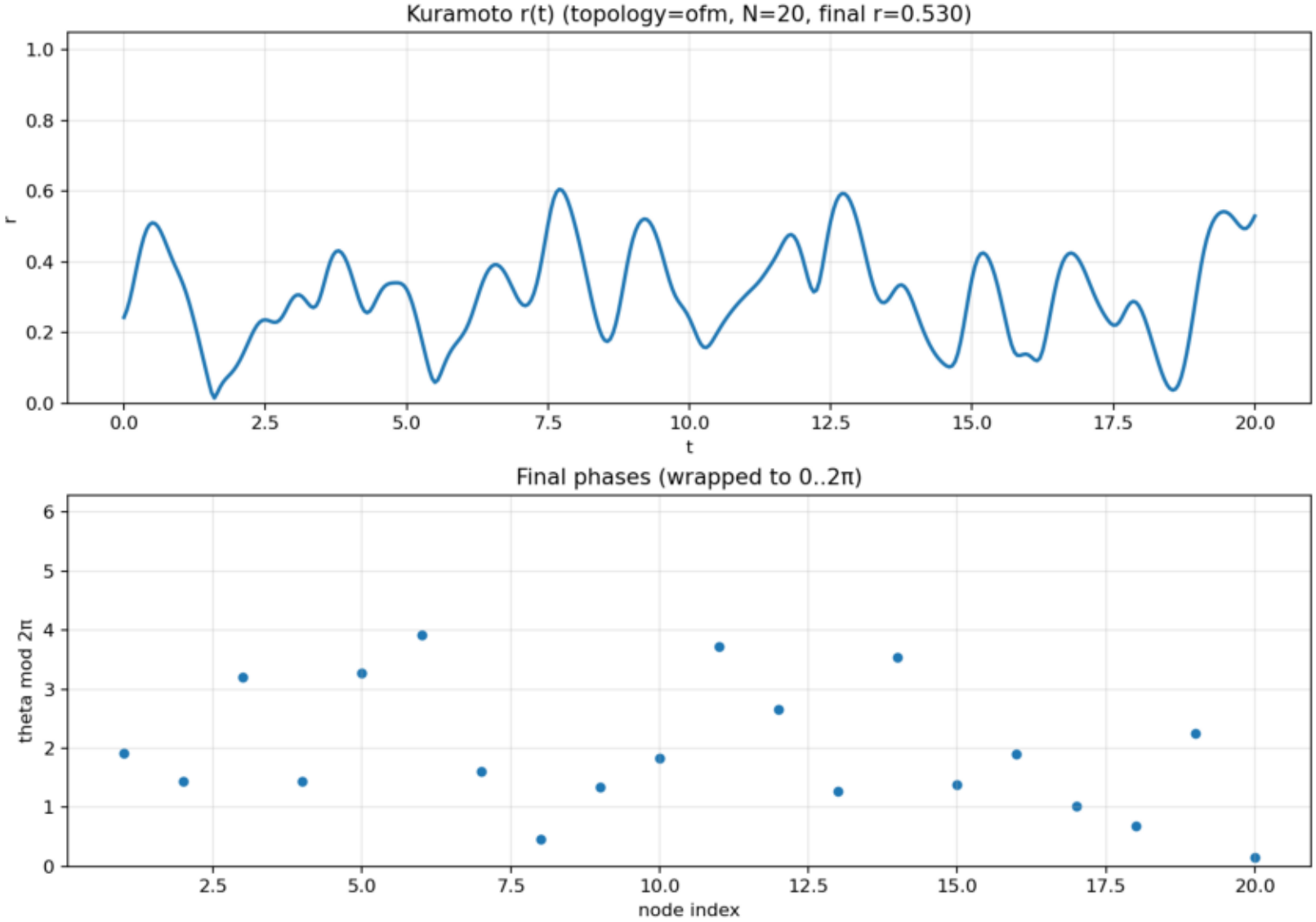
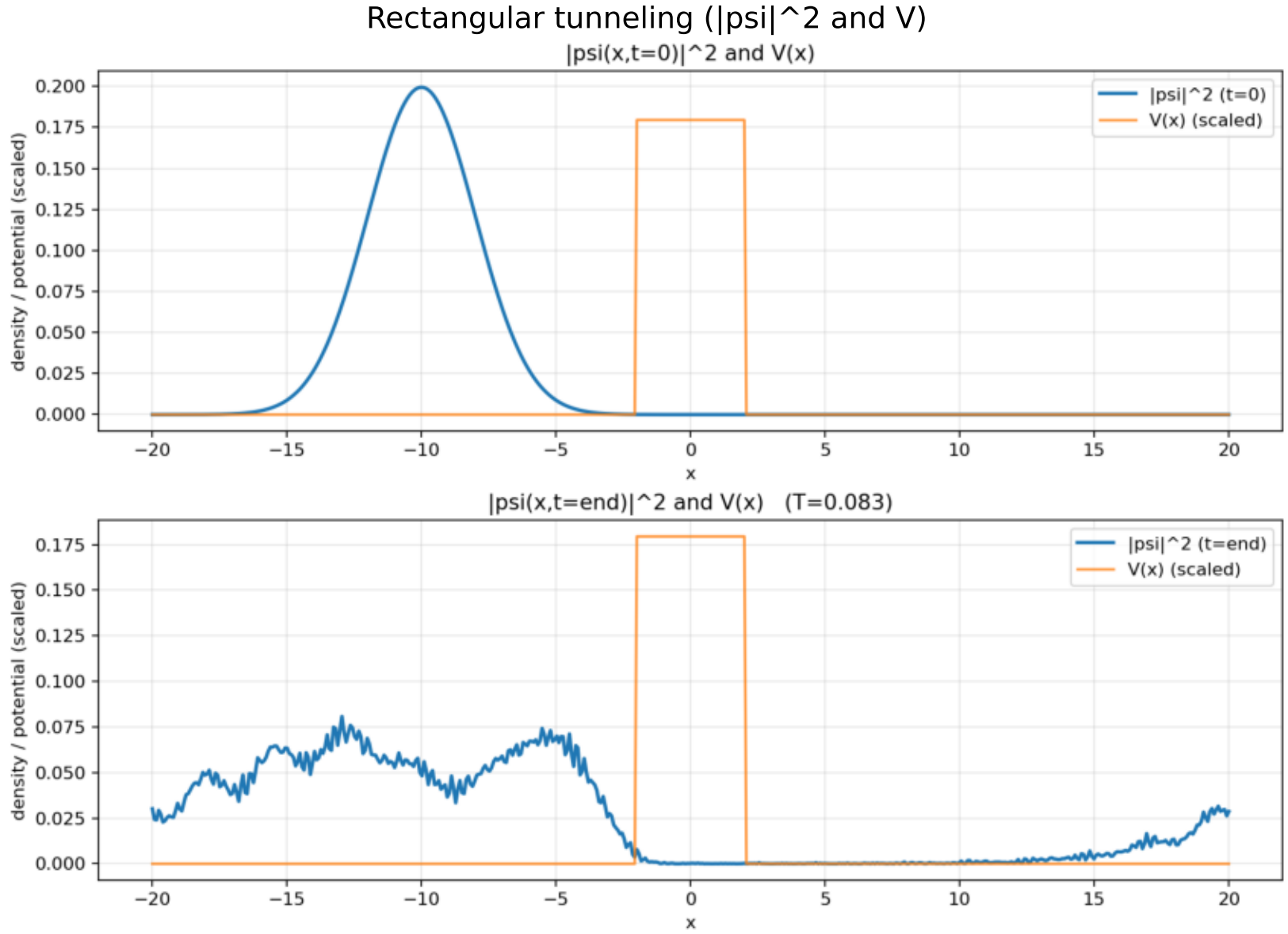
Phase 1 Simulation Report

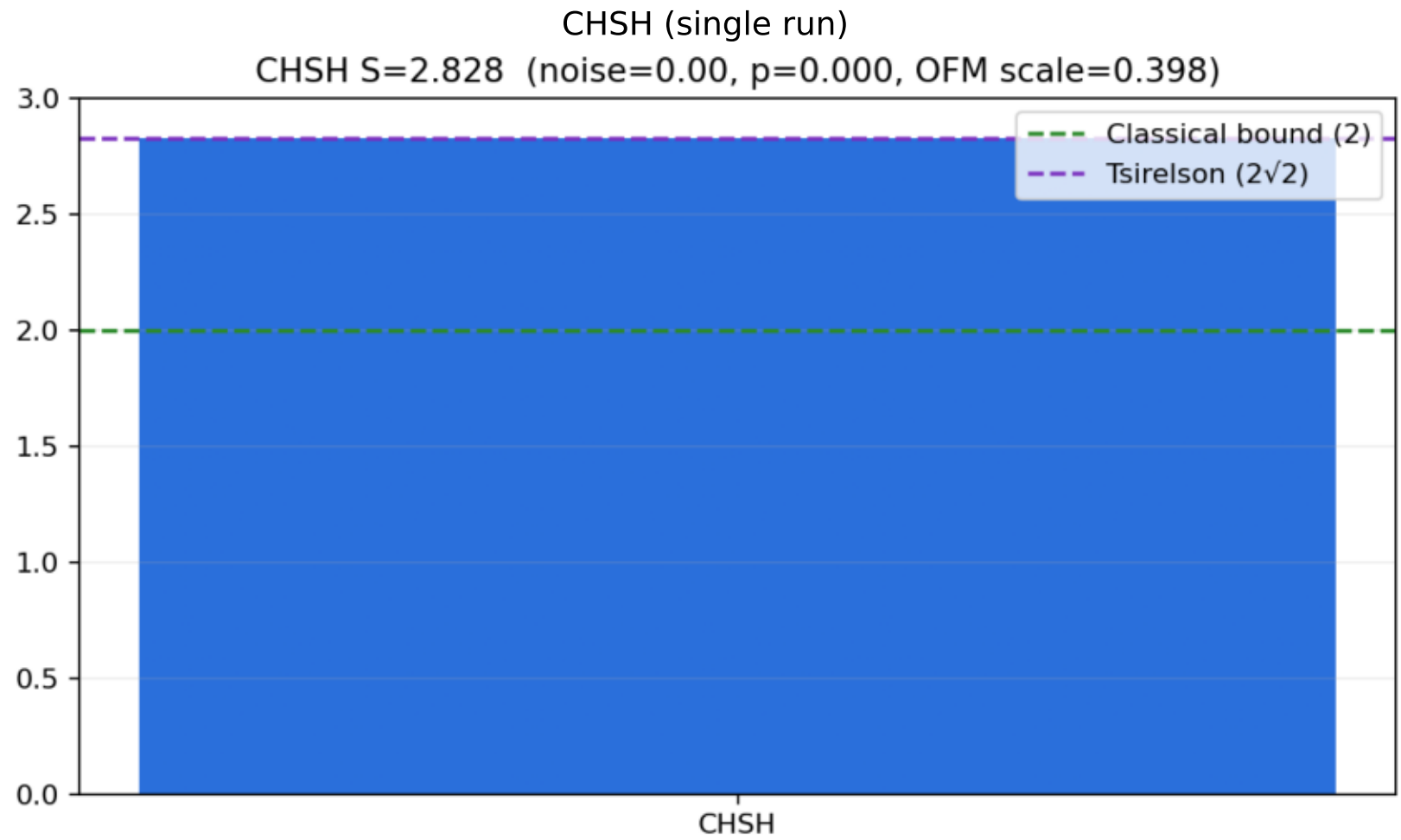
This PDF bundles the latest plots + raw CSV tables produced by the headless runs.
Regenerate everything via README commands, then re-run this script.

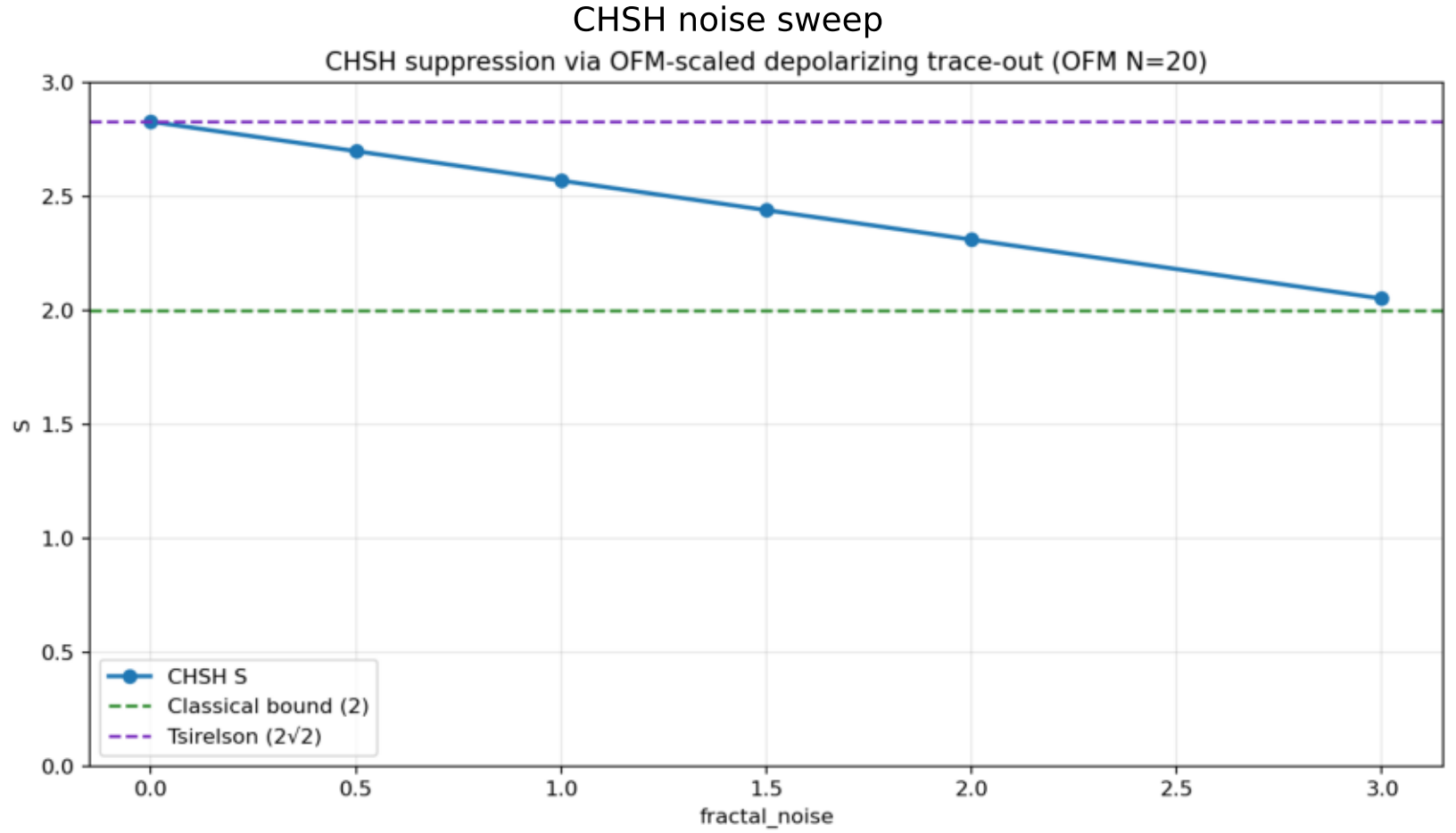

Kuramoto (r(t) and final phases)
Kuramoto r(t) (topology=ofm, N=20, final r=0.530)
r
t
Final phases (wrapped to 0..2π)
theta mod 2π
node index

Kuramoto animation (GIF) – not embedded; see outputs/kuramoto.gif

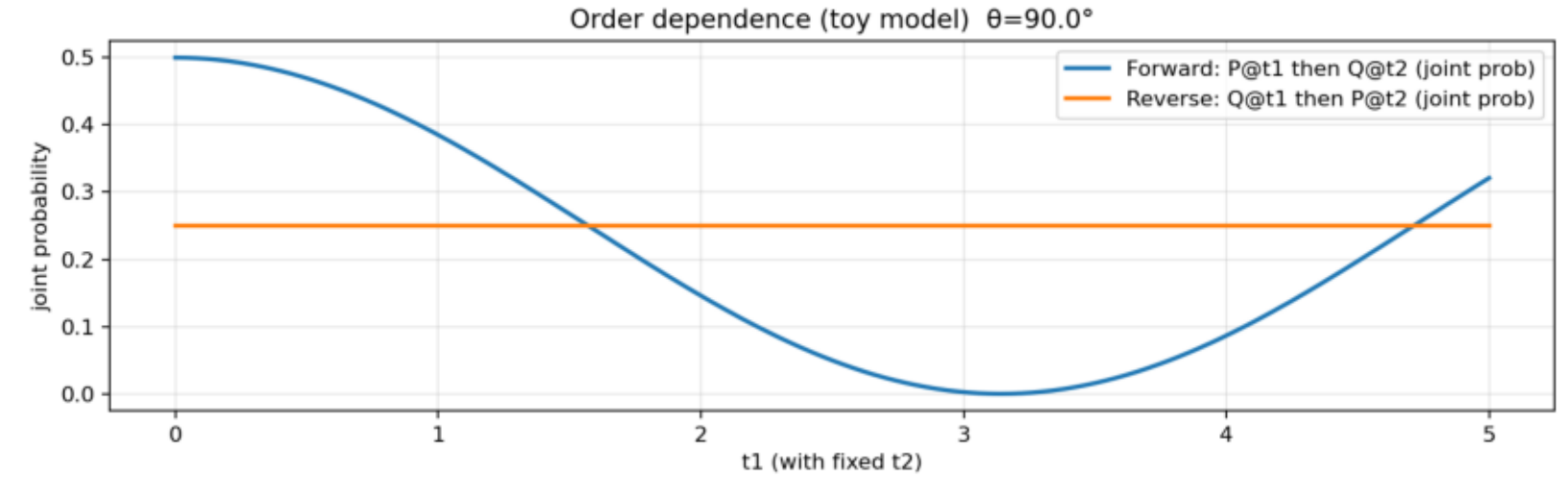


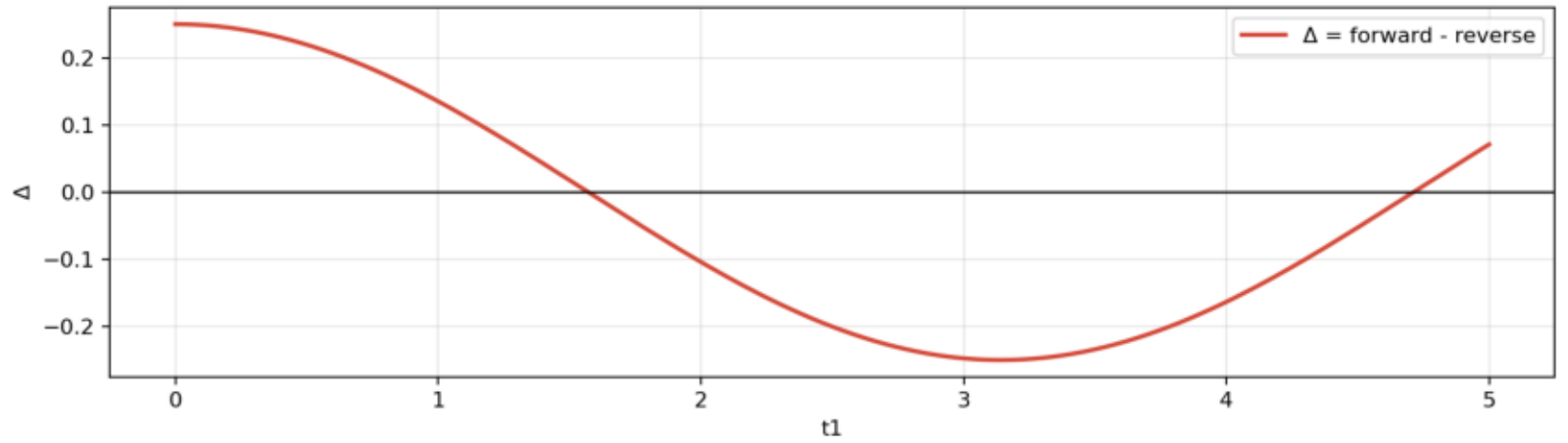

Rectangular tunneling (|psi|^2 and V)
|psi(x,t=0)|^2 and V(x)
|psi|^2 (t=0)
V(x) (scaled)
density / potential (scaled)
x
|psi(x,t=end)|^2 and V(x) (T=0.083)
|psi|^2 (t=end)
V(x) (scaled)
density / potential (scaled)
x

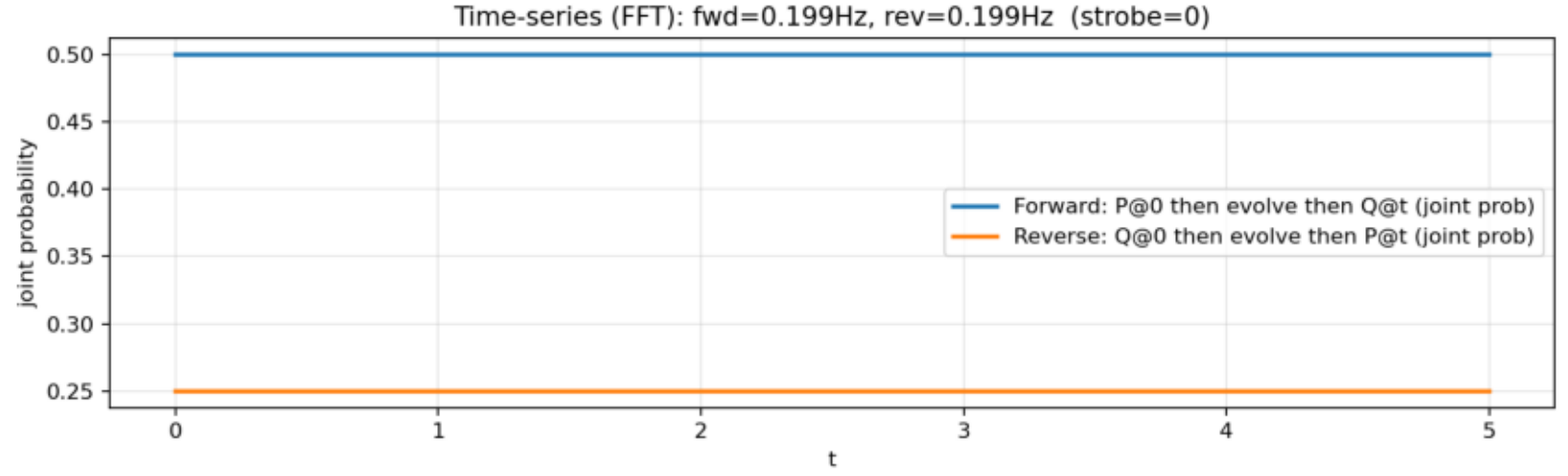

CHSH (single run)
CHSH S=2.828 (noise=0.00, p=0.000, OFM scale=0.398)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Classical bound (2)
Tsirelson (2√2)
CHSH


CHSH noise sweep
CHSH suppression via OFM-scaled depolarizing trace-out (OFM N=20)
S
fractal_noise
CHSH S
Classical bound (2)
Tsirelson (2√2)
0.0
0.5
1.0
1.5
2.0
2.5
3.0

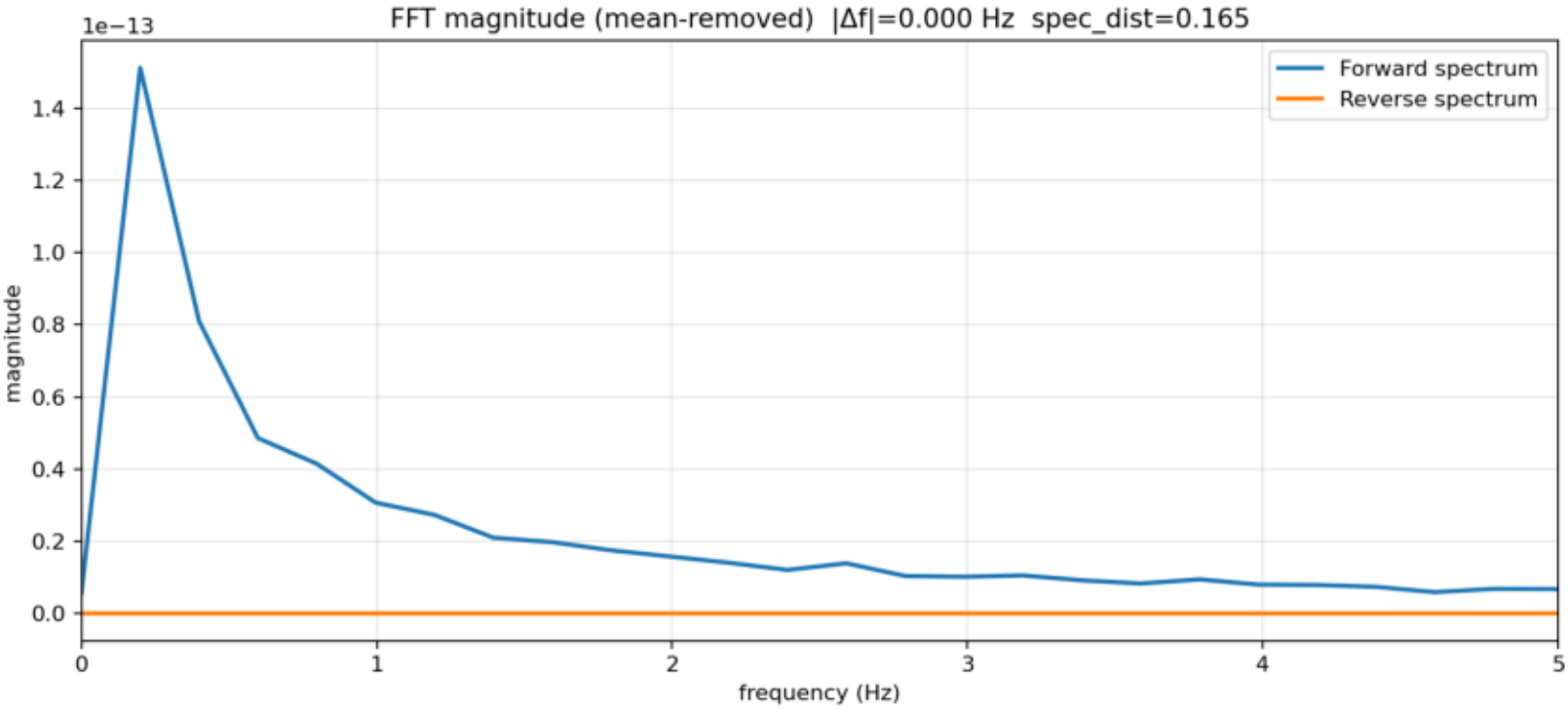
Retro (order dependence + time-series)



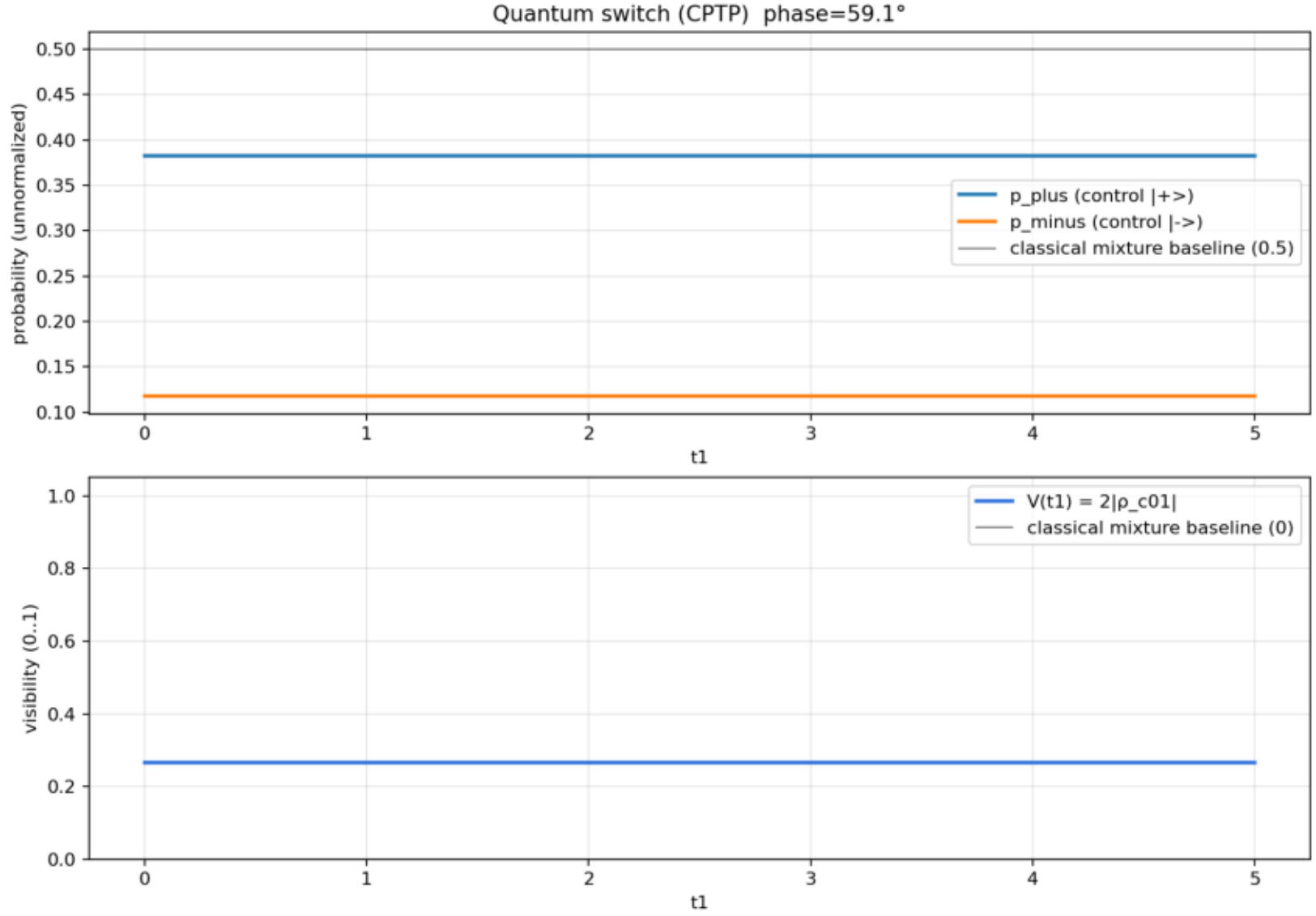




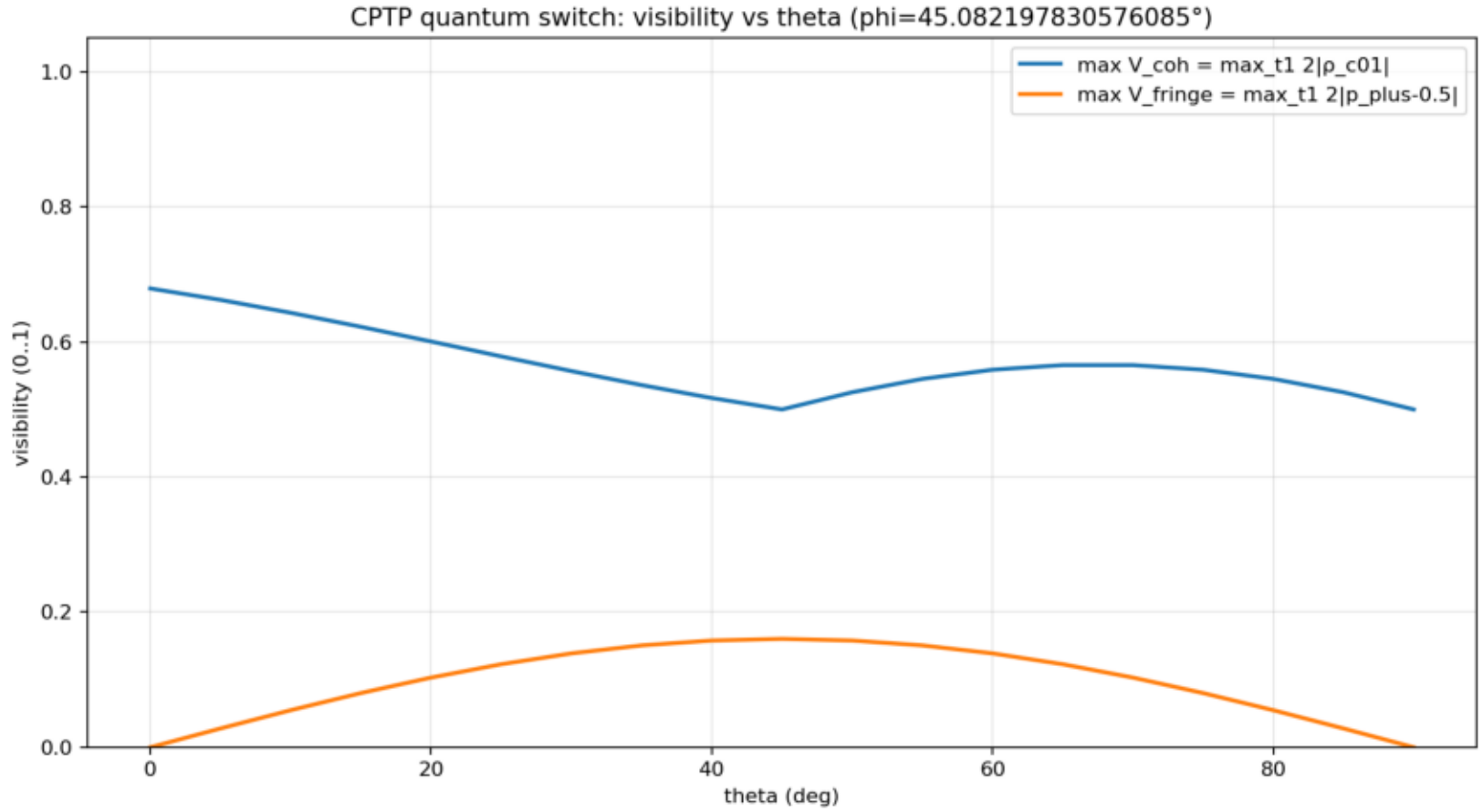
Retro spectrum



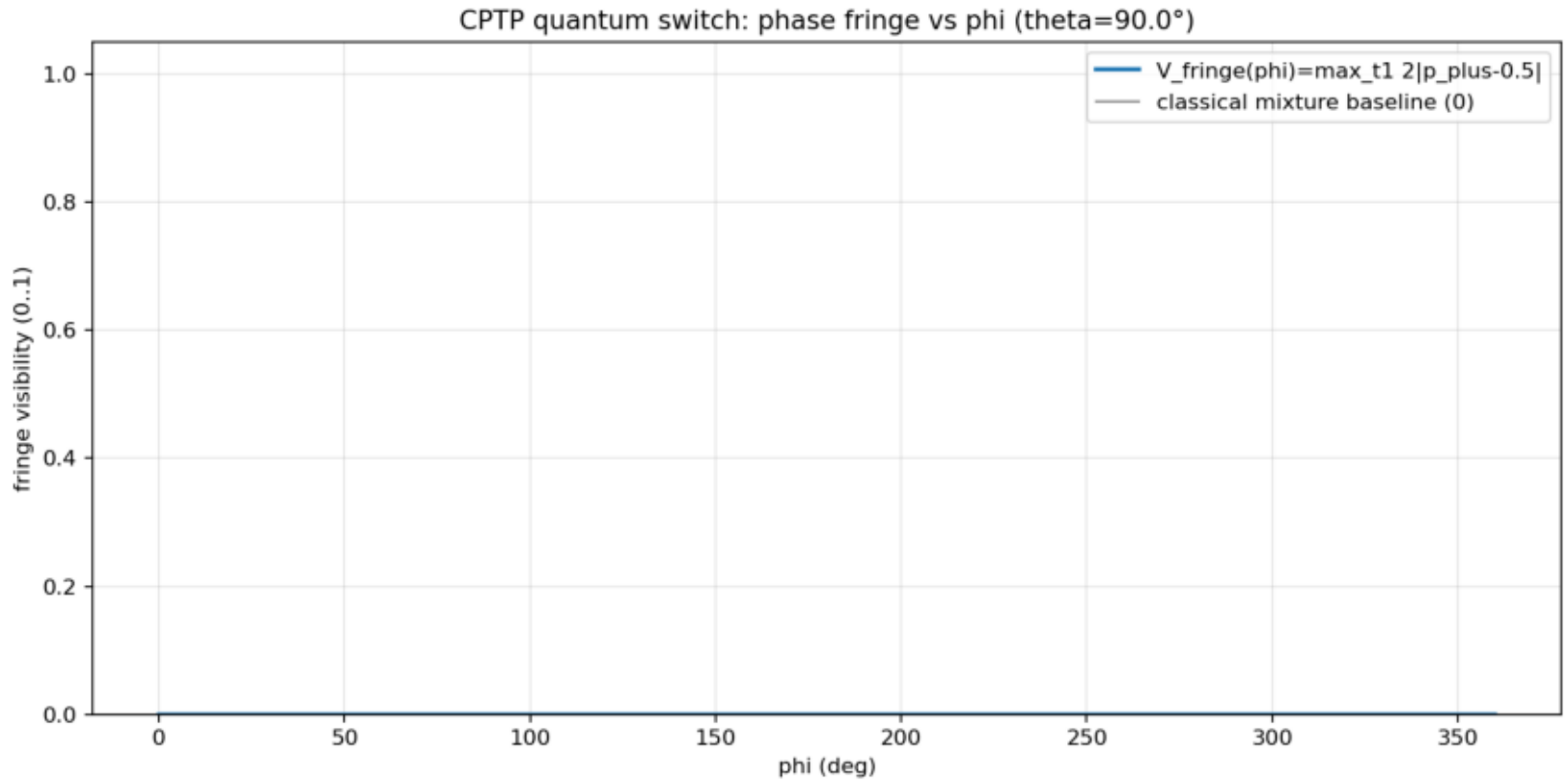
Quantum switch (CPTP) interference / visibility



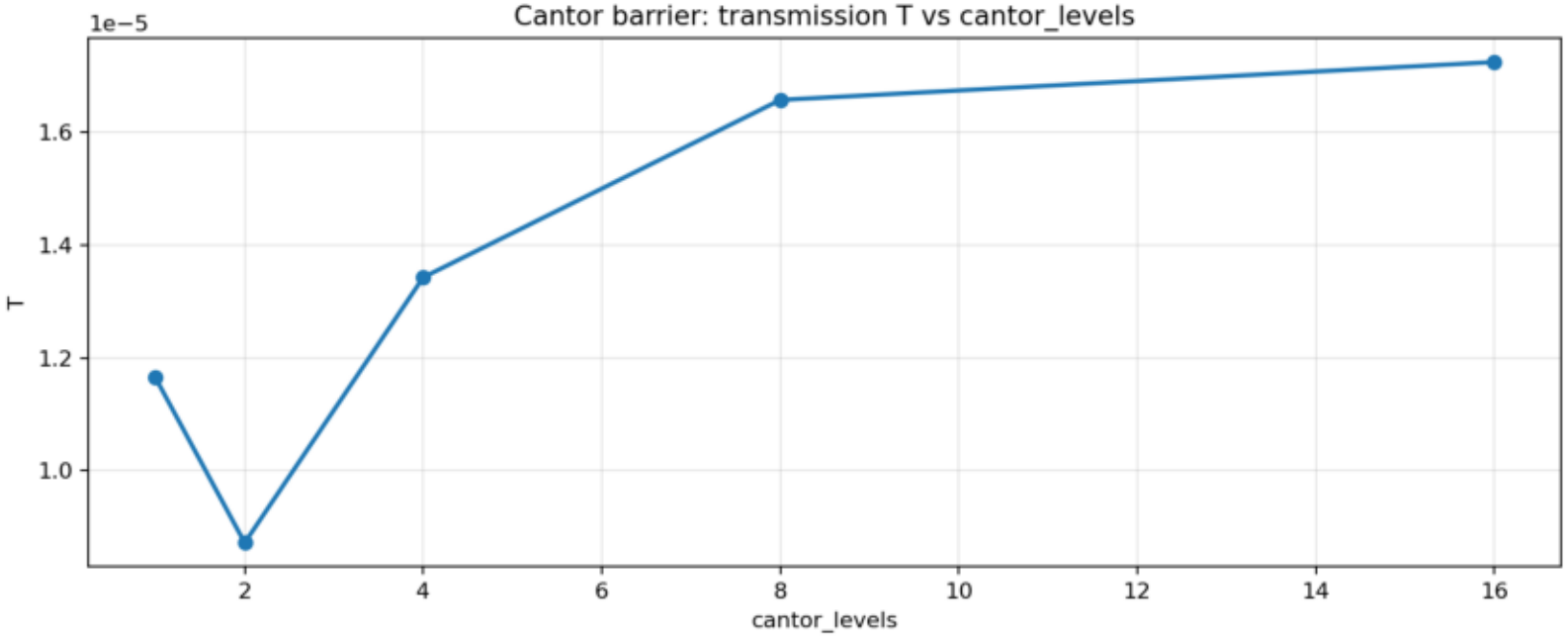
Retro visibility vs theta

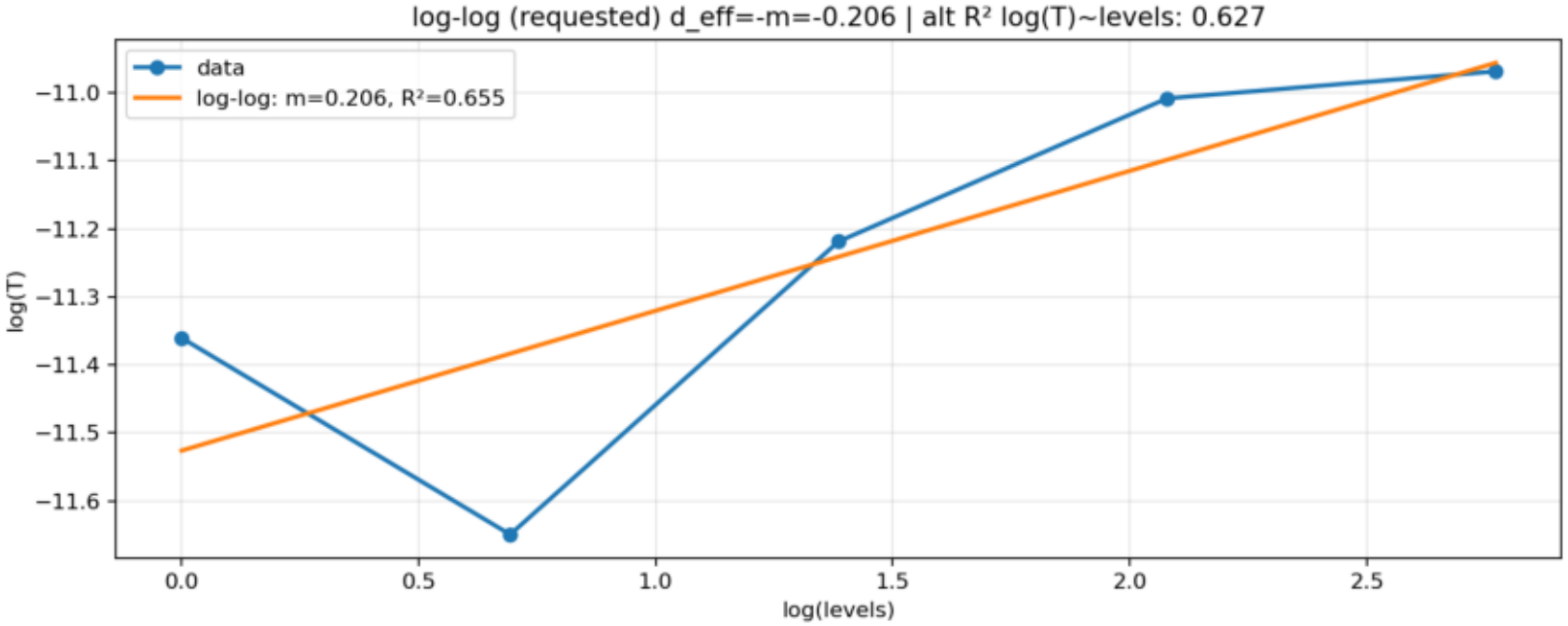


Retro visibility vs phi



Cantor tunneling sweep + fit





CSV: CHSH noise sweep

noise	S	p	ofm_scale	ofm_n
0.0	2.82842712474619	0.0	0.3977443609022556	20
0.5	2.6990531667507502	0.0457406015037594	0.3977443609022556	20
1.0	2.5696792087553106	0.0914812030075188	0.3977443609022556	20
1.5	2.4403052507598715	0.13722180451127822	0.3977443609022556	20
2.0	2.3109312927644314	0.1829624060150376	0.3977443609022556	20
3.0	2.052183376773553	0.27444360902255643	0.3977443609022556	20

CSV: Retro visibility vs theta

theta_deg	V_coh_max	V_fringe_max
0.0	0.6790421010298429	1.1102230246251565e-15
5.0	0.6621369078350683	0.027863199905704183
10.0	0.6430253185610177	0.054879790581733756
15.0	0.6222880291768526	0.08022888659145111
20.0	0.600555131726936	0.10314026847986302
25.0	0.5784869693029068	0.12291778550200805
30.0	0.5567540718529903	0.13896050781107538
35.0	0.5360167824688251	0.15078098540771268
40.0	0.5169051931947745	0.15802005906159744
45.0	0.5000000000000002	0.16045777318290266
50.0	0.5254254857843987	0.15802005906159677
55.0	0.5452030028065442	0.1507809854077129
60.0	0.5587316212196239	0.13896050781107516
65.0	0.5656002807989684	0.12291778550200827
70.0	0.5656002807989684	0.10314026847986324
75.0	0.5587316212196238	0.08022888659145133
80.0	0.5452030028065442	0.0548797905817342
85.0	0.525425485784399	0.027863199905704628
90.0	0.5000000000000001	1.1102230246251565e-15

CSV: Cantor tunneling sweep + fit

cantor_level	T	min_feature_over_dx
1	1.1649539652229656e-05	4551.111111111111
2	8.725102560338682e-06	1517.0370370370372
4	1.3427006920986911e-05	168.559670781893
8	1.6571132851438432e-05	2.0809835898999136
16	1.7241865369212405e-05	0.00031717475840571766
fit_logT_vs_loglevels_slope_m	0.20567140775006212	
fit_logT_vs_loglevels_intercept_b	-11.525883337991175	
fit_logT_vs_loglevels_R2	0.65507599218531	
d_eff_minus_slope	-0.20567140775006212	
fit_logT_vs_levels_slope_mL	0.03614445027520574	
fit_logT_vs_levels_intercept_bL	-11.464857816889959	
fit_logT_vs_levels_R2	0.6265837086119748	
fit_logT_vs_log2powlevels_slope_m2	0.05214541916769828	
fit_logT_vs_log2powlevels_intercept_b2	-11.464857816889957	
fit_logT_vs_log2powlevels_R2	0.6265837086119743	