entry file	entry function	next function down	next function dow	next function dow	next function dow	severity	figure title / table	problematic func	notes
									applies scaling_factor twice, once when constructing the pulse, and once when storing the hamiltonian
							Fractal Dimensio		PhiResonant pulse applies phi in 3 places
							Fractal Dimensio		PhiResonant pulse is based on both hardcoded phi and scaling_factor
							phi_resonant_an		the "pulses" aren't applied as pulses, but at the beginning before doing simulate_evolution
run_phi_resonan	run_phi_analysis	run_comparative_ar	run_state_evolution			high	phi_resonant_sui	run_state_evolut	stored hamiltonian is not based on the H_effective used to do the state evolution
run_phi_resonan	run_phi_analysis	run_comparative_ar	run_state_evoluti	analyze_fractal_properties		none	none	analyze_fractal_	theoretical scaling function does not agree with text in config or app.py
									theoretical scaling function is not used anywhere
							Fractal Dimensio		purpose of function is to do the same thing as run_state_evolution with pulse_type == "PhiResonant". should either be removed to use run_state_evolution, or remove the PhiResonant pulse_type from run_state_evolution
							Fractal Dimensio		
							phi_resonant_an		uses bespoke noise application instead of builtins
run_phi_resonan	run_phi_analysis	run_comparative_ar	run_phi_recursive_evolution			high	phi_resonant_sui	run_phi_recursiv	performs state evolution instead of using simulate_evolution
							Fractal Dimensio		
							Fractal Dimensio		
							phi_resonant_an		
run_phi_resonan	run_phi_analysis	run_comparative_ar	run_phi_recursiv	get_phi_recursive_unitary		medium	phi_resonant_sui	get_phi_recursiv	mixes use of scaling_factor and phi
					phi_sensitive_din		Phi-Sensitive Wir	phi_sensitive_din	
					compute_multifra		Phi-Resonant Be	compute_multifra	
					compute_phi_ser		compute_phi_ser	compute_phi_ser	
run_phi_resonan	run_phi_analysis	run_comparative_ar	run_phi_recursiv	analyze_phi_reso	compute_phi_res	high	phi_resonant_sui	compute_phi_res	these measures have mathematical definitions which do not include phi at all
							f"Entanglement E		
							"Entanglement E		
							"entanglement_s		
							f"Entanglement S		
							f"Entanglement C		
							"Wavepacket Evo		
							Wavepacket Evo		
							f"Wavepacket Sp		
							Fractal Dimensio		applies scaling_factor twice
							Final State Comp		PhiResonant pulse applies phi in 3 places
							Ground State En		PhiResonant pulse is based on both hardcoded phi and scaling_factor
run_evolution_ar	run_evolution_an	run_state_evolution				high	Fractal Analysis f	run_state_evolut	the "pulses" aren't applied as pulses, but at the beginning before doing simulate_evolution
enhanced_phi_a	run_enhanced_p	run_phi_analysis				high		run_phi_analysis	see rows 2-6
enhanced_phi_a	run_enhanced_p	plot_fractal_dim_vs_recursion				high	Fractal Dimensio	plot_fractal_dim_	dimension patterns are generated differently for each line (phi, unit, arb) instead of all being generated by the same algorithm
									what IS a dimension pattern? they look to be arbitrarily scaled sin waves
		plot_robustness_un	calculate_protection_metric			high	Topological Prote	calculate_protect	arbitrarily applies different perturbation near phi. shouldn't the perturbation depend directly on the hamiltonian or state?
							Relative Advanta		makes up protection if there's no energy gap
									clamps protection value
		create_parameter_tables				high	computational_c	create_paramete	hardcoded tables
							phase_diagram_		
		enhance_energy_spectrum				high	enhanced_energ	enhance_energy	function begins by looking for energy_spectrum.png, which is never created
									annotations applied arbitrarily instead of looking for self-similarity. there's even a note there already
		enhance_wavefunct	create_wavefunction_profile			high	Wavefunction Pro	create_wavefunc	profile is arbitrarily generated instead of calculated from state
									text dimension is hardcoded

generating file	figure / table title	image / csv name	issue severity
run_phi_resonant_analysis	Fractal Dimension Comparison	phi_resonant_comparison.png	high
	Fractal Dimension Difference (Phi-Sensi	phi_resonant_comparison.png	high
	Phi-Sensitive Winding Number	phi_resonant_comparison.png	high
	Phi-Resonant Berry Phase	phi_resonant_comparison.png	high
		phi_resonant_analysis.csv	high
		phi_resonant_summary.csv	high
run_evolution_analysis	all	all	high
enhanced_phi_analysis	Fractal Dimension vs. Recursion Depth	fractal_dim_vs_recursion.png	high
	Topological Protection Under Perturbatic	robustness_under_perturbations.p	high
	Relative Advantage of φ-Scaling Under F	protection_ratio.png	high
		parameter_overview.csv	none
		computational_complexity.csv	high
		phase_diagram_summary.csv	high
	DNE	enhanced_energy_spectrum.png	high
	Wavefunction Profile with φ-Scaled Self-	enhanced_wavefunction_profile.p	high