

Hardcoded vs Qiskit Pipeline Comparison Summary

generated_utc: 2026-02-13T21:44:50.594959+00:00

all_pass: False

l_values: [2, 3]

trajectory_comparison_basis: trotter trajectories start from each pipeline's selected initial_state_source (default: vqe)

thresholds: {"ground_state_energy_abs_delta": 1e-08, "fidelity_max_abs_delta": 0.0001, "energy_trotter_max_abs_delta": 0.001,

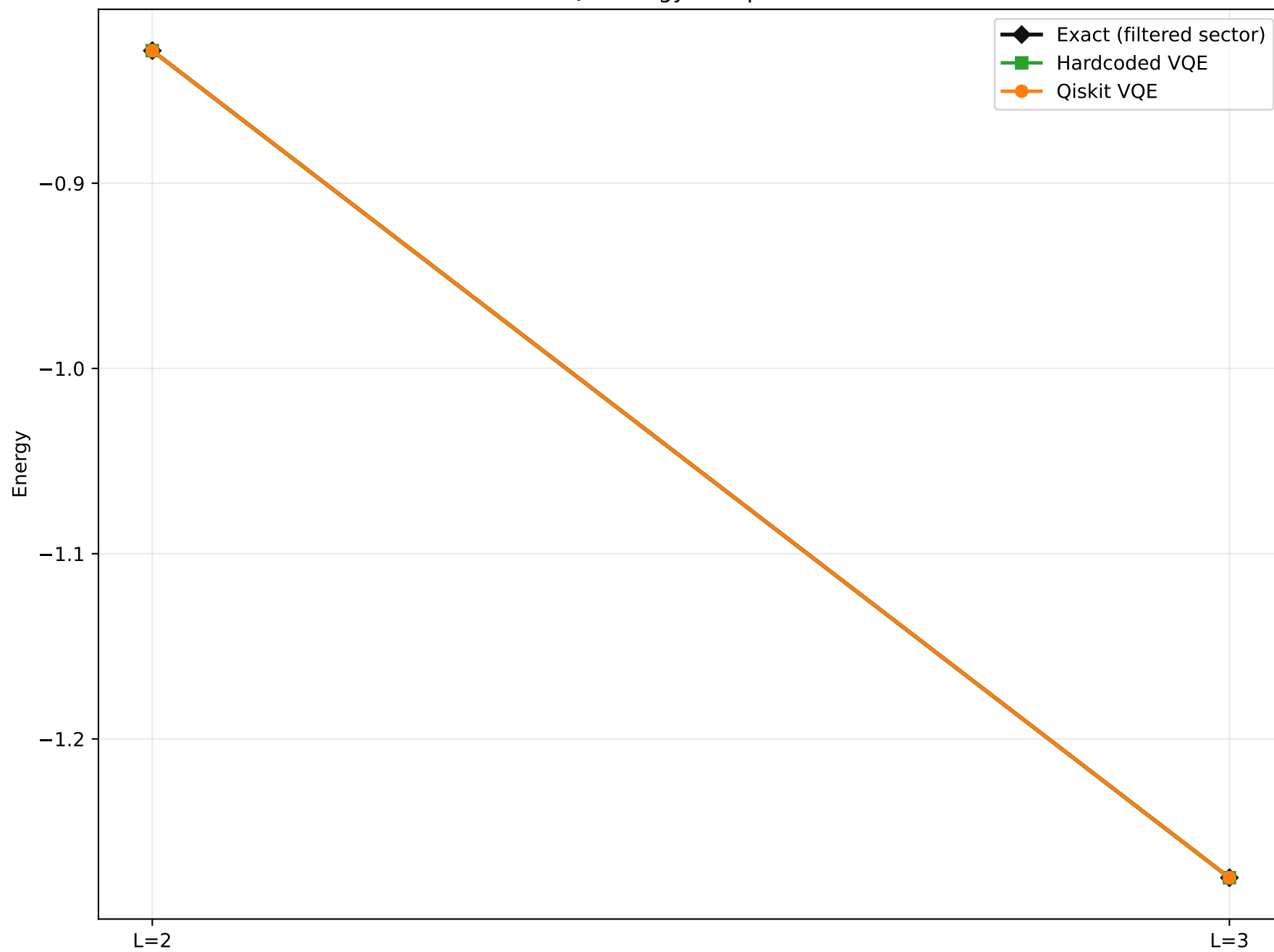
hardcoded_qiskit_import_isolation: {'pass': True, 'qpe_adapter_range': {'start_line': 299, 'end_line': 416}, 'qiskit_imports':

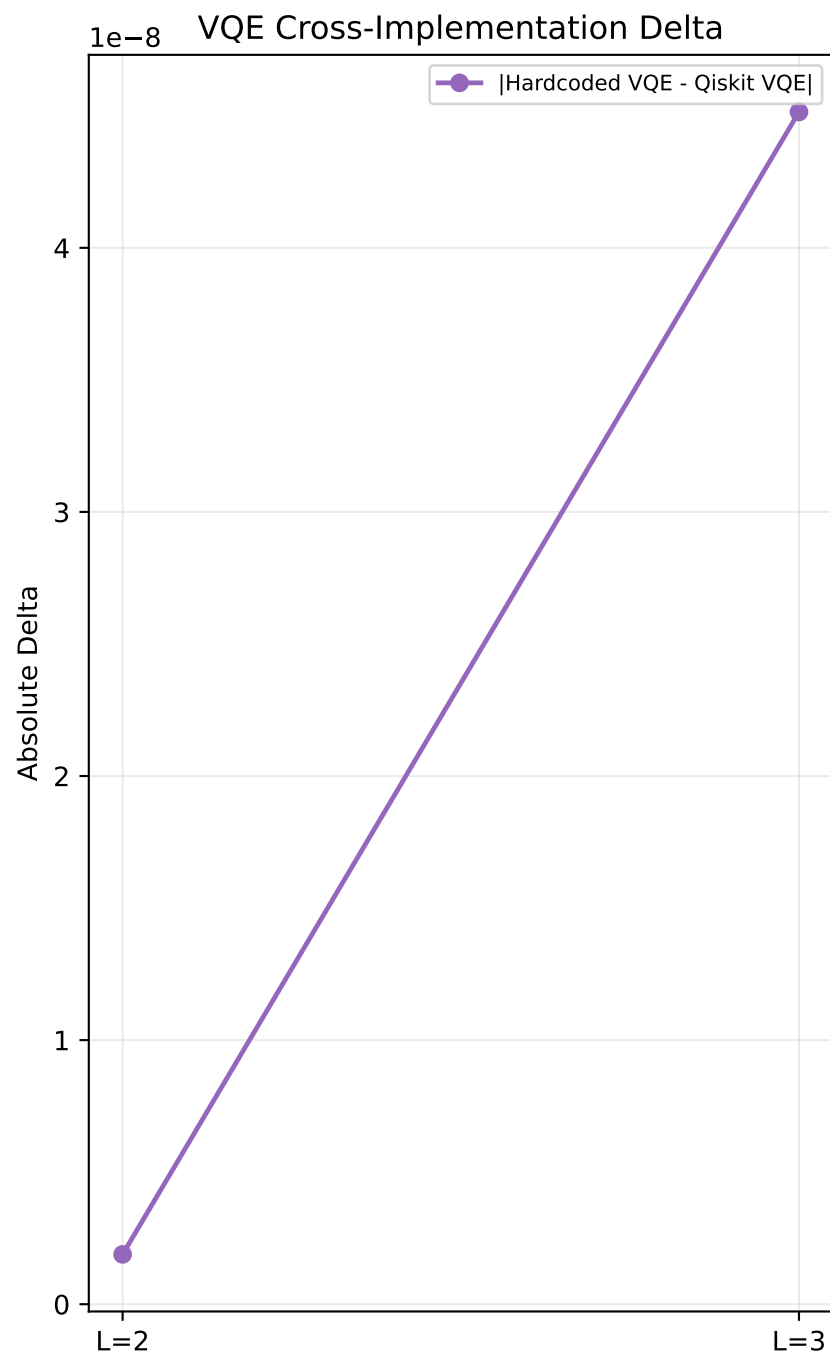
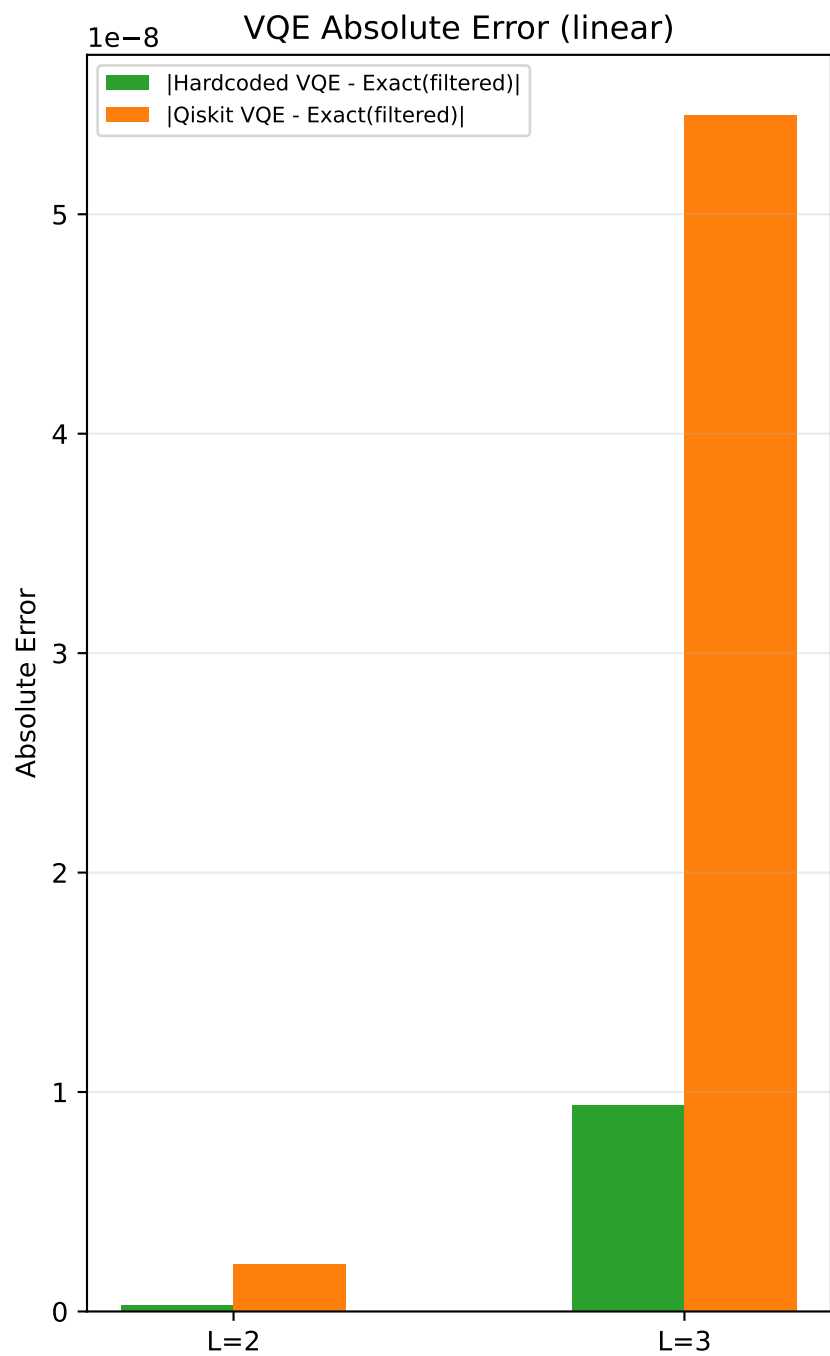
Per-L pass flags:

L=2 pass=True metrics_json=Tests/artifacts/hardcoded_vs_qiskit_pipeline_L2_metrics.json

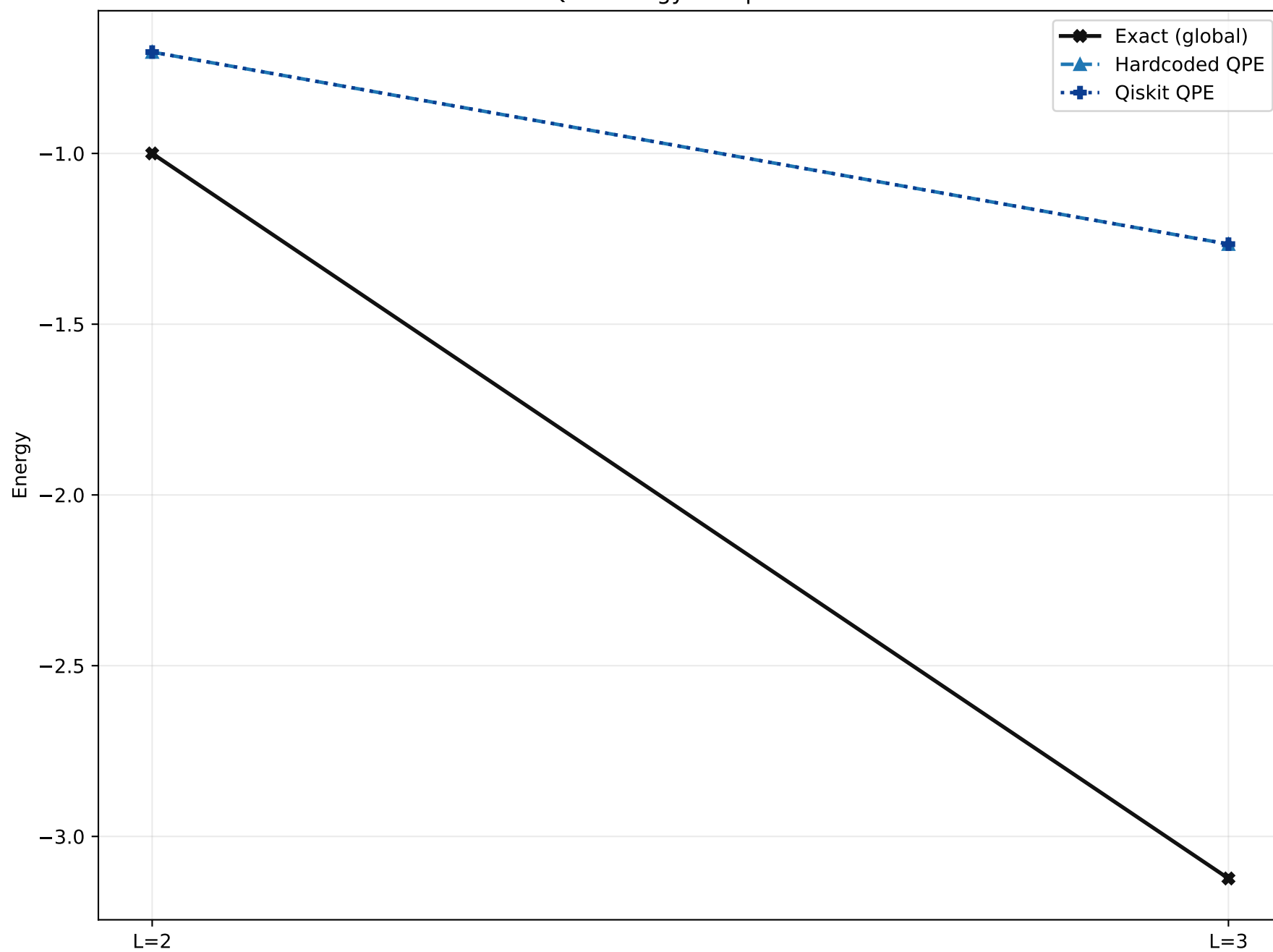
L=3 pass=False metrics_json=Tests/artifacts/hardcoded_vs_qiskit_pipeline_L3_metrics.json

VQE Energy Comparison

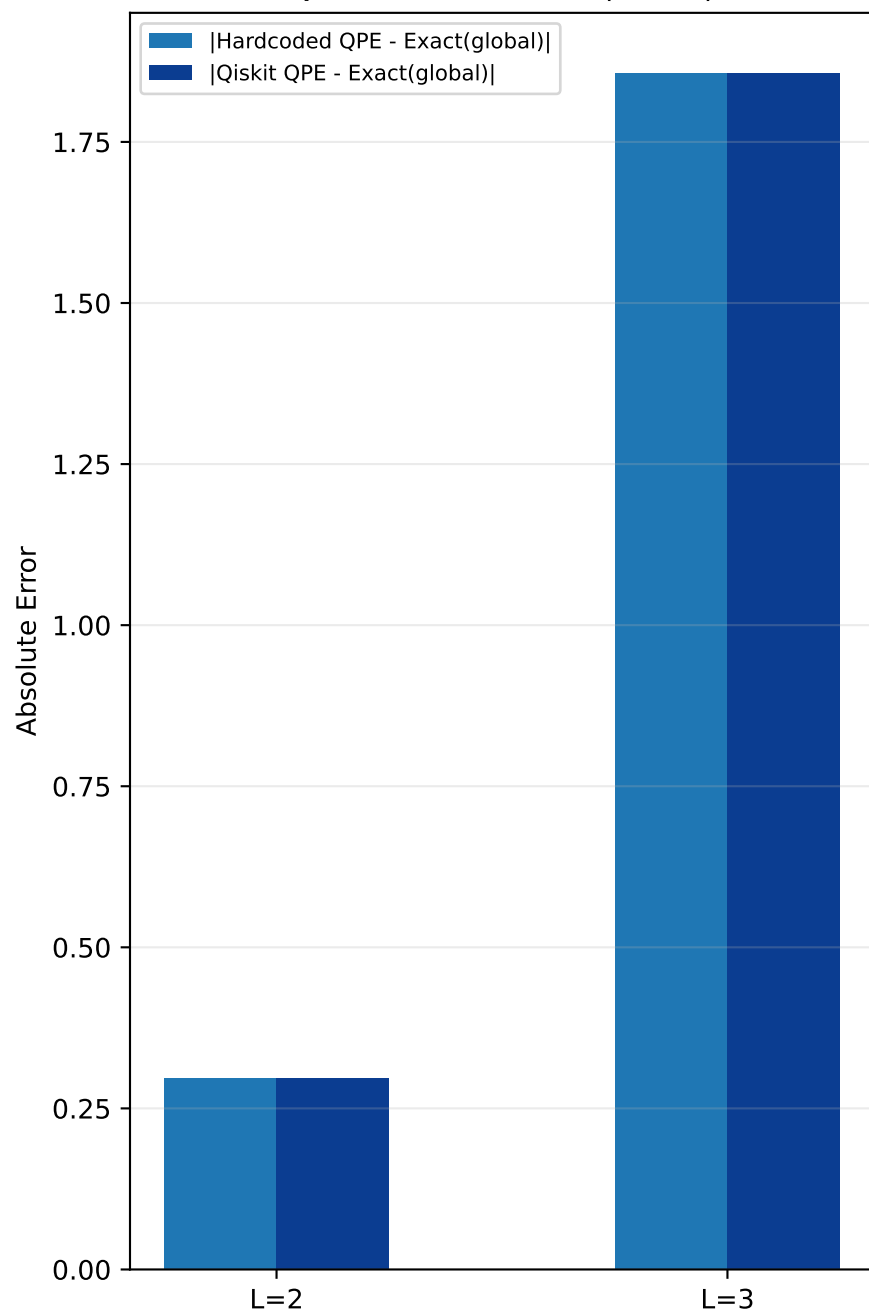




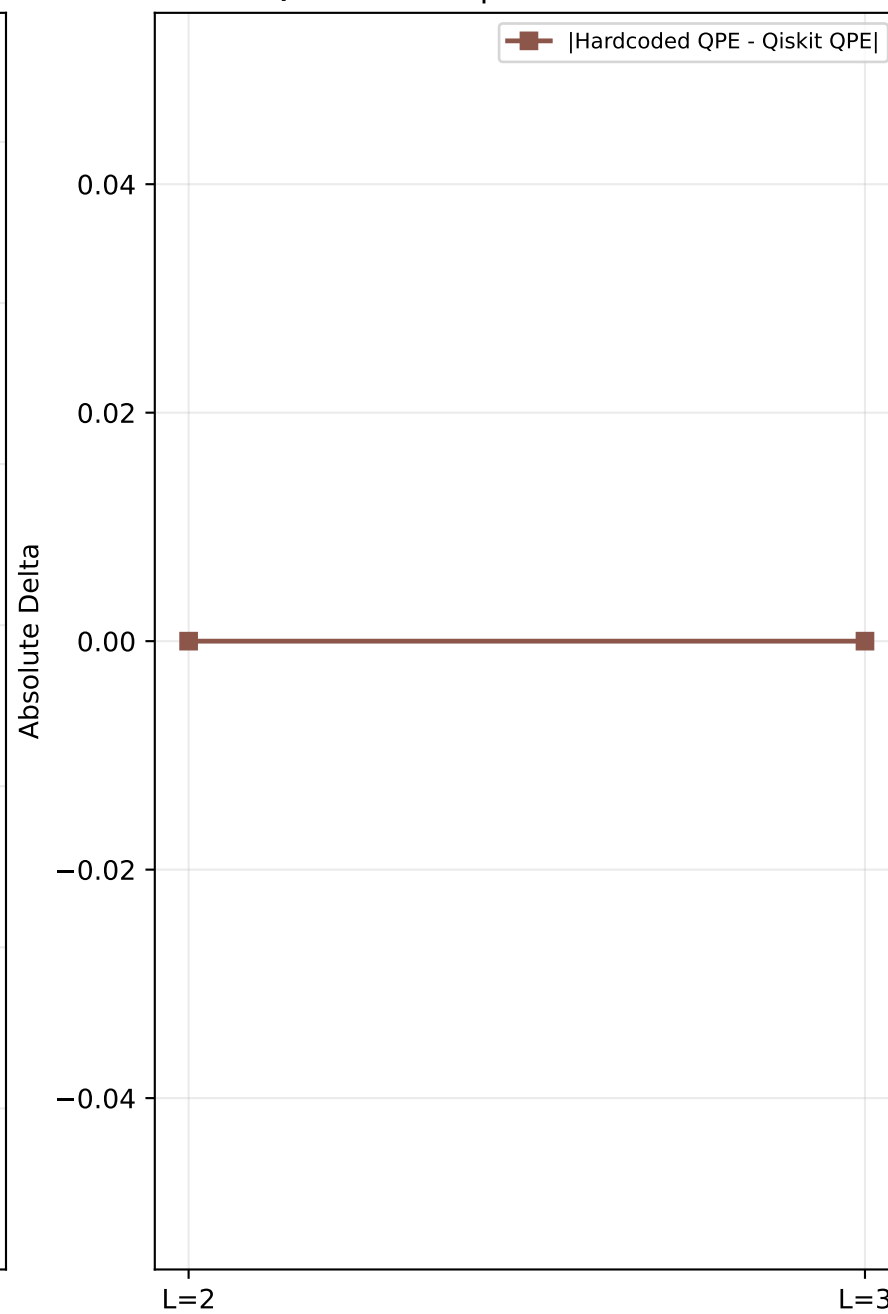
QPE Energy Comparison



QPE Absolute Error (linear)

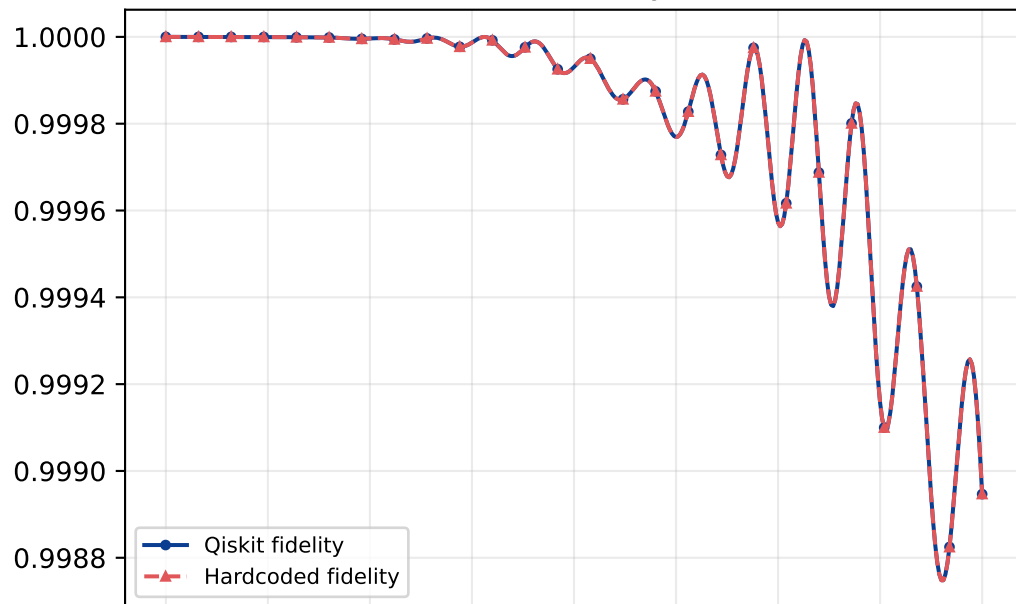


QPE Cross-Implementation Delta

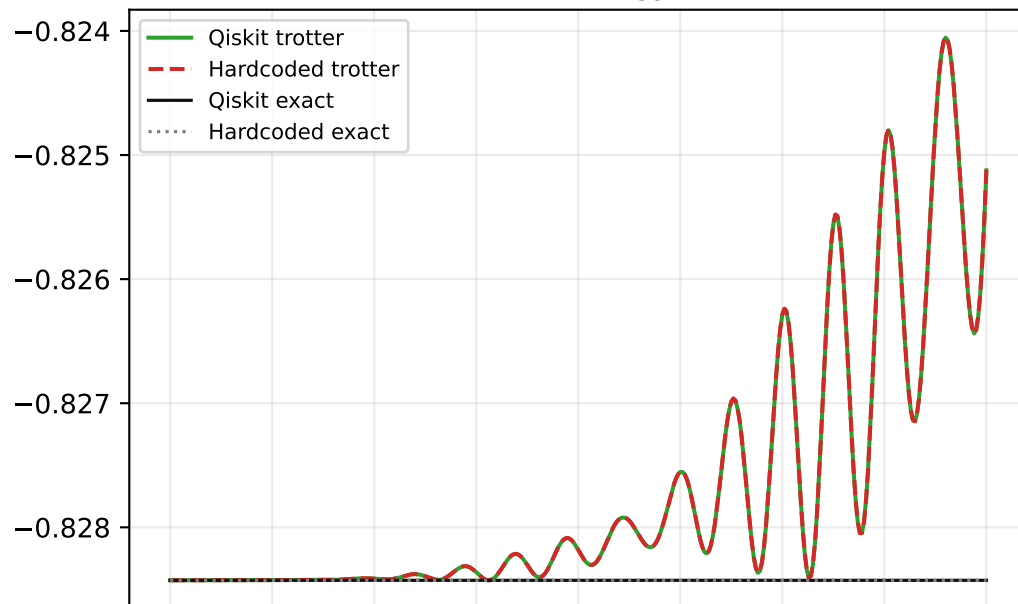


Bundle Page: L=2 Trajectory Comparison

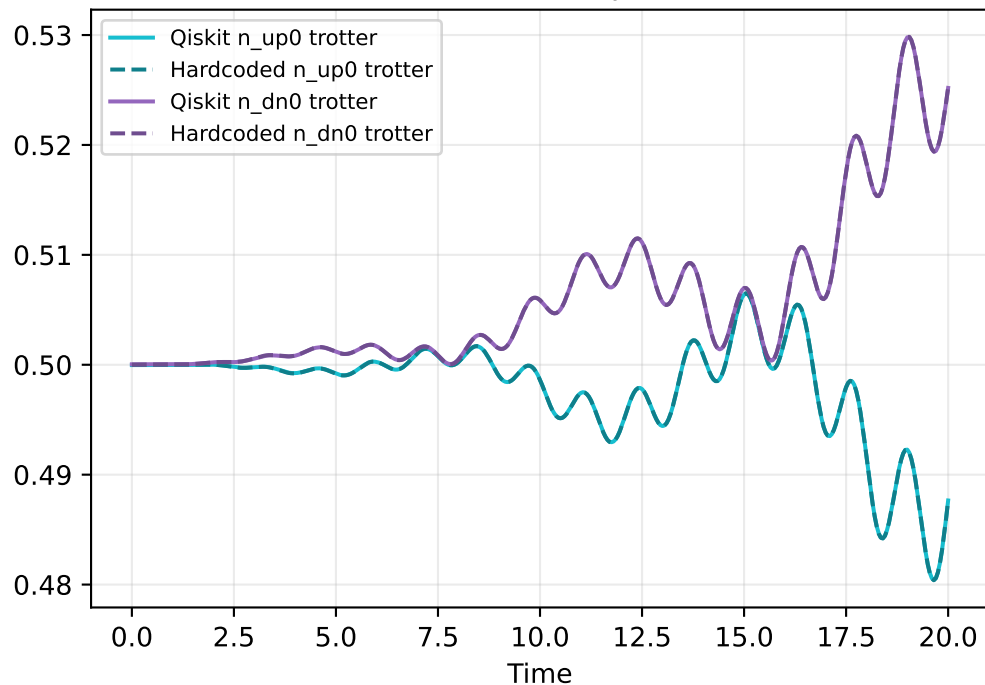
L=2 Fidelity



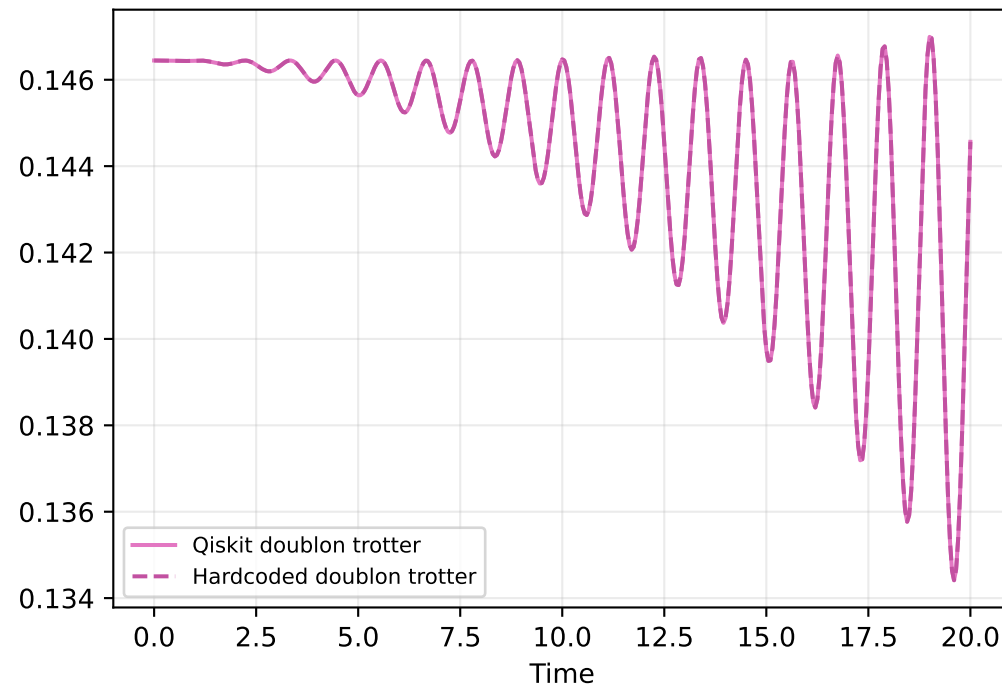
L=2 Energy



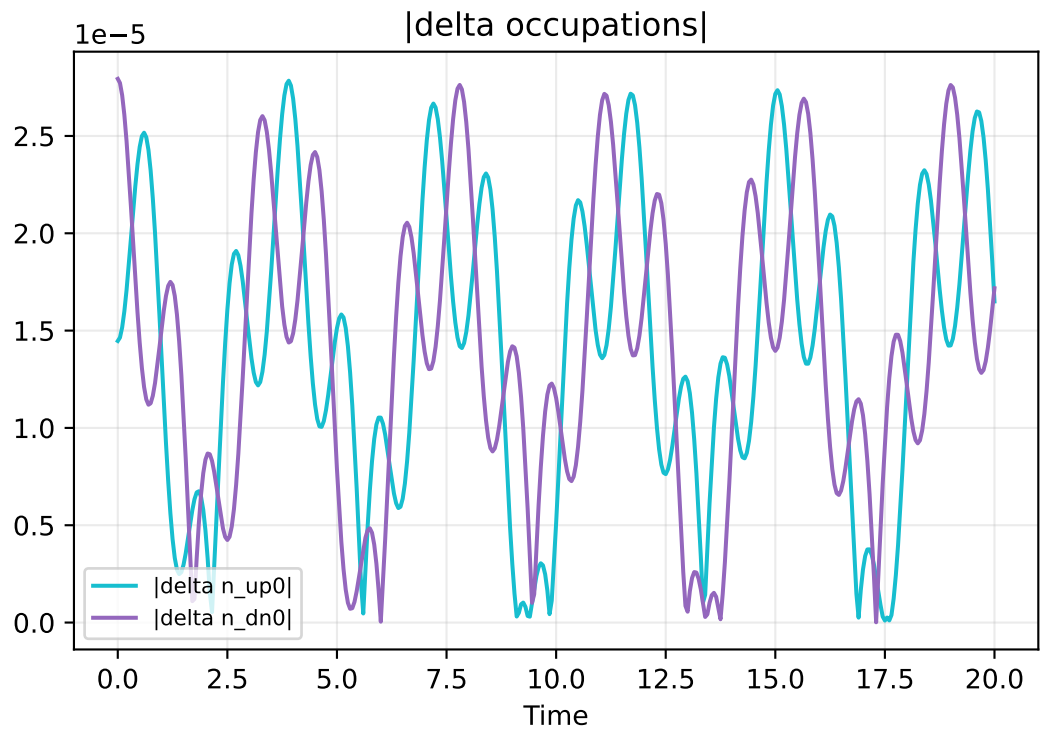
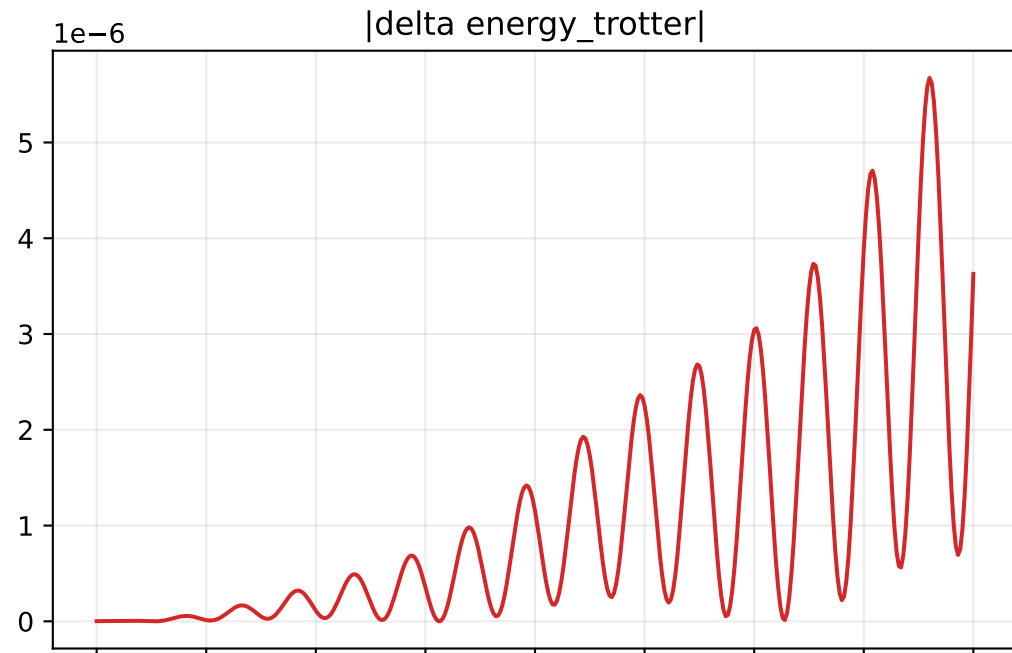
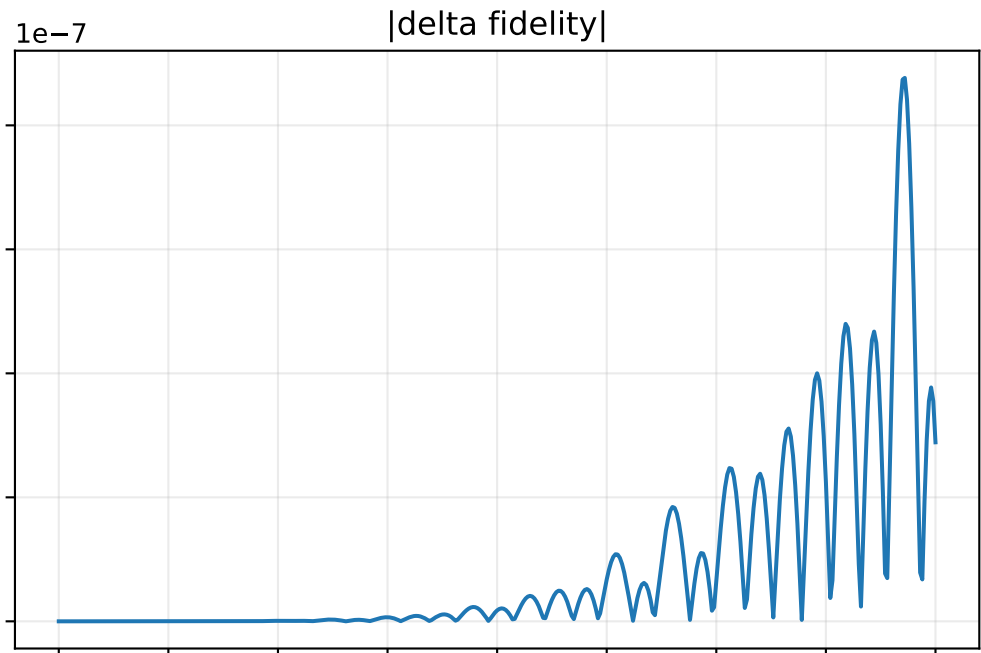
L=2 Site-0 Occupations



L=2 Doublon



Bundle Delta Diagnostics L=2



Bundle metrics page L=2

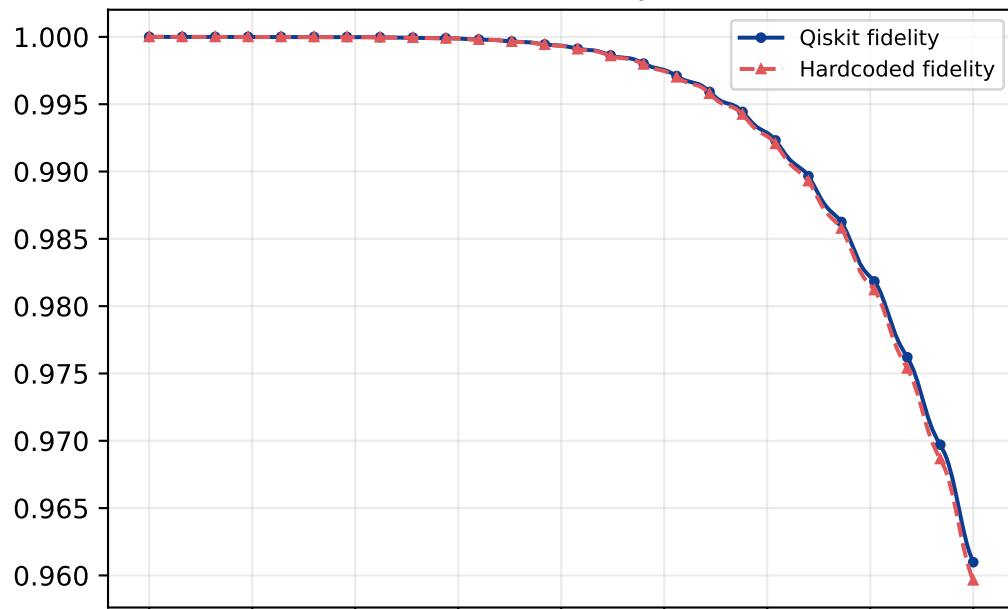
Trotterization comparison uses each path's configured initial state.
For VQE-init runs, both exact(t) and trotter(t) start from the VQE ansatz state.

```
ground_state_energy_abs_delta = 0.0
fidelity max/mean/final = 4.382844408512554e-07 / 4.2841142749426606e-08 / 1.4439022710810434e-07
energy_trotter max/mean/final = 5.674404944255862e-06 / 1.0264816760301597e-06 / 3.6278412992585274e-06
n_up_site0_trotter max/mean/final = 2.7840437910264804e-05 / 1.4056357506818028e-05 / 1.649905140760355e-05
n_dn_site0_trotter max/mean/final = 2.7934482115687942e-05 / 1.4036247784740531e-05 / 1.7175327371998783e-05
doublon_trotter max/mean/final = 8.652711593892803e-07 / 2.803166642322236e-07 / 1.9217693580930728e-07
```

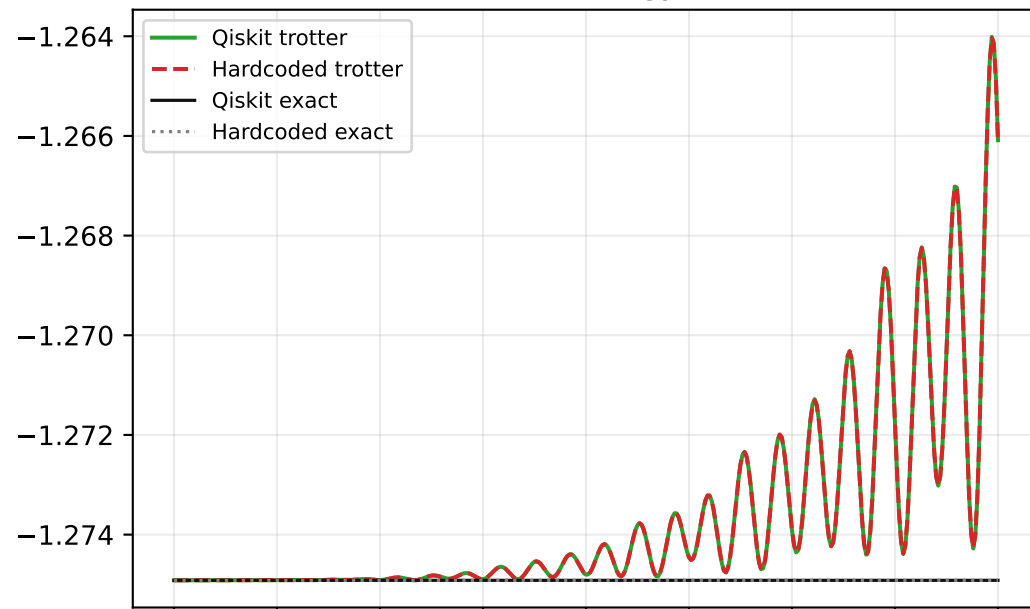
```
checks = {'ground_state_energy_abs_delta': True, 'fidelity_max_abs_delta': True, 'energy_trotter_max_abs_delta': True, 'n_up_s
PASS = True
```


Bundle Page: L=3 Trajectory Comparison

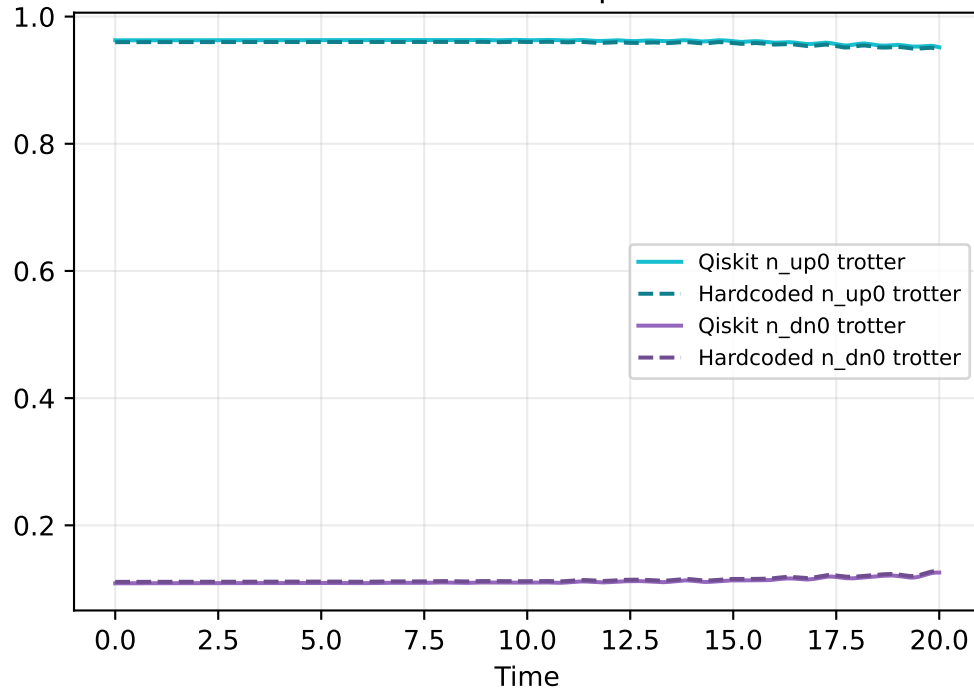
L=3 Fidelity



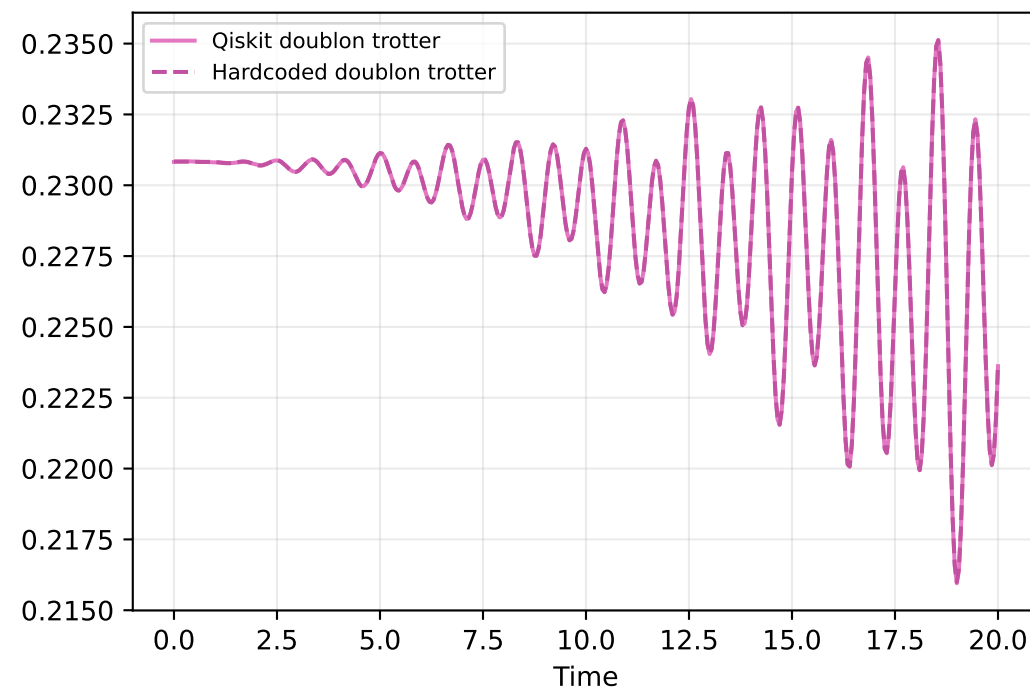
L=3 Energy



L=3 Site-0 Occupations

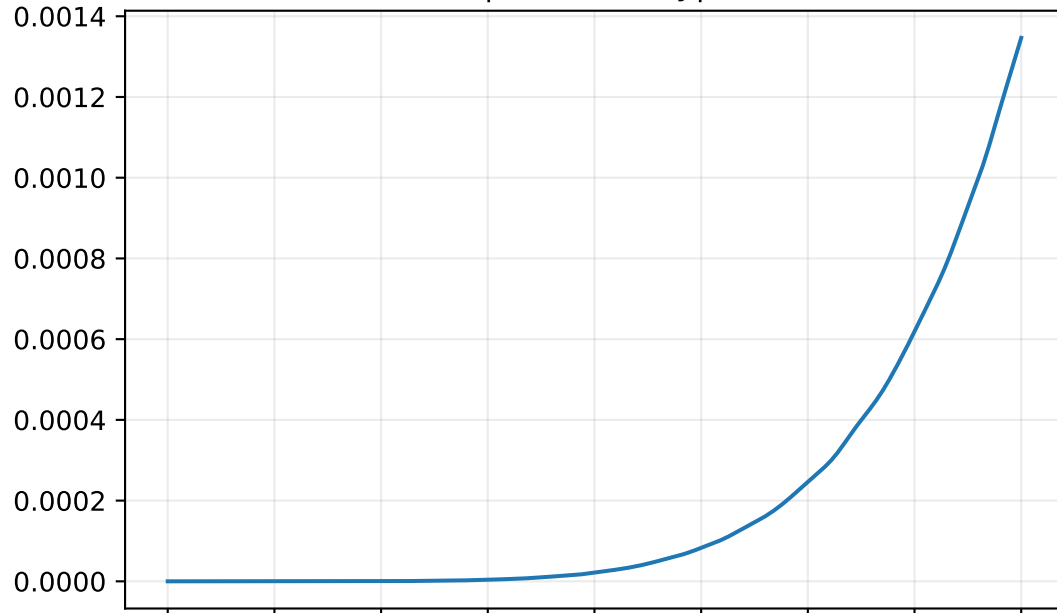


L=3 Doublon

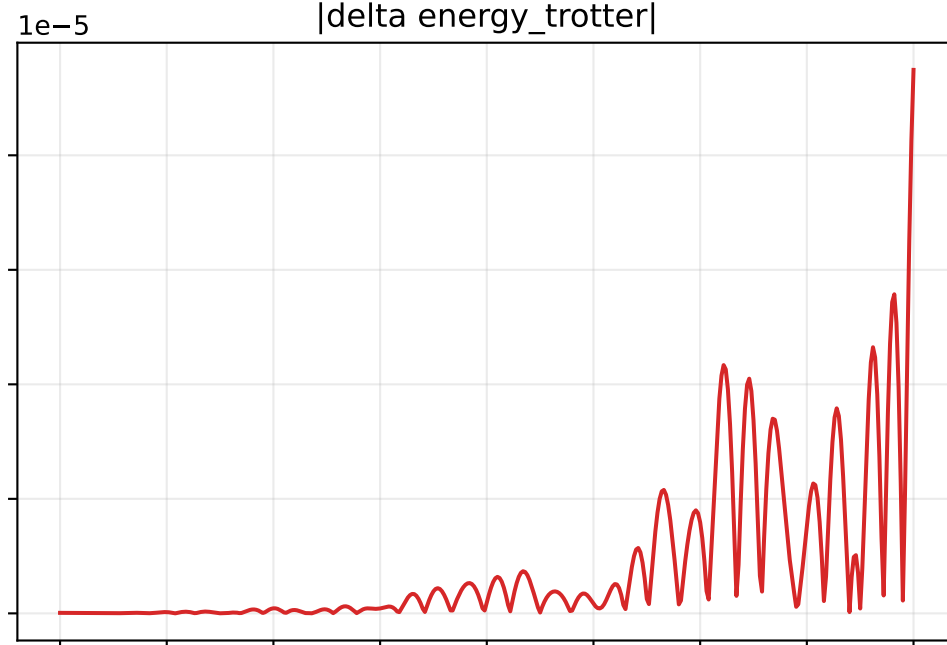


Bundle Delta Diagnostics L=3

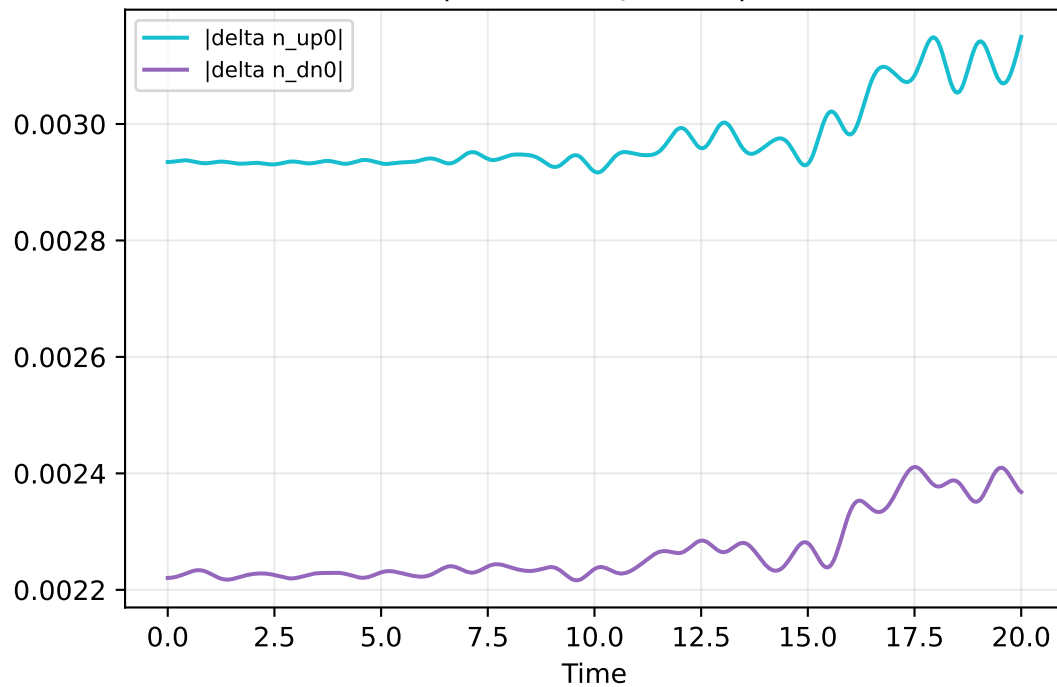
|delta fidelity|



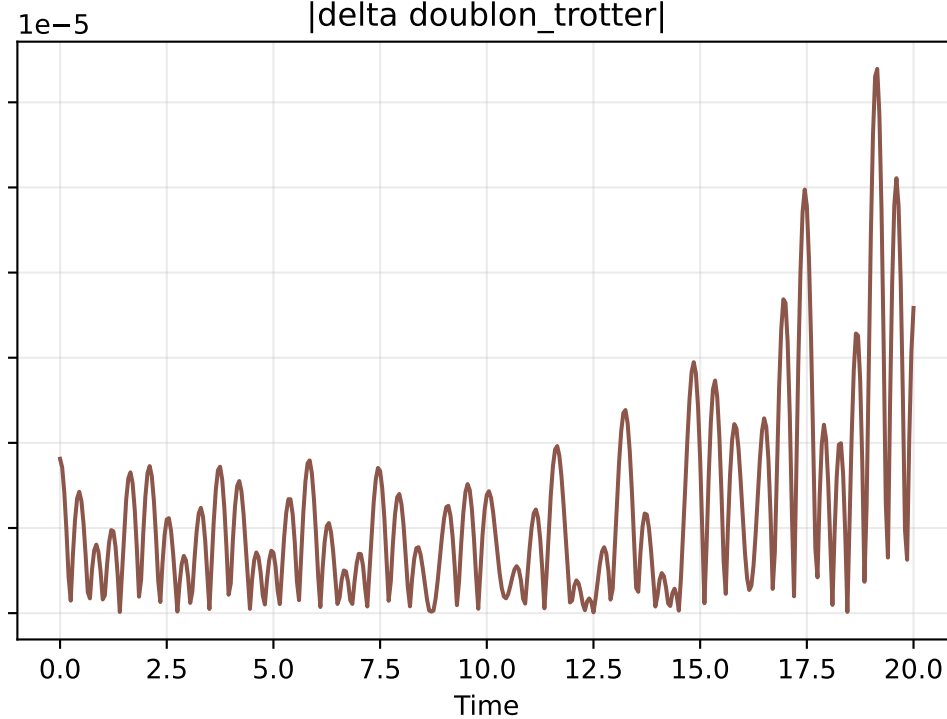
|delta energy_trotter|



|delta occupations|



|delta doublon_trotter|



Bundle metrics page L=3

Trotterization comparison uses each path's configured initial state.
For VQE-init runs, both exact(t) and trotter(t) start from the VQE ansatz state.

```
ground_state_energy_abs_delta = 0.0
fidelity max/mean/final = 0.0013464071626839713 / 0.00019665025721909328 / 0.0013464071626839713
energy_trotter max/mean/final = 4.7458908048580994e-05 / 3.99668035453194e-06 / 4.7458908048580994e-05
n_up_site0_trotter max/mean/final = 0.0031496651890847716 / 0.002975898354829075 / 0.0031496651890847716
n_dn_site0_trotter max/mean/final = 0.0024109550934178353 / 0.00226718670337712 / 0.002368035185029038
doublon_trotter max/mean/final = 6.39293585977807e-05 / 1.1616930205037722e-05 / 3.5848731140875056e-05
```

```
checks = {'ground_state_energy_abs_delta': True, 'fidelity_max_abs_delta': False, 'energy_trotter_max_abs_delta': True, 'n_up_
PASS = False
```