

Benchmarks of jupyter notebooks for individual changes made

All benchmarks are on GPU (Quadro RTX 6000) unless specified otherwise (CPU = Macbook Air M1 2020).

	A	B	C	D	E	E (CPU)	F	F (CPU)
Example_B	6:24	6	3	3	3:06			
Example_C	8:55	8:30	5	5	5:02			
Example_D*	1:52 (11:52)	1:30 (10)	1 (11.5)	1 (7)	0:52 (5:06)	0:30 (0:24)	1:02 (0:44)	0:29 (0:26)
Example_E	12:45	8.5	8.5	6.5	6:16	9:42	2:37	3:33

A = fgrape 0.0.3

B = A + PR51 value_and_grad method in optimizer.py

C = B + PR49 matrix reuse and more efficient formula for trace in povm.py

D = C + PR52 changes in fgrape.py

E = D + PR48 use of matrix hermiticity in fidelity.py and efficient trace formula in purity.py

F = E + Replacement of dynamiqs.mesolve by fixed step 4th order Runge Kutta solver with 20 steps
(Note, for the Runge Kutta solver it was not taken into account if it affects accuracy.)

*Example_D is separated into the optimize_pulse call without and with dissipation.