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Experimental condition

Type of tomography	StandardQst
Nrep	100
N	[100, 1000]

True object

Type	State
Dim	2
Vec	[0.70710678 0. 0. 0.70710678]

Tester objects

0	Type	Povm
	Dim	2
	Number of outcomes	2
	Vecs	[0.70710678 0.70710678 0. 0.] [0.70710678 -0.70710678 0. 0.]
1	Type	Povm
	Dim	2
	Number of outcomes	2
	Vecs	[0.70710678 0. 0.70710678 0.] [0.70710678 0. -0.70710678 0.]
2	Type	Povm
	Dim	2
	Number of outcomes	2
	Vecs	[0.70710678 0. 0. 0.70710678] [0.70710678 0. 0. -0.70710678]

Cases

	Name	Parameterization	Tomography	Estimator
0	LinearEstimator(True)	True	StandardQst	LinearEstimator
1	LinearEstimator(False)	False	StandardQst	LinearEstimator
2	ProjectedLinearEstimator(True)	True	StandardQst	ProjectedLinearEstimator
3	ProjectedLinearEstimator(False)	False	StandardQst	ProjectedLinearEstimator

Consistency test

|	Type of tomography	Parametorization	Estimator	Result
0	StandardQst	True	LinearEstimator	1.232595e-32
1	StandardQst	False	LinearEstimator	1.232595e-32
2	StandardQst	True	ProjectedLinearEstimator	1.232595e-32
3	StandardQst	False	ProjectedLinearEstimator	6.162976e-32

MSE

Mean squared error
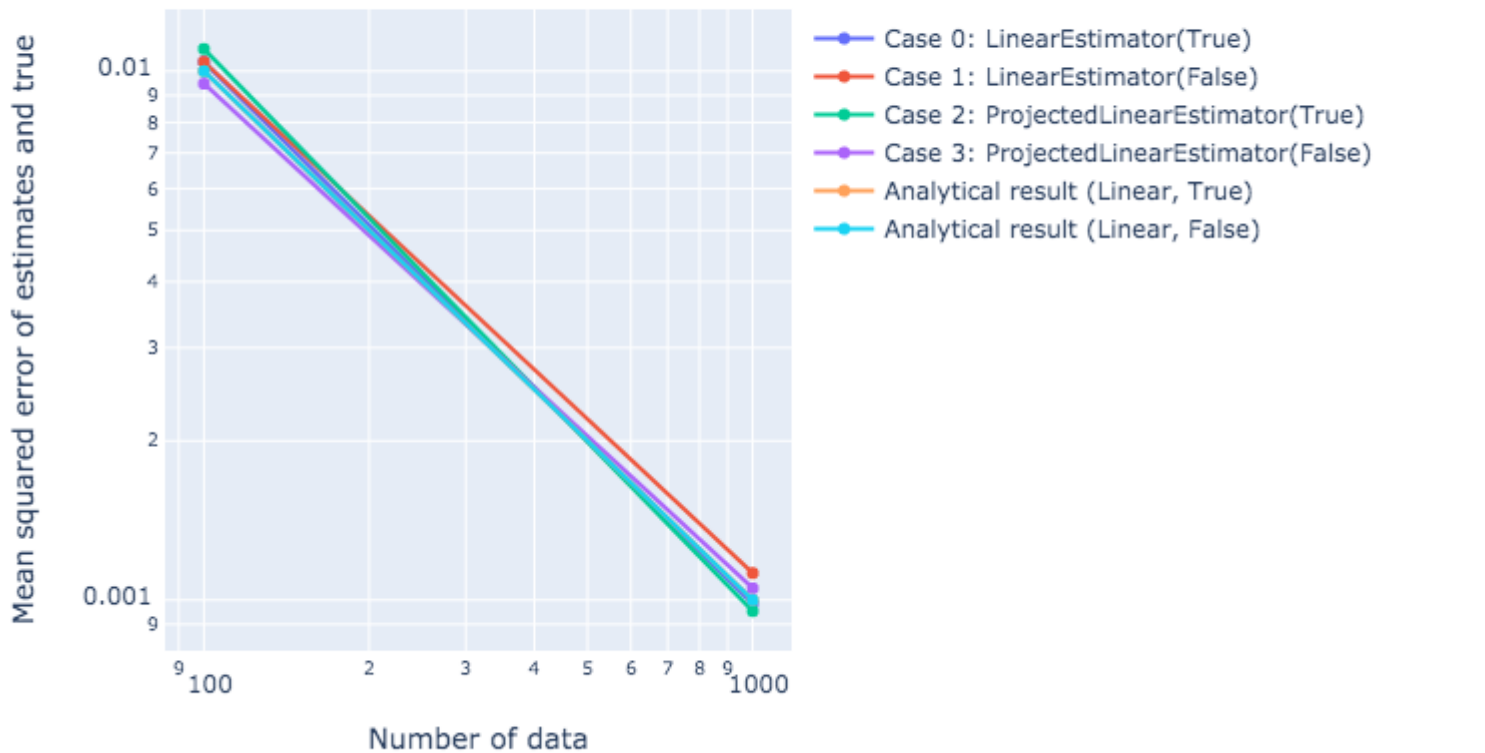
Physicality violation test

on_para_eq_constraint=True

Case 0: LinearEstimator(True)
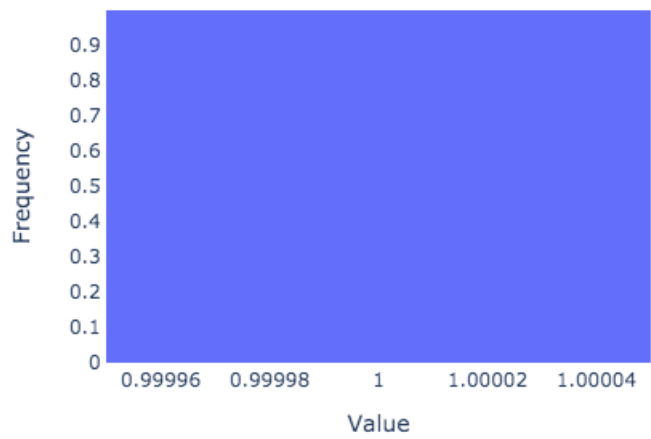
N=100, Nrep=100
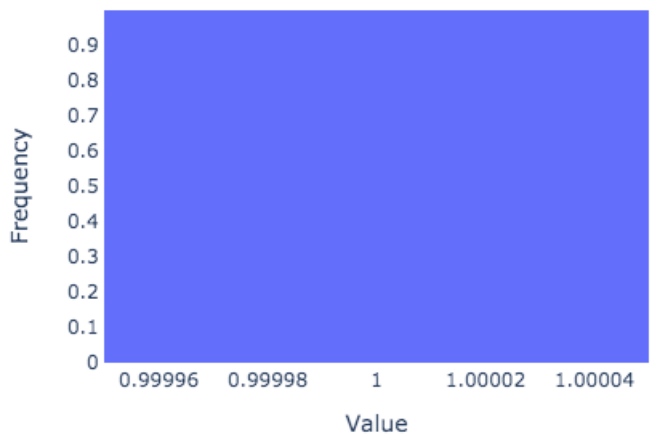
N=1000, Nrep=100

Case 2: ProjectedLinearEstimator(True)
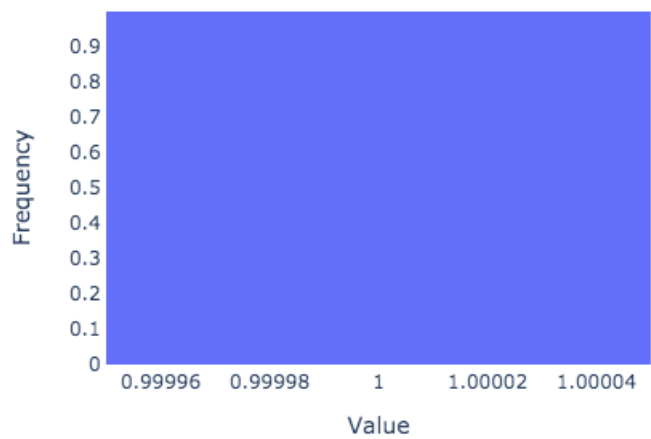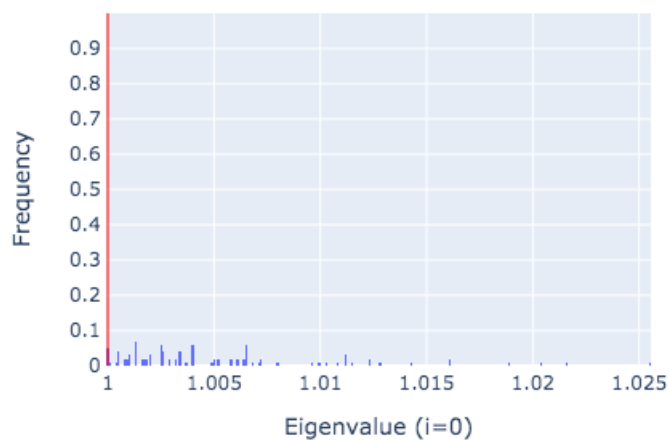
N=100, Nrep=100
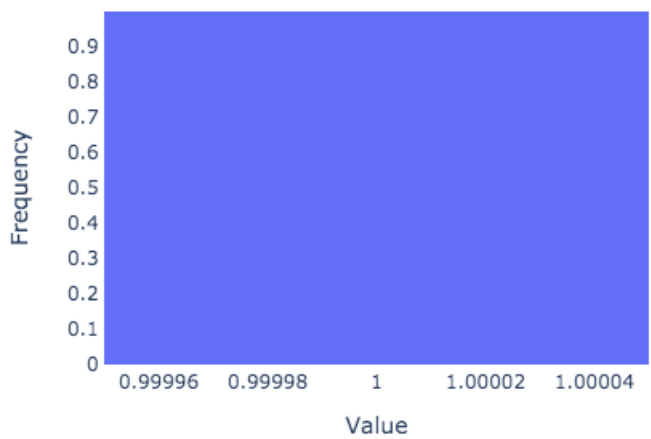
N=1000, Nrep=100

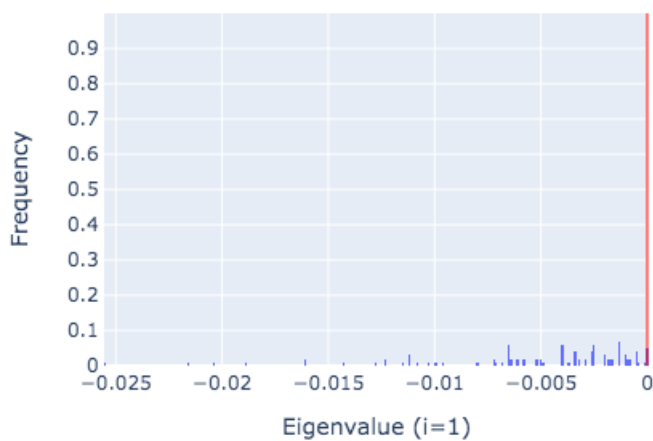# on_para_eq_constraint=False

Eigenvalue
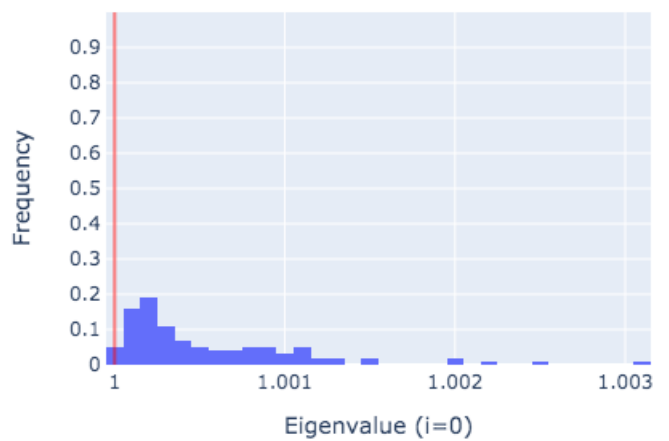
Case 1: LinearEstimator(False)
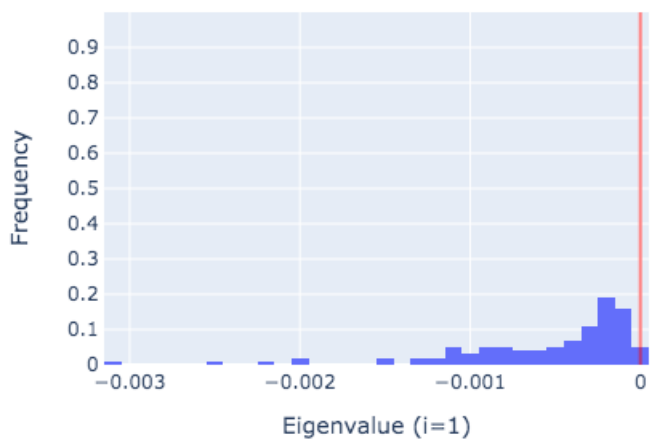
N=100, Nrep=100
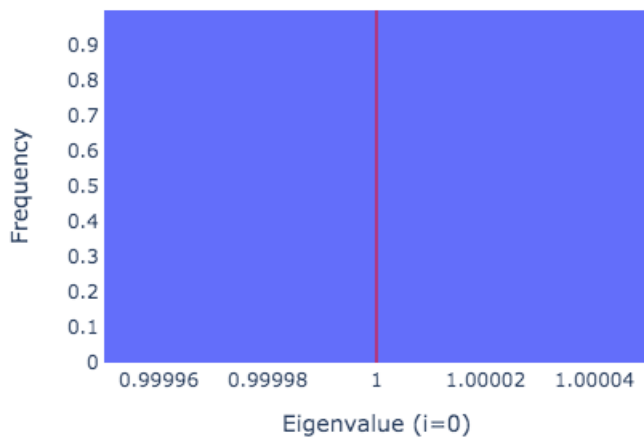

N=100, Nrep=100

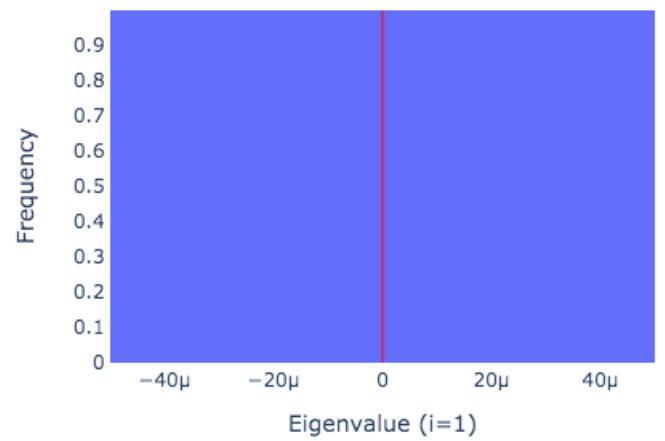N=1000, Nrep=100

N=1000, Nrep=100

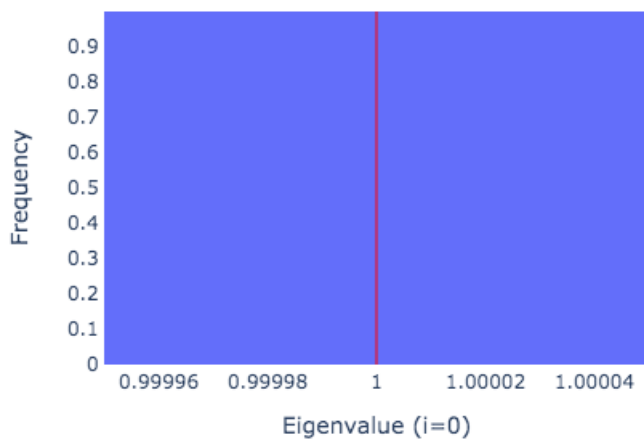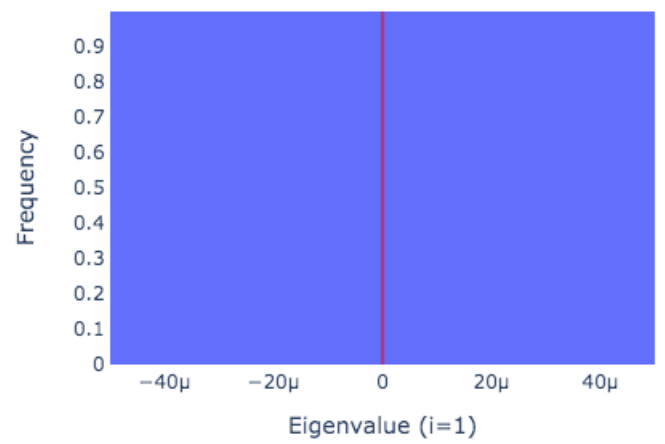### Case 3: ProjectedLinearEstimator(False)

N=100, Nrep=100

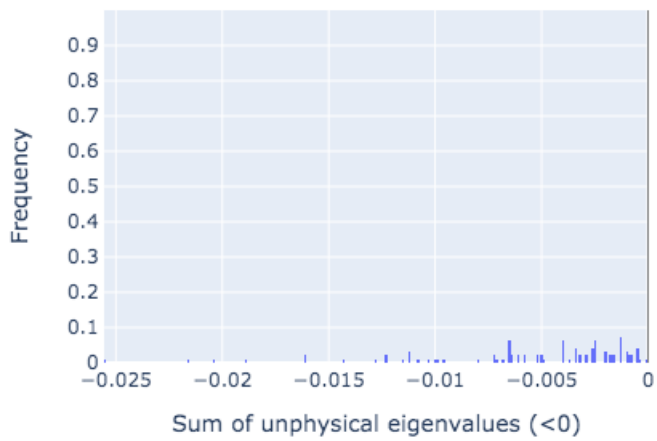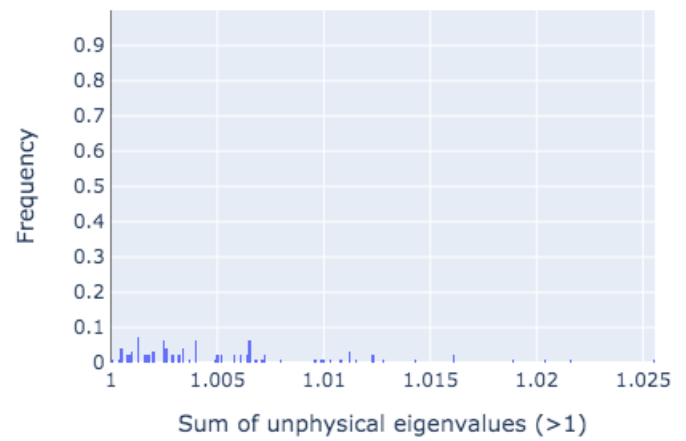## N=100, Nrep=100

N=1000, Nrep=100

N=1000, Nrep=100

Sum of unphysical eigenvalues
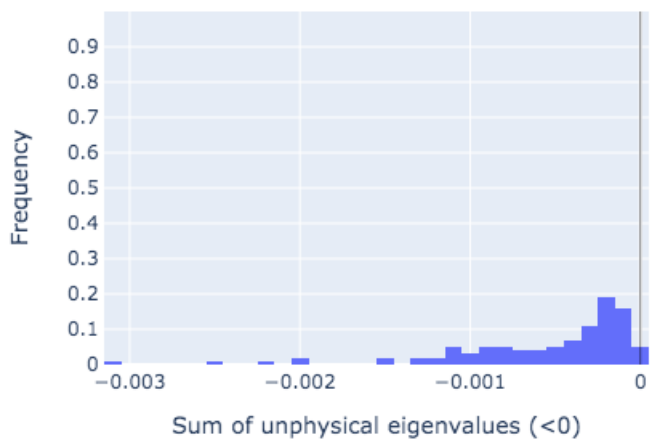
Case 1: LinearEstimator(False)

N=100, Nrep=100
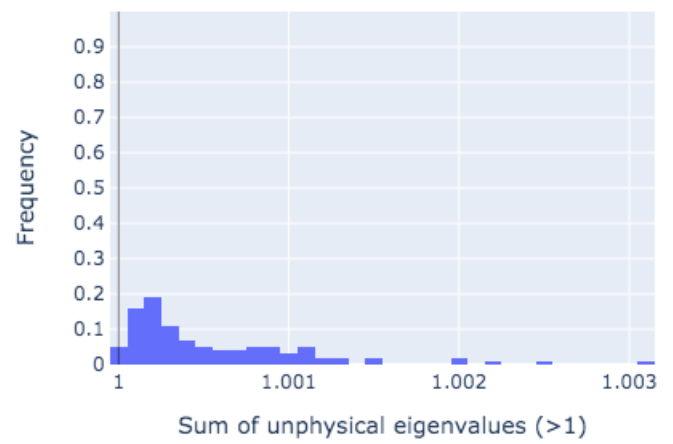Number of unphysical estimates=95

N=100, Nrep=100
Number of unphysical estimates=95

N=1000, Nrep=100
Number of unphysical estimates=100

N=1000, Nrep=100
Number of unphysical estimates=100

Case 3: ProjectedLinearEstimator(False)

N=100, Nrep=100
Number of unphysical estimates=90

N=100, Nrep=100
Number of unphysical estimates=90
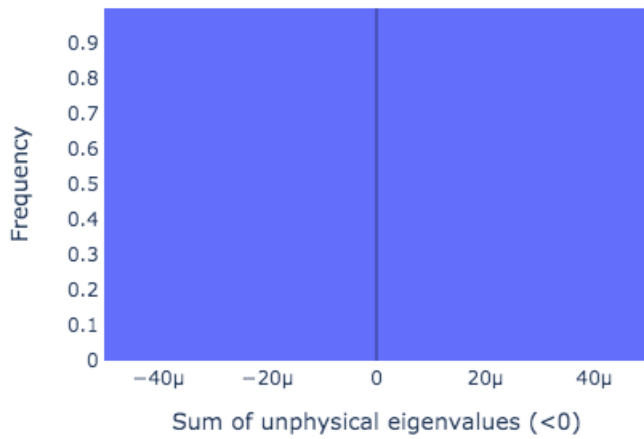

N=1000, Nrep=100
Number of unphysical estimates=100
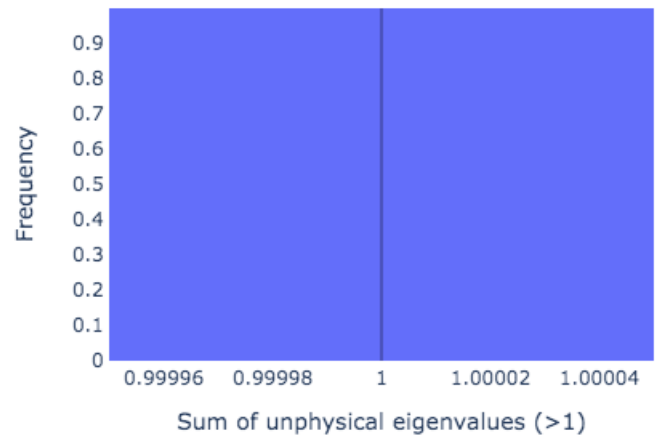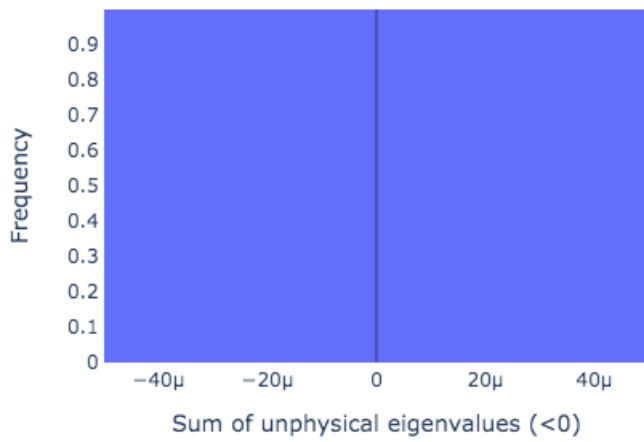

N=1000, Nrep=100
Number of unphysical estimates=100