

Table of contents

| | |
|----------------------------------|---|
| Table of contents | 1 |
| Computation time | 1 |
| Experimental condition | 1 |
| True object | 1 |
| Tester objects | 1 |
| Cases | 2 |
| MSE of empirical distributions | 3 |
| Consistency test | 3 |
| MSE of estimators | 4 |
| Comparison of analytical results | 4 |
| Comparison of parametrization | 4 |
| Comparison of estimators | 5 |

Computation time

| | |
|-------|------------------------|
| Total | 0.4848287582397461min. |
|-------|------------------------|

Experimental condition

| | |
|--------------------|-------------|
| Type of tomography | StandardQpt |
| Nrep | 100 |
| N | [100, 1000] |
| RNG seed | 777 |

True object

| | |
|------|----------------|
| Type | Gate |
| Dim | 2 |
| HS | [[1. 0. 0. 0.] |

Tester objects

| | | |
|---|--------------------|--|
| 0 | Type | State |
| | Dim | 2 |
| | Vec | [0.70710678 0.70710678 0. 0.] |
| 1 | Type | State |
| | Dim | 2 |
| | Vec | [0.70710678 0. 0.70710678 0.] |
| 2 | Type | State |
| | Dim | 2 |
| | Vec | [0.70710678 0. 0. 0.70710678] |
| 3 | Type | State |
| | Dim | 2 |
| | Vec | [0.70710678 0. 0. -0.70710678] |
| 4 | Type | Povm |
| | Dim | 2 |
| | Number of outcomes | 2 |
| | Vecs | [0.70710678 0.70710678 0. 0.] [0.70710678 -0.70710678 0. 0.] |
| 5 | Type | Povm |
| | Dim | 2 |
| | Number of outcomes | 2 |
| | Vecs | [0.70710678 0. 0.70710678 0.] [0.70710678 0. -0.70710678 0.] |
| 6 | 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 | StandardQpt | LinearEstimator |
| 1 | LinearEstimator(False) | False | StandardQpt | LinearEstimator |
| 2 | ProjectedLinearEstimator(True) | True | StandardQpt | ProjectedLinearEstimator |
| 3 | ProjectedLinearEstimator(False) | False | StandardQpt | ProjectedLinearEstimator |

MSE of empirical distributions



Consistency test

| | Type of tomography | Parametorization | Estimator | Result |
|---|--------------------|------------------|--------------------------|--------------|
| 0 | StandardQpt | True | LinearEstimator | 0.000000e+00 |
| 1 | StandardQpt | False | LinearEstimator | 2.274138e-30 |
| 2 | StandardQpt | True | ProjectedLinearEstimator | 0.000000e+00 |
| 3 | StandardQpt | False | ProjectedLinearEstimator | 0.000000e+00 |

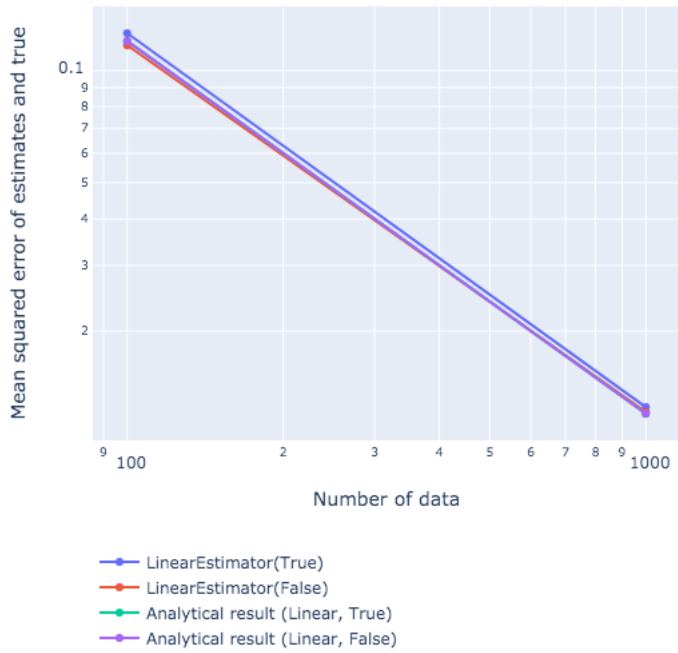
MSE of estimators

Comparison of analytical results

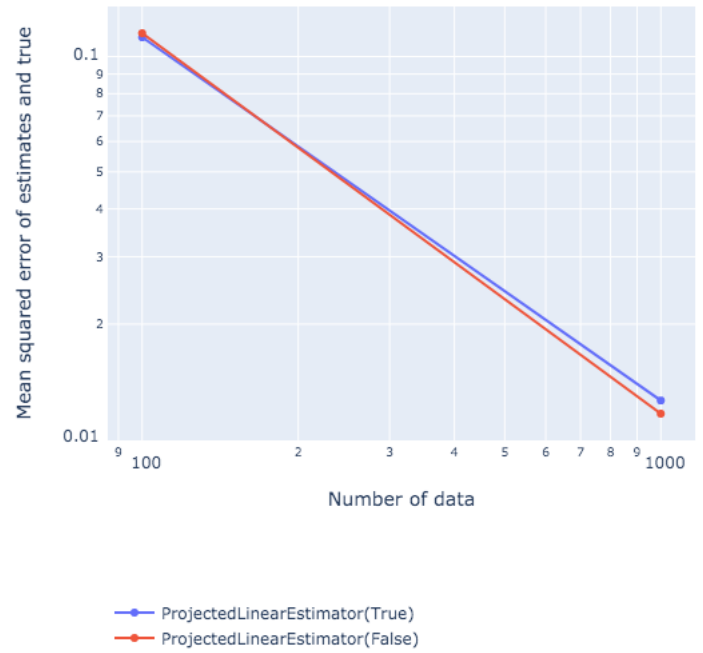


Comparison of parametrization

Mean squared error
estimator=LinearEstimator

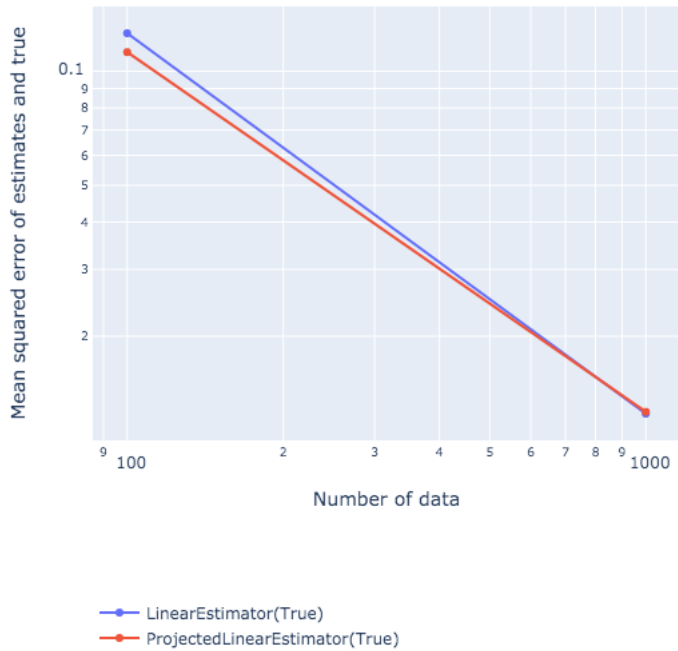


Mean squared error
estimator=ProjectedLinearEstimator



Comparison of estimators

Mean squared error
parametrization=True



Mean squared error
parametrization=False

