Bookmarks

- 0. Getting Started
- 1. Introduction to Observation Theory
- 2. Mathematical model
- 3. Least Squares Estimation (LSE)
- 4. Best Linear Unbiased Estimation (BLUE)
- 5. How precise is the estimate?

Warming up

5.1. Error Propagation

5.2. Confidence Intervals

Assessment

Exercises: precision

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Errors and precision

1/1 point (ungraded)

Which of the following statements is correct? *At least one of the statements is correct.*

- [x] The precision of the best linear unbiased estimator depends on the random errors
- [ ] The precision of the best linear unbiased estimator depends on the presence of outliers
- [ ] The precision of the best linear unbiased estimator depends on the presence of systematic biases

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✔ Correct (1/1 point)

Graded Assignment due Feb 8, 2017 17:30 IST

Q&A Forum

Feedback

- 6. Does the estimate make sense?
- Pre-knowledge Mathematics
- MATLAB Learning Content

Precision of estimators

2/2 points (ungraded)

The precision of the weighted least squares estimator only depends on A and Q_{yy}?

- True
- False ✔

Answer

Correct: Indeed, it also depends on the weight matrix W

The precision of the best linear unbiased estimator only depends on A and Q_{yy}?

- True ✔
- False

Answer

Correct: Yes, $Q_{\hat{x}\hat{x}} = (A^T Q_{yy}^{-1} A)^{-1}$

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✔ Correct (2/2 points)

Precision = quality?

1/1 point (ungraded)

Do you think that the precision of the estimator (as described by the covariance matrix $Q_{\hat{x}\hat{x}} = (A^T Q_{yy}^{-1} A)^{-1}$) is sufficient to describe the 'quality' of the solution?

no ▾ ✔ **Answer:** no

Explanation

No, we will show in the next video that also outliers and systematic biases will propagate in the estimation results.

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✔ Correct (1/1 point)