Module 1 Assessment - Part 2 (MATLAB)

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The following files are used in this problem and provided for you to use in MATLAB Online (or desktop), or other data analysis software of your choice.

A single ZIP file containing:

- the 3 vectors in a single MATLAB .mat file (A1_errors.mat),
- or, the 3 vectors (e_1.csv, e_2.csv, and e_3.csv), each in a separate CSV file.

If you would like to use non-MATLAB software, you may do so, but you will have to enter the results from that software at the location in the MATLAB code below and submit your answers for assessment.

LTI CONSUMER (EXTERNAL RESOURCE) (1.0 points possible)

- 3. Least Squares Estimation (LSE)
- 4. Best Linear Unbiased Estimation (BLUE)
- Pre-knowledge Mathematics
- MATLAB Learning Content

```
m3 =

   -0.0112

s1 =

    1.4335

s2 =

    1.7327

s3 =

    2.0208

c11 =

    2.0550

c22 =

    3.0023

c33 =

    4.0838
```

```
c12 =

    0.0366
```

Blank Common Problem

3/3 points (graded)

Based on the results from the Matlab assignment 'Covariance matrix from calibration'

Which instrument has a constant systematic bias affecting all its measurement?

instrument 2 ✔ **Answer:** instrument 2

What is the size of this systematic bias (round your answer to whole seconds)?

-1 ✔ **Answer:** -1

-1

The diagonal elements of the covariance matrix are:

- 1.4, 1.7 and 2.0
- 2, 3 and 4 ✔

0.04, -0.01 and 0.02

The sample covariance between measurements of instrument 1 and 3 is (give your answer up to 2 decimal places):

-0.01 ✔ **Answer:** -0.01

-0.01

Submit You have used 1 of 3 attempts

✔ Correct (3/3 points)