

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.42410914326302374, median 0.18919718217952625, std: 1.6896755
Reprojection error (cam1): mean 0.3365731815886709, median 0.1948412110297926, std: 0.717726575
Gyroscope error (imu0): mean 0.110886356895235, median 0.06549847744585716, std: 0.1621130274
Accelerometer error (imu0): mean 0.6860817527130132, median 0.6693183316923549, std: 0.260366237

Residuals

Reprojection error (cam0) [px]: mean 0.42410914326302374, median 0.18919718217952625, std: 1.6896
Reprojection error (cam1) [px]: mean 0.3365731815886709, median 0.1948412110297926, std: 0.717726
Gyroscope error (imu0) [rad/s]: mean 0.16422618356937882, median 0.09700530598819218, std: 0.2400
Accelerometer error (imu0) [m/s^2]: mean 0.19933952893524584, median 0.1944689542021513, std: 0.07

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.02046481 -0.99967275 0.01534888 0.01210344]
 [ 0.99975128 0.02032549 -0.00917875 0.0020009 ]
 [ 0.00886377 0.0155329 0.99984007 0.0095396 ]
 [ 0.         0.         0.         1.        ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.02046481 0.99975128 0.00886377 -0.00233266]
 [-0.99967275 0.02032549 0.0155329 0.01191063]
 [ 0.01534888 -0.00917875 0.99984007 -0.00970548]
 [ 0.         0.         0.         1.        ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)

0.009968312981192447

Transformation (cam1):

T_ci: (imu0 to cam1):

```
[ 0.      0.      0.      1.      ]]
```

T_ic: (cam1 to imu0):

```
[[ 0.01900626  0.99974279 -0.01237379 -0.00192497]
 [-0.99981289  0.01904923  0.00336417 -0.06311474]
 [ 0.00359902  0.01230753  0.99991778 -0.01177361]
 [ 0.          0.          0.          1.          ]]
```

timeshift cam1 to imu0: [s] (t_imu = t_cam + shift)

0.029504902865484406

Baselines:

Baseline (cam0 to cam1):

```
[[ 0.9999299 -0.00135319 -0.01176308 -0.07501164]
 [ 0.00160546  0.99976836  0.02146295  0.00104704]
 [ 0.01173132 -0.02148033  0.99970044  0.0023254 ]
 [ 0.          0.          0.          1.          ]]
```

baseline norm: 0.07505497658114559 [m]

Gravity vector in target coords: [m/s^2]

[-9.80615218 -0.07467402 -0.04718269]

Calibration configuration

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cam0

Camera model: pinhole

Focal length: [771.5856045743167, 771.691592450284]

Principal point: [646.7386906636384, 318.517685310617]

Distortion model: radtan

Distortion coefficients: [0.12907808470161233, -0.45600922692825135, 0.00315421291048746, -0.00344

Type: checkerboard

Rows

Count: 6
Distance: 0.0287 [m]

cam1

Camera model: pinhole
Focal length: [777.6311041545457, 778.5012883129682]
Principal point: [626.6766803691, 324.61218840672115]
Distortion model: radtan
Distortion coefficients: [0.06734597922271914, -0.2119485218187347, 0.005146554504867497, -0.00034
Type: checkerboard
Rows
Count: 7
Distance: 0.0287 [m]
Cols
Count: 6
Distance: 0.0287 [m]

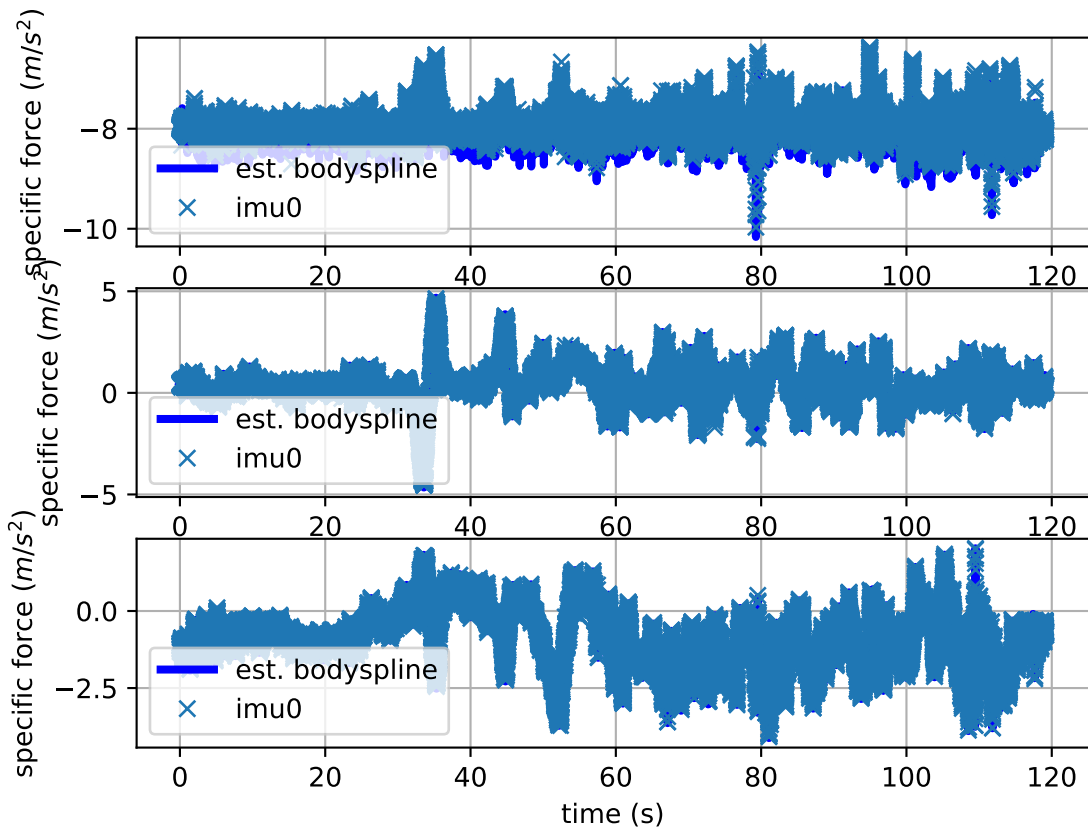
IMU configuration
=====

IMU0:

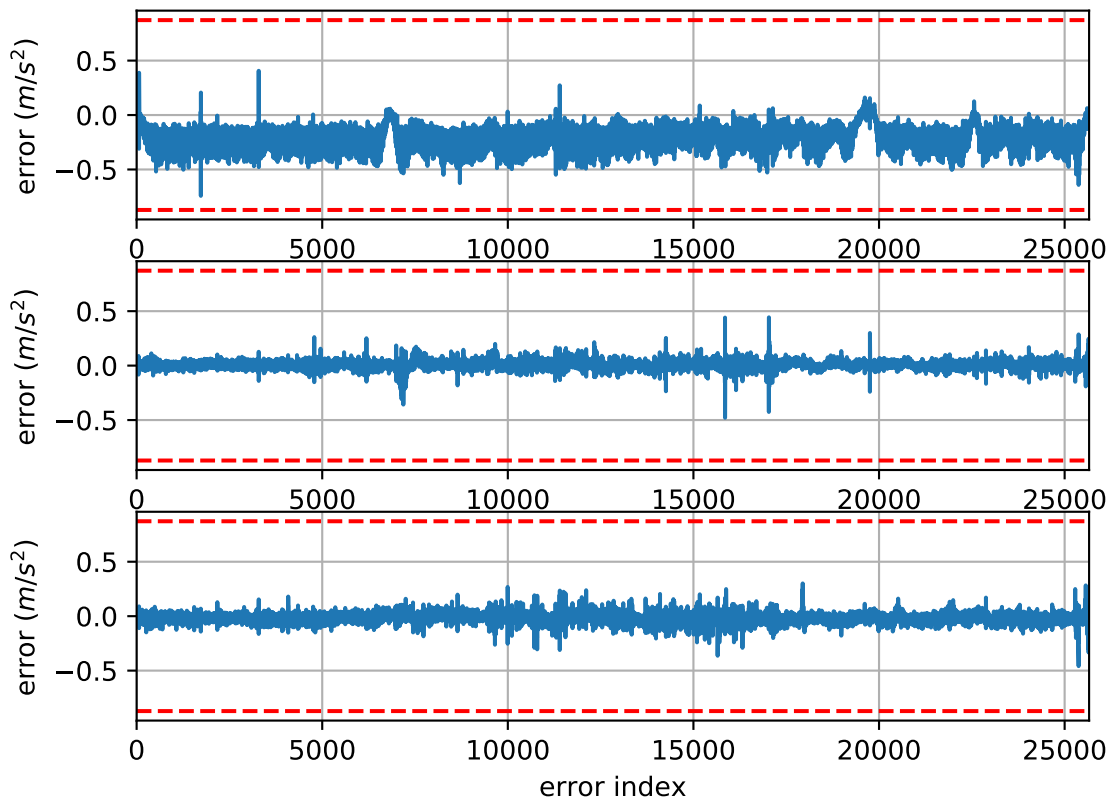
Model: calibrated
Update rate: 200.0
Accelerometer:
Noise density: 0.0205448304245464
Noise density (discrete): 0.29054777823048916
Random walk: 0.0003239150804850799
Gyroscope:
Noise density: 0.10472473918501028
Noise density (discrete): 1.4810314647142666
Random walk: 0.0003204465758063022
T_i_b
[1. 0. 0. 0.]

time offset with respect to IMU0: 0.0 [s]

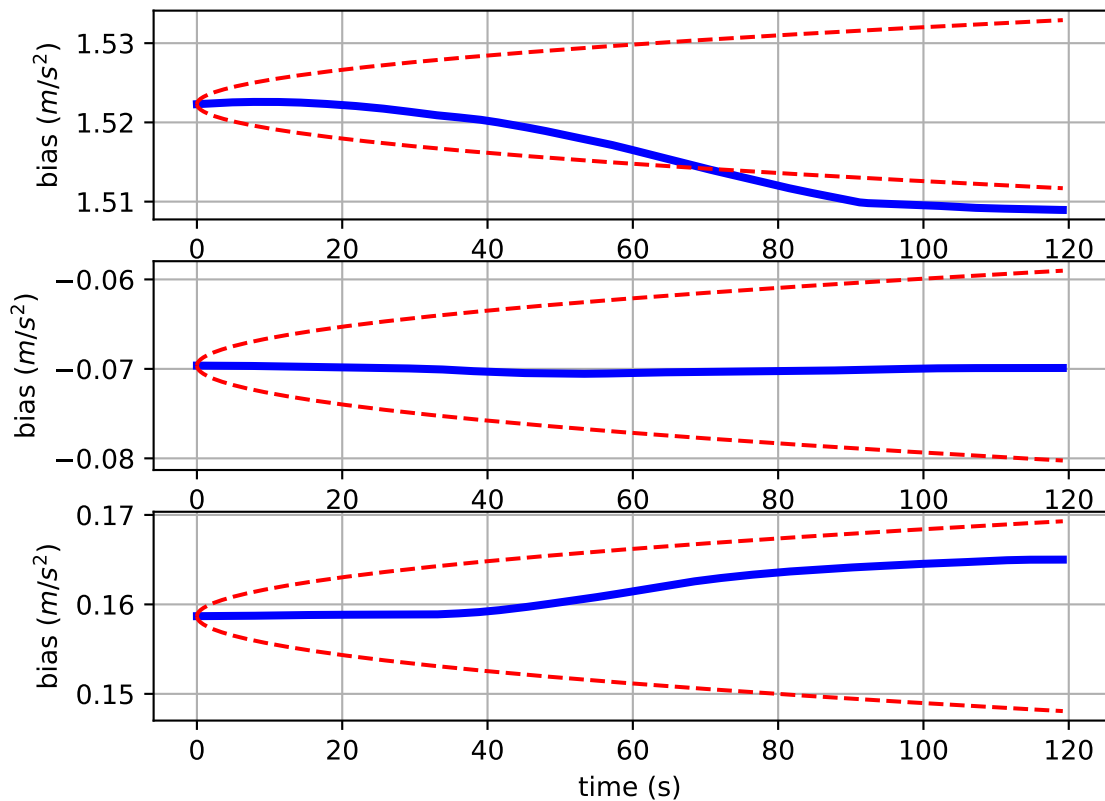
Comparison of predicted and measured specific force (imu0 frame)



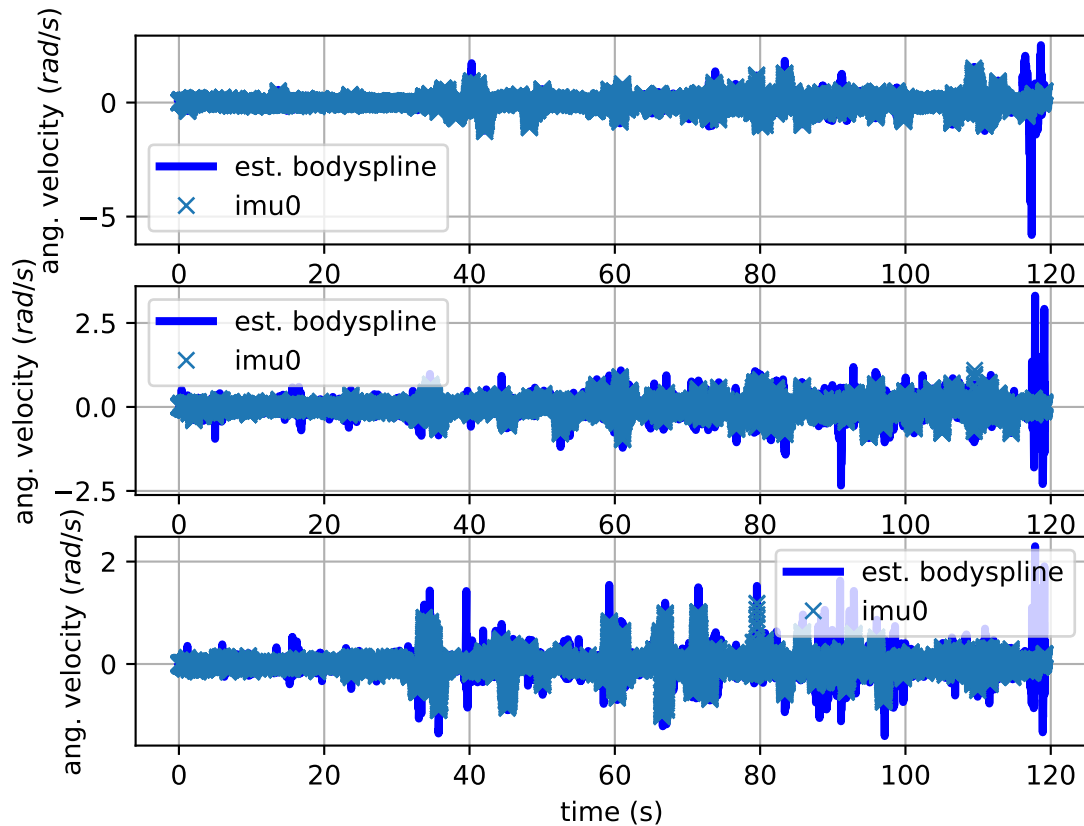
imu0: acceleration error



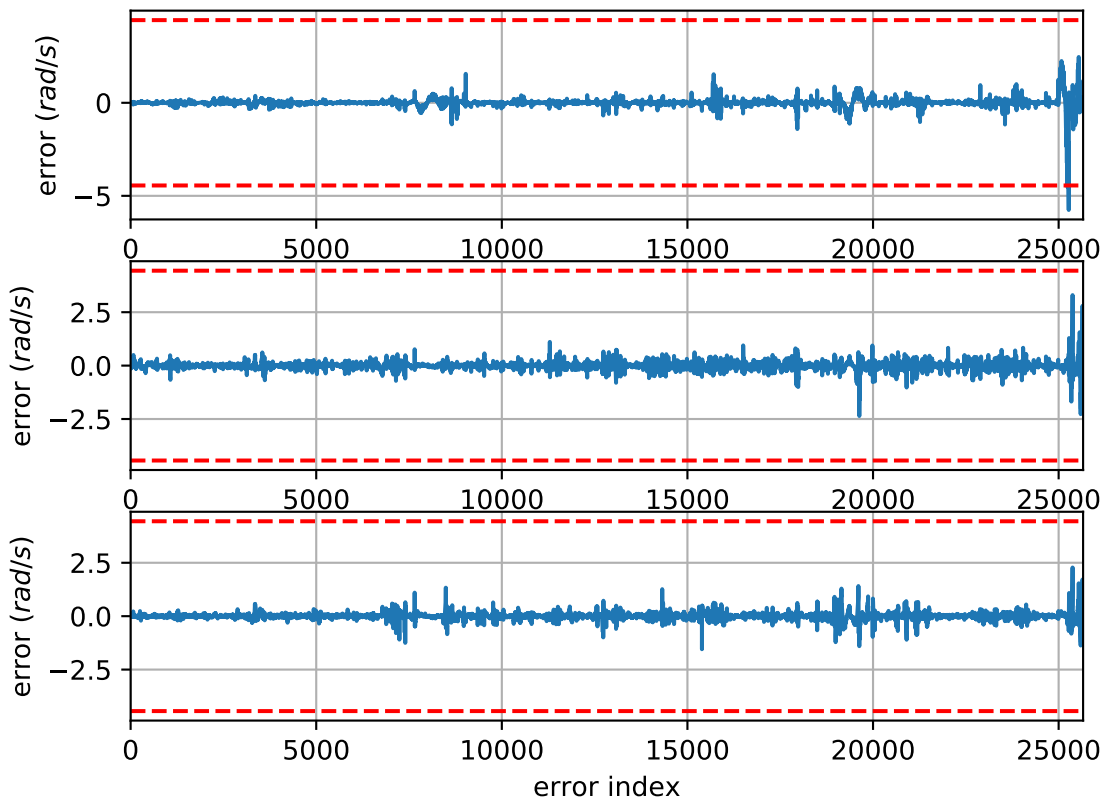
imu0: estimated accelerometer bias (imu frame)



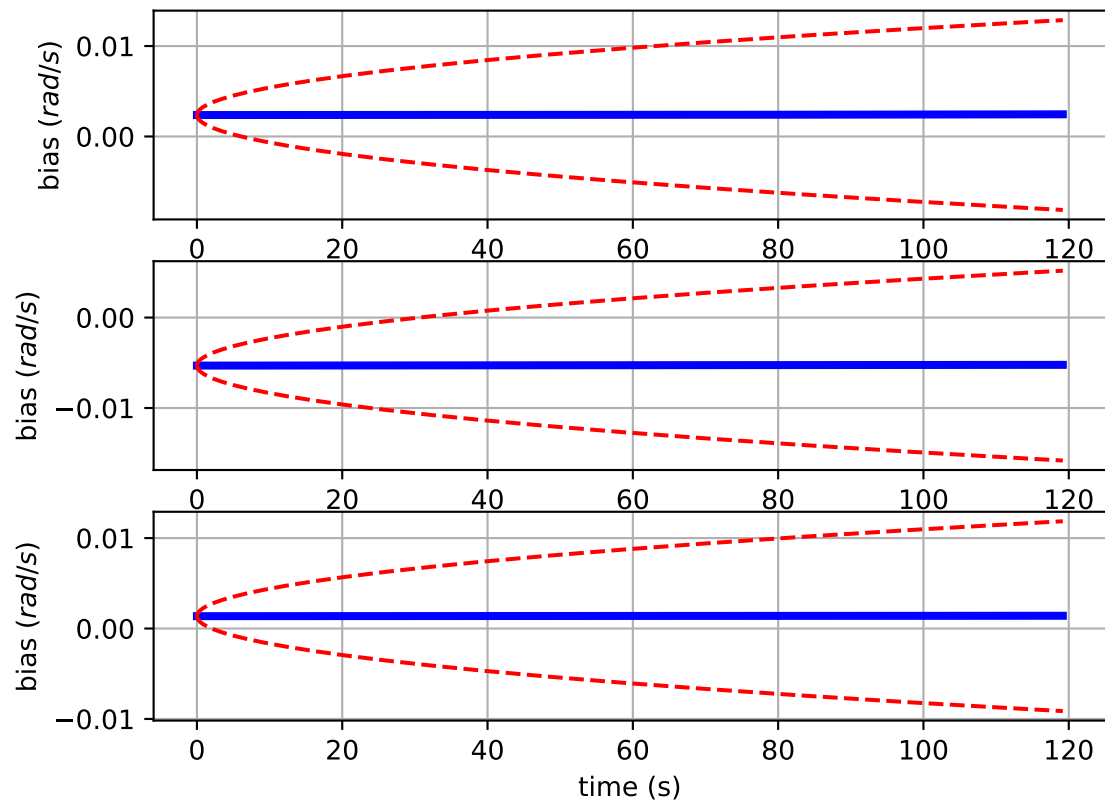
Comparison of predicted and measured angular velocities (body frame)



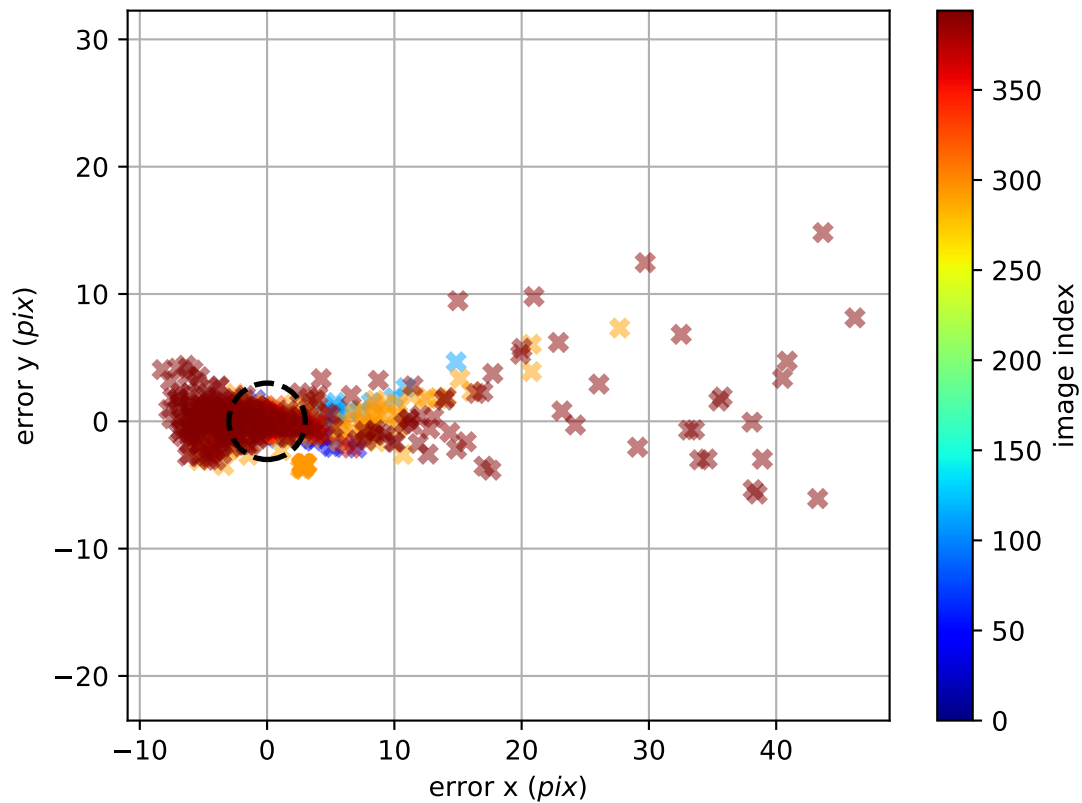
imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors



cam1: reprojection errors

