

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.118363944094, median 0.101461485386, std: 0.0798189871224

Gyroscope error (imu0): mean 0.037338030767, median 0.0301377339288, std: 0.0261723789245

Accelerometer error (imu0): mean 0.0875262887038, median 0.0591998670479, std: 0.0721782434603

Residuals

Reprojection error (cam0) [px]: mean 0.118363944094, median 0.101461485386, std: 0.0798189871224

Gyroscope error (imu0) [rad/s]: mean 0.00709422584574, median 0.00572616944648, std: 0.0049727519

Accelerometer error (imu0) [m/s^2]: mean 0.0166299948537, median 0.0112479747391, std: 0.0137138661

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.99997704  0.00085352  0.00672249 -0.00575521]
 [ 0.00671313 -0.01052856  0.99992204  0.01225546]
 [ 0.00092423  0.99994421  0.01052259 -0.05244426]
 [ 0.        0.        0.        1.        ]]
```

T_ic: (cam0 to imu0):

```
[[-0.99997704  0.00671313  0.00092423 -0.00578888]
 [ 0.00085352 -0.01052856  0.99994421  0.05257528]
 [ 0.00672249  0.99992204  0.01052259 -0.01166397]
 [ 0.        0.        0.        1.        ]]
```

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

0.00188356115017

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

```
[ 0.0057266 -9.67724762 -1.58722038]
```

Calibration configuration

Camera model: pinhole

Focal length: [355.585513023454, 354.4708924377204]

Principal point: [359.1699883054597, 246.0908212151934]

Distortion model: equidistant

Distortion coefficients: [-0.04738389395412899, 0.006350363749183408, -0.006374581267773348, 0.001

Type: aprilgrid

Tags:

Rows: 6

Cols: 6

Size: 0.088 [m]

Spacing 0.0264 [m]

IMU configuration

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IMU0:

Model: calibrated

Update rate: 100.0

Accelerometer:

Noise density: 0.019

Noise density (discrete): 0.19

Random walk: 0.0043

Gyroscope:

Noise density: 0.019

Noise density (discrete): 0.19

Random walk: 0.000266

T_i_b

[[1. 0. 0. 0.]

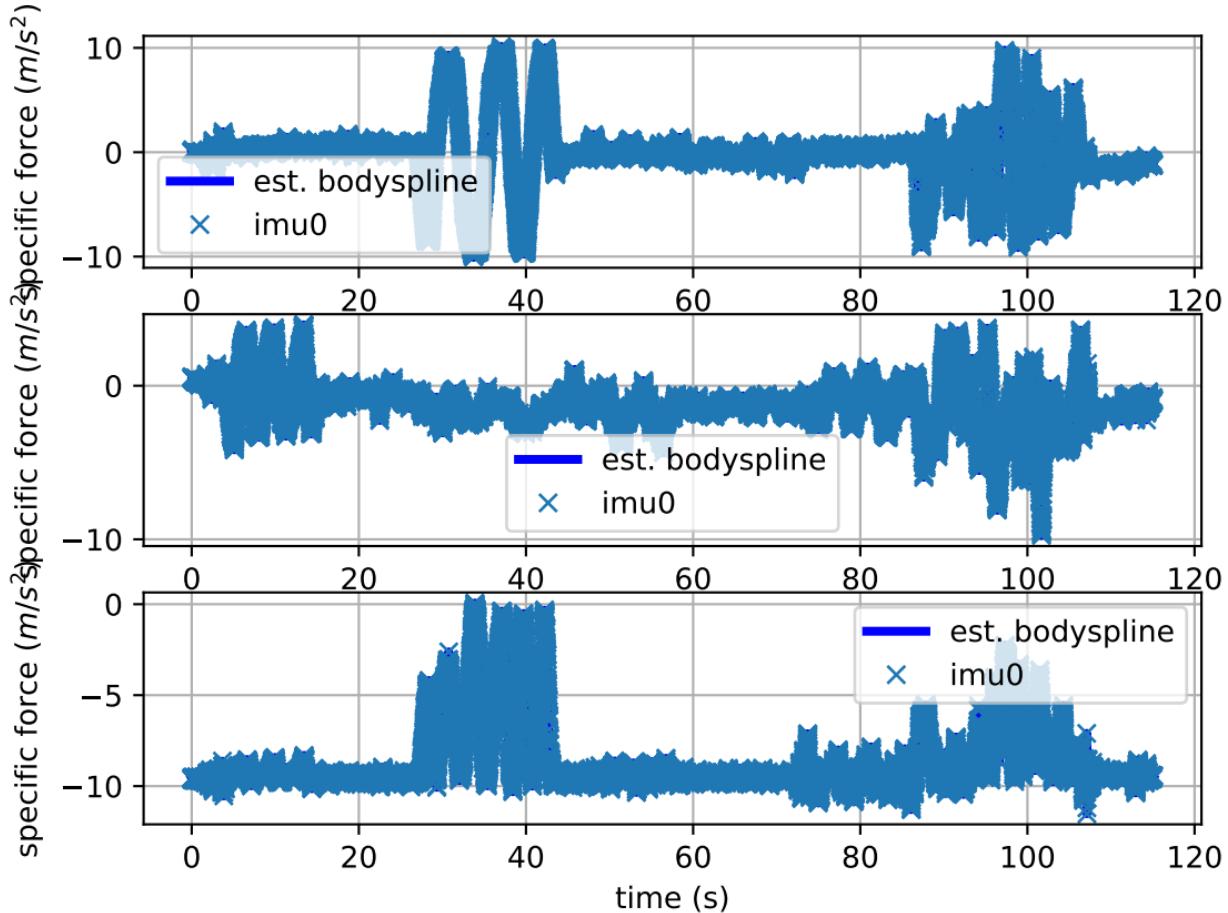
 [0. 1. 0. 0.]

 [0. 0. 1. 0.]

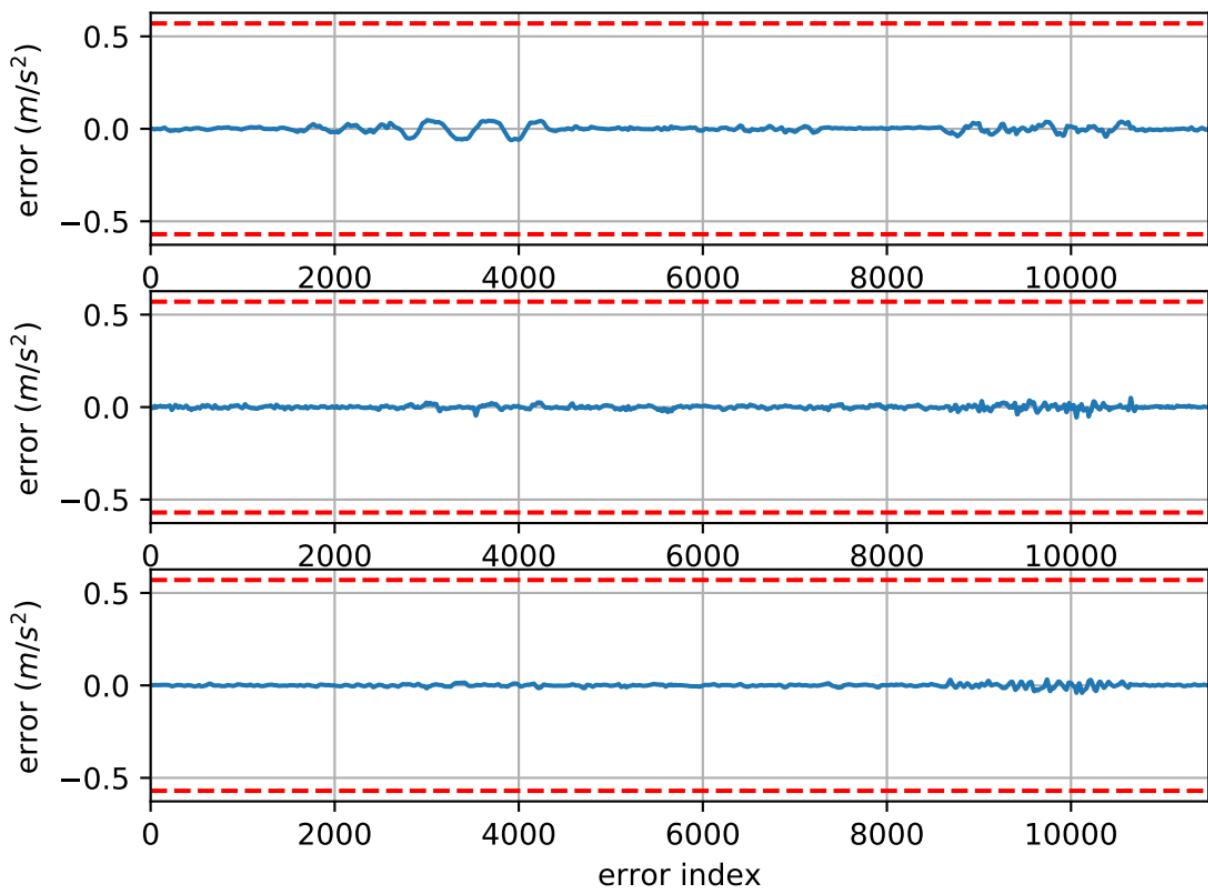
 [0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

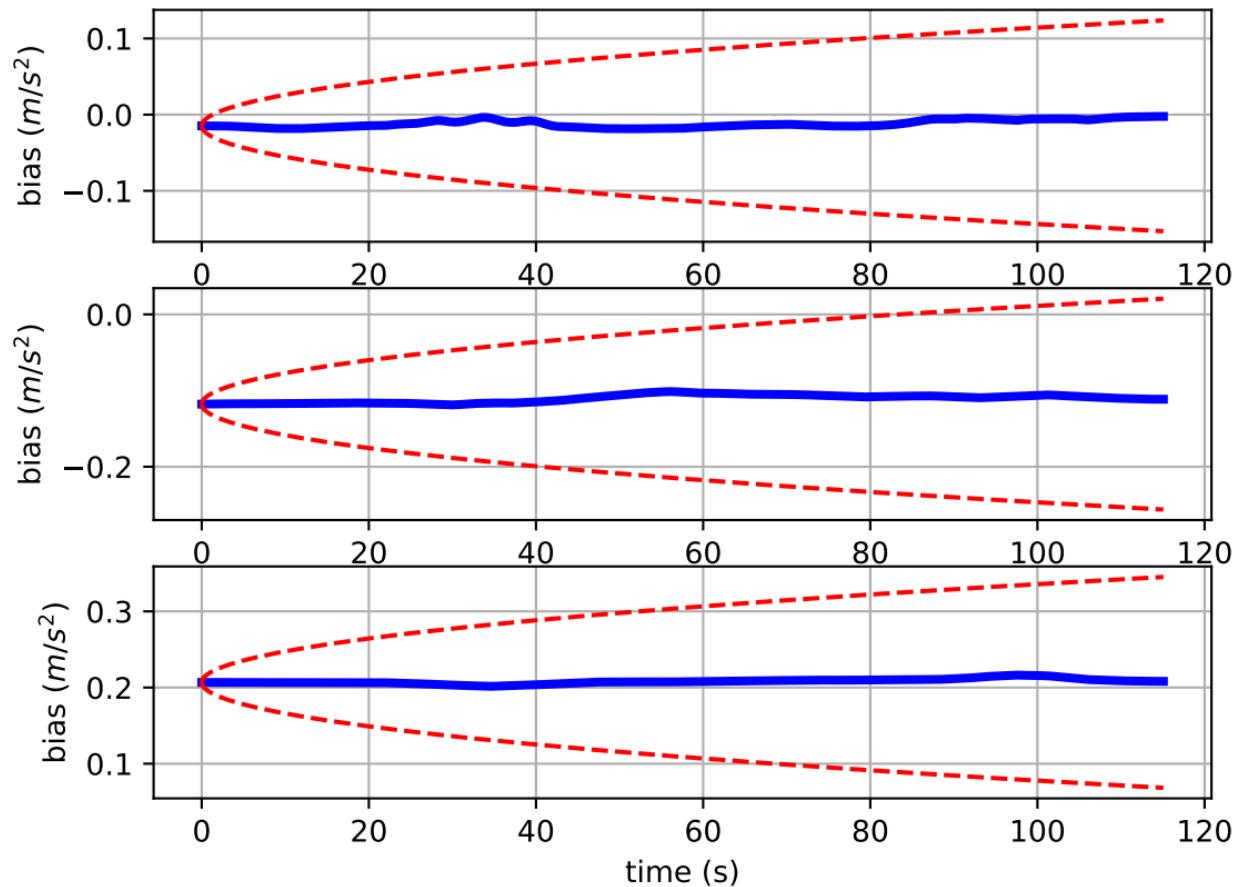
Comparison of predicted and measured specific force (imu0 frame)



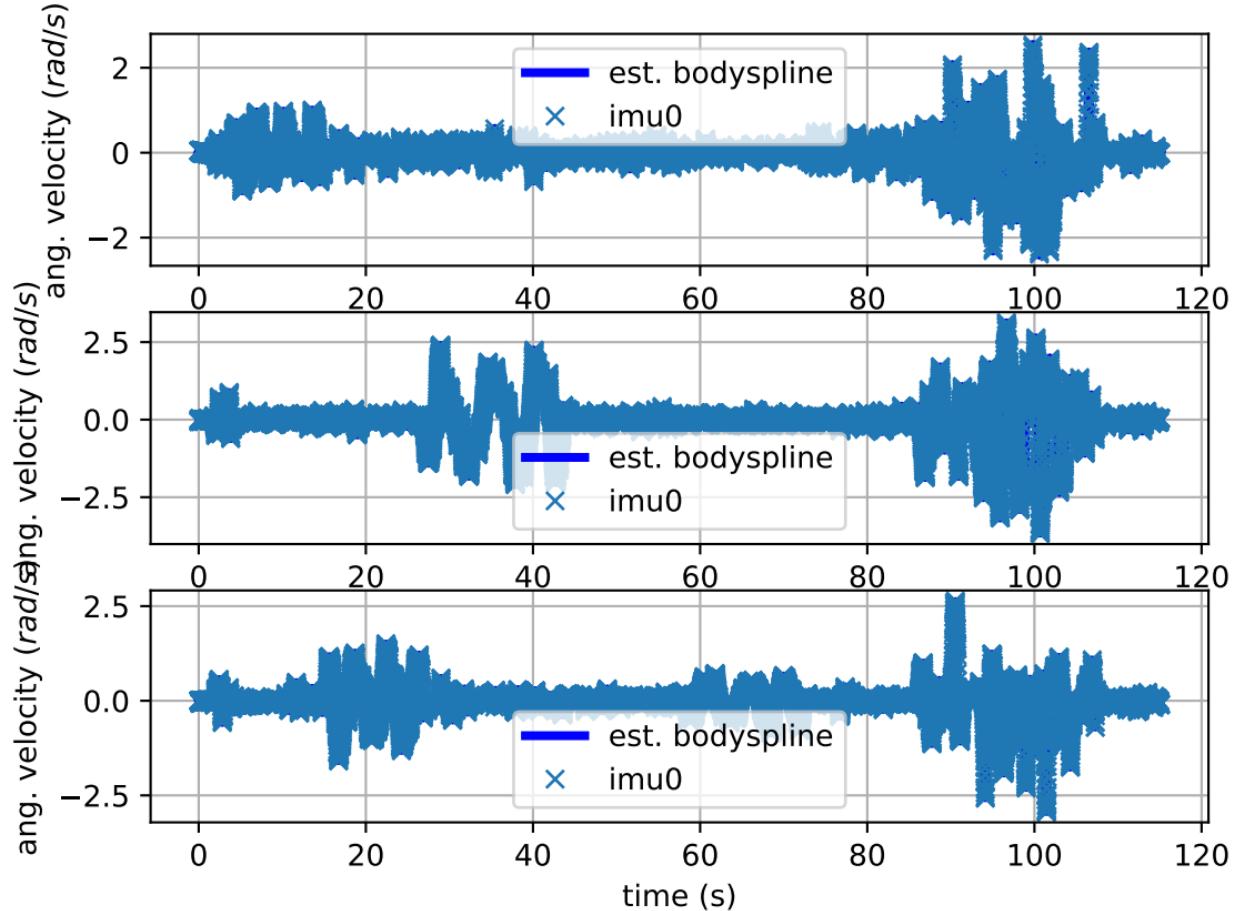
imu0: acceleration error



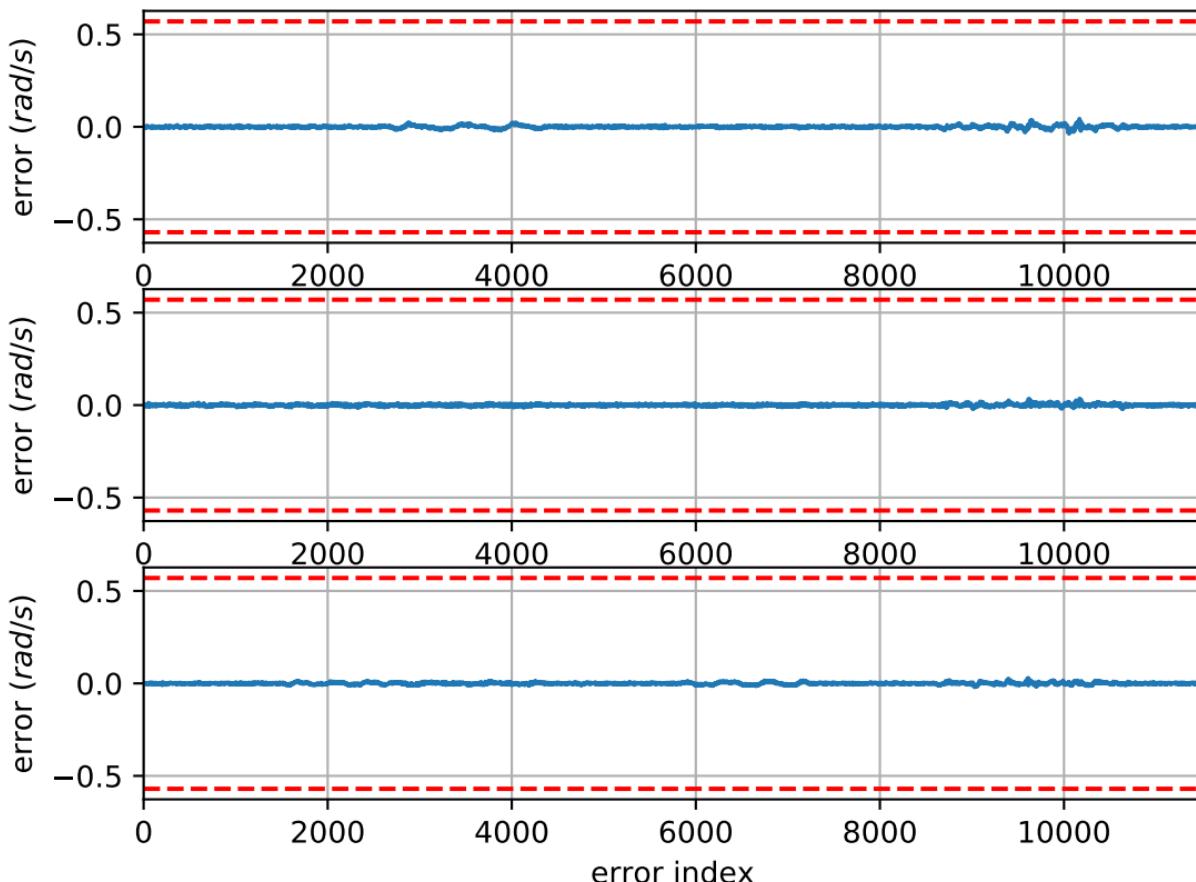
imu0: estimated accelerometer bias (imu frame)



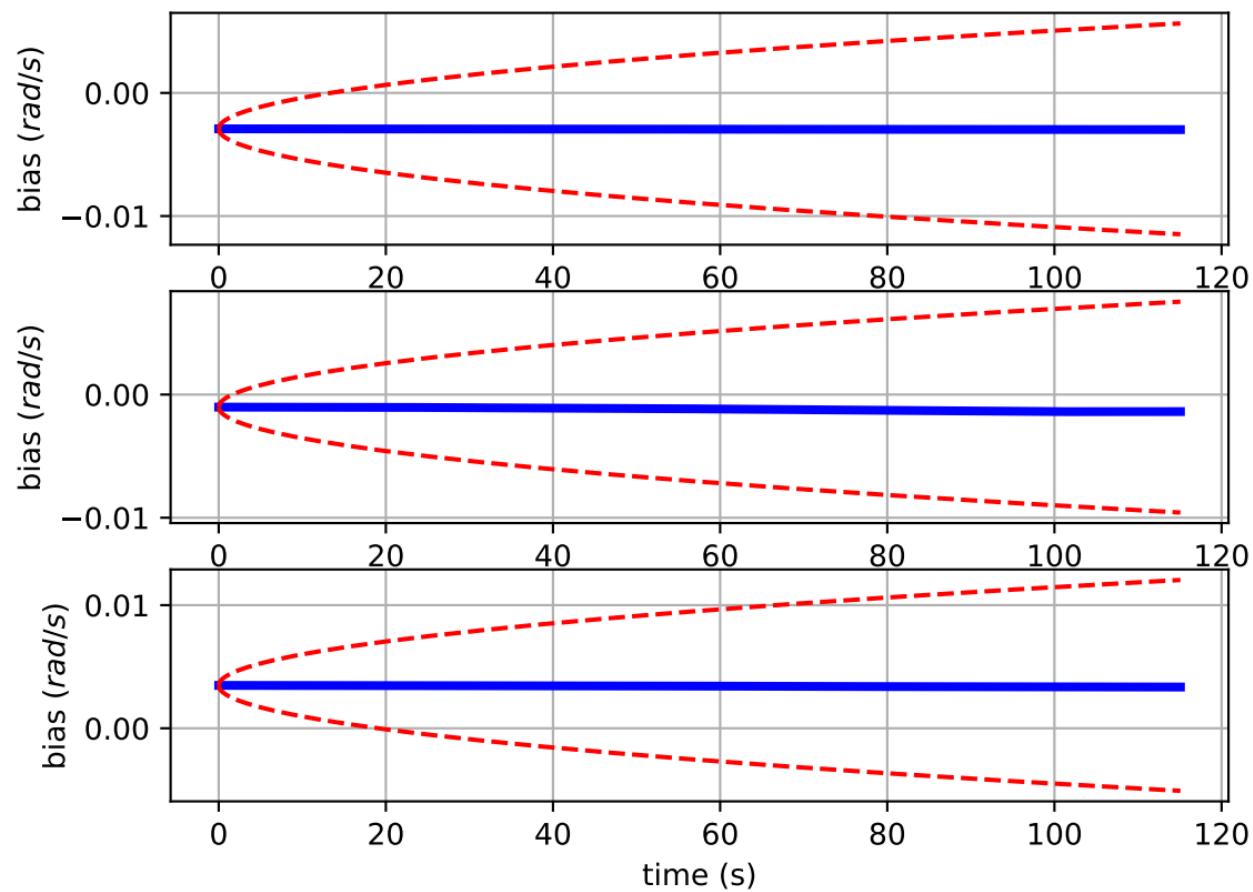
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

