

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.20538845075022813, median 0.18653246350179037, std: 0.1136297

Gyroscope error (imu0): mean 7.15654036020428e-05, median 7.899122896216895e-06, std: 0.000422

Accelerometer error (imu0): mean 8.413167997532523e-08, median 1.203069121037975e-09, std: 1.0934

Residuals

Reprojection error (cam0) [px]: mean 0.20538845075022813, median 0.18653246350179037, std: 0.1136

Gyroscope error (imu0) [rad/s]: mean 1.1072238822156031e-05, median 1.2221125123365865e-06, std:

Accelerometer error (imu0) [m/s^2]: mean 2.201133012657251e-09, median 3.147583834771738e-11, std:

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.9997292  0.01491733  0.0178605 -0.00040274]
 [-0.0139044 -0.99835889  0.05555345  0.00038815]
 [ 0.0186599  0.05529006  0.99829596  0.00000679]
 [ 0.          0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[-0.9997292 -0.0139044  0.0186599 -0.00039736]
 [ 0.01491733 -0.99835889  0.05529006  0.00039315]
 [ 0.0178605  0.05555345  0.99829596 -0.00002115]
 [ 0.          0.          0.          1.          ]]
```

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

3.805543251009524e-05

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

[-0.00163254 -9.7995933 -0.36931212]

Calibration configuration

Camera model: pinhole
Focal length: [371.3638526917398, 370.1037210442627]
Principal point: [322.9755374978894, 236.56709512731518]
Distortion model: radtan
Distortion coefficients: [-0.009921836219397975, -0.0049844883847385765, -0.0012990848137251379, -0.0002990848137251379, 0.00012990848137251379]
Type: aprilgrid
Tags:
Rows: 6
Cols: 6
Size: 0.021 [m]
Spacing 0.005999994000000001 [m]

IMU configuration

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IMU0:

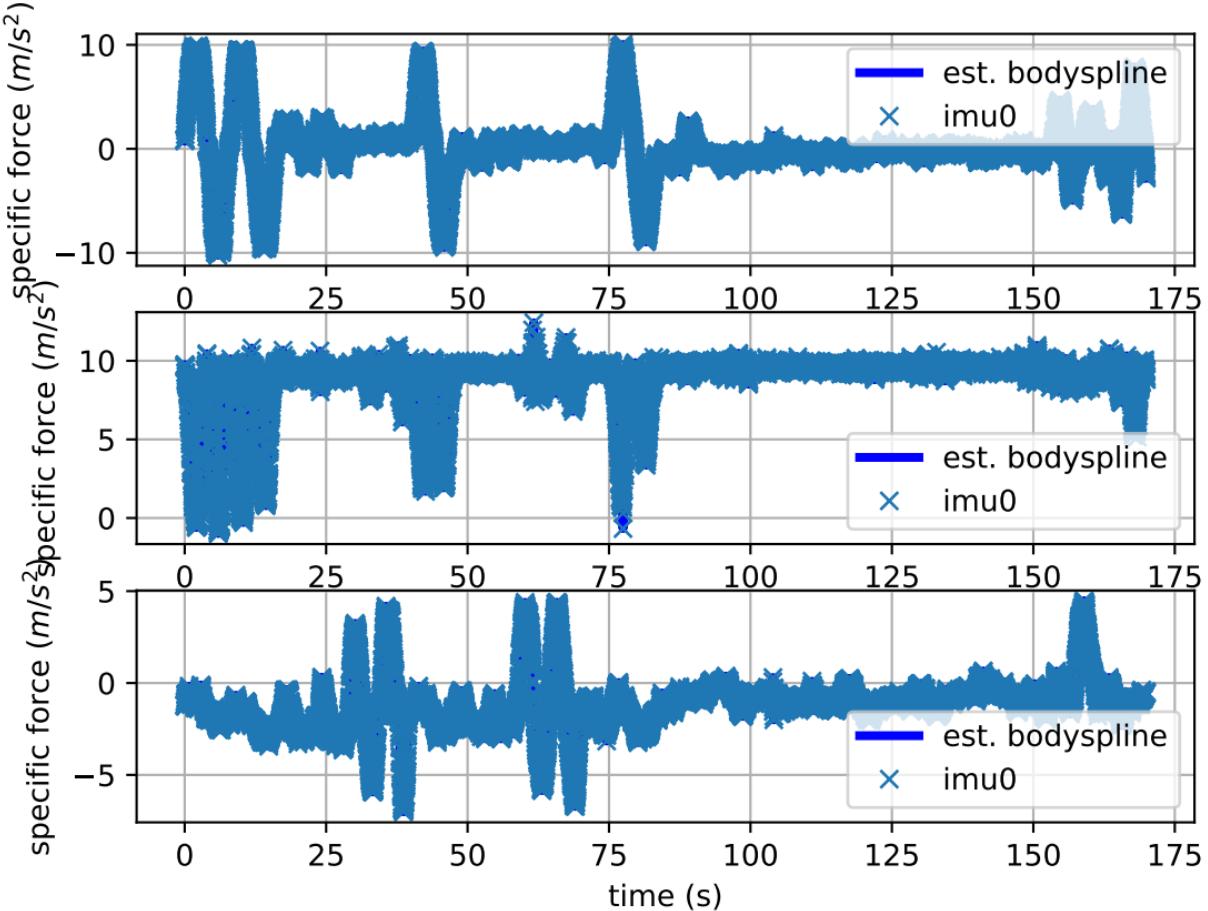
Model: calibrated
Update rate: 200.0
Accelerometer:
Noise density: 0.00185
Noise density (discrete): 0.02616295090390226
Random walk: 2.548e-05

Gyroscope:
Noise density: 0.01094
Noise density (discrete): 0.1547149637236166
Random walk: 0.0005897

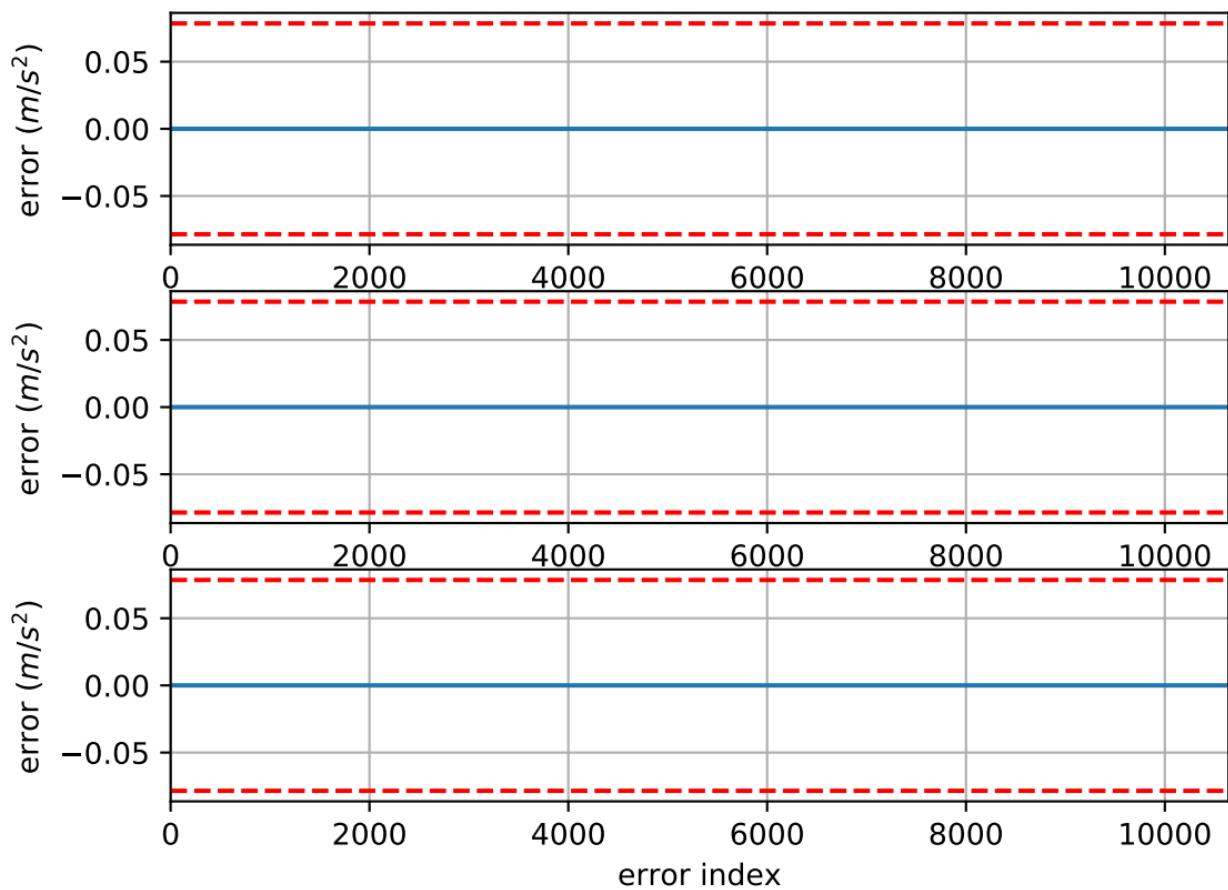
T_i_b
[[1. 0. 0. 0.]
[0. 1. 0. 0.]
[0. 0. 1. 0.]
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

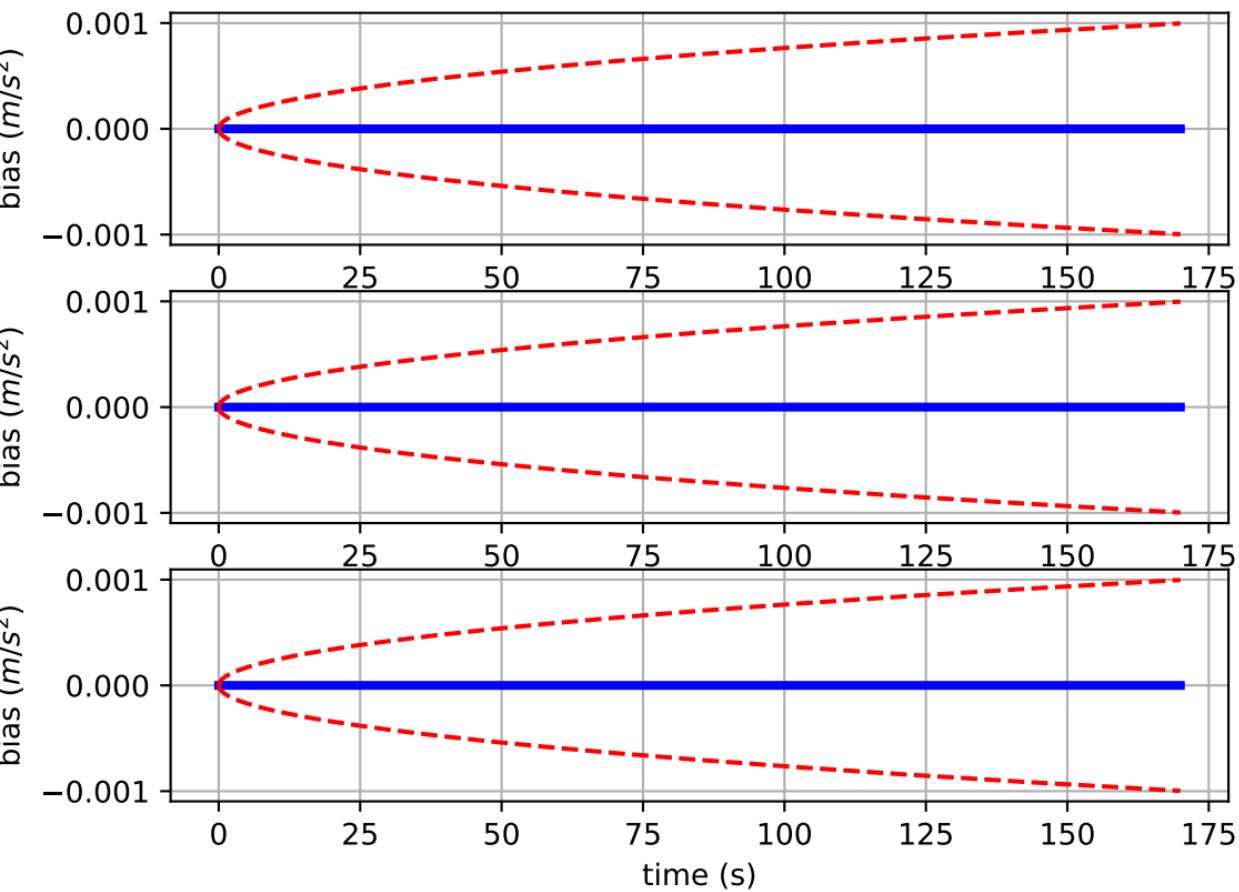
Comparison of predicted and measured specific force (imu0 frame)



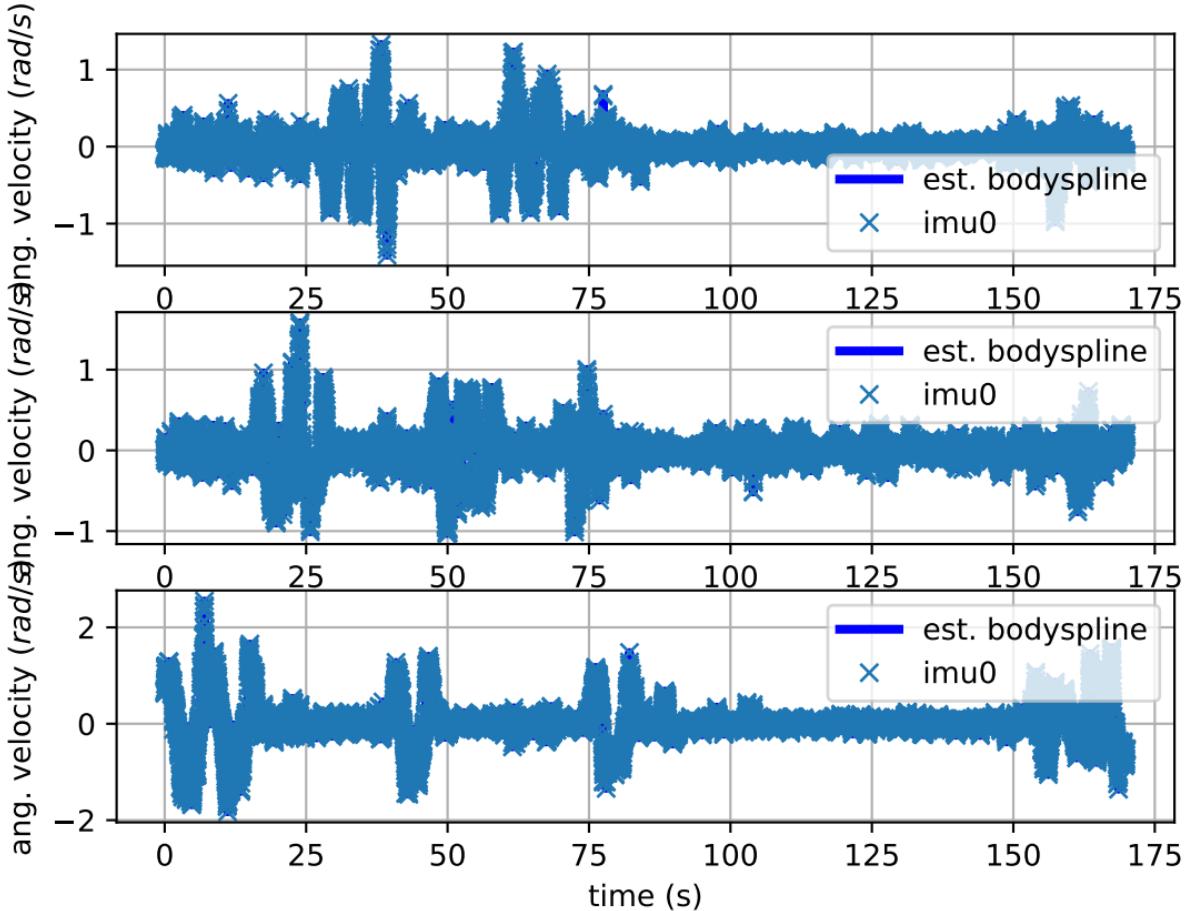
imu0: acceleration error



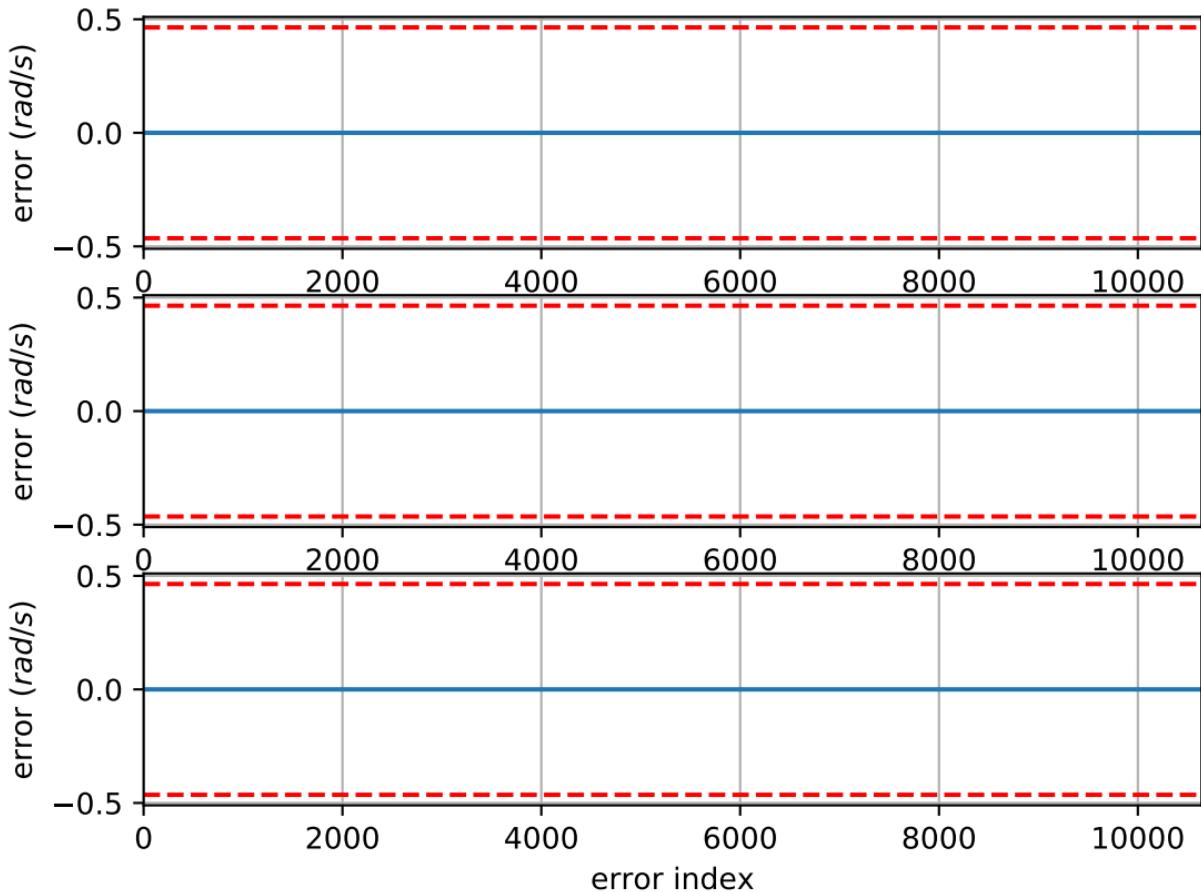
imu0: estimated accelerometer bias (imu frame)



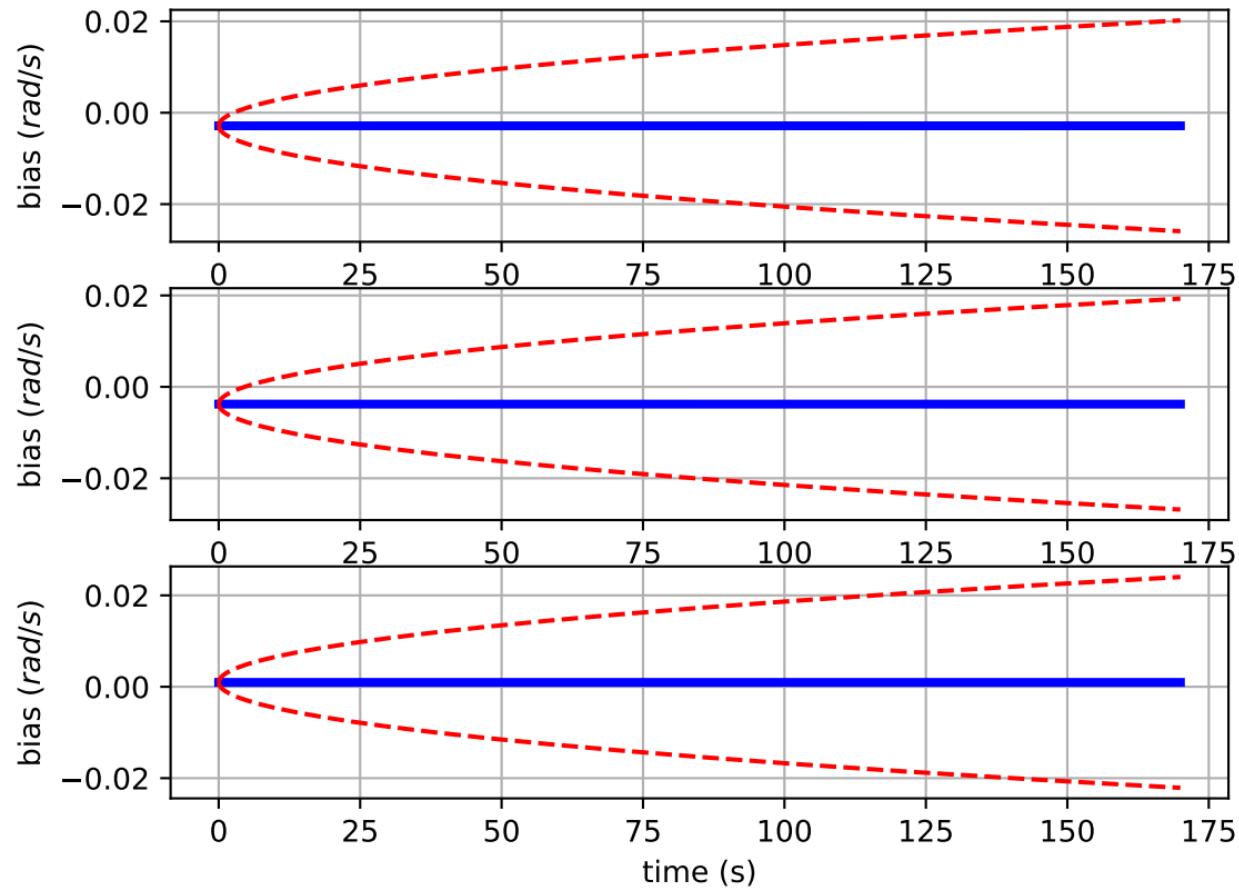
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

