

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.0447715161072, median 0.041814273781, std: 0.0236706952031
Gyroscope error (imu0): mean 0.0535650640616, median 0.0487166288512, std: 0.0280935168596
Accelerometer error (imu0): mean 0.621669601015, median 0.369637649915, std: 0.609588038301

Residuals

Reprojection error (cam0) [px]: mean 0.0447715161072, median 0.041814273781, std: 0.0236706952031
Gyroscope error (imu0) [rad/s]: mean 0.00378762200327, median 0.00344478586173, std: 0.0019865116
Accelerometer error (imu0) [m/s^2]: mean 0.087917358107, median 0.0522746577674, std: 0.0862087671

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.99997017 -0.00006077 0.0077235 -0.04381148]
 [ 0.00012978 0.99996008 -0.00893458 -0.02815407]
 [-0.00772265 0.00893531 0.99993026 -0.01291314]
 [ 0.         0.         0.         1.        ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.99997017 0.00012978 -0.00772265 0.0437141 ]
 [-0.00006077 0.99996008 0.00893531 0.02826566]
 [ 0.0077235 -0.00893458 0.99993026 0.01299907]
 [ 0.         0.         0.         1.        ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.0015943479165039692

Gravity vector in target coords: [m/s^2]
[9.80409074 -0.21572017 0.04114035]

Calibration configuration

Camera model: pinhole

Focal length: [468.906082694885, 468.95979206327786]

Principal point: [364.8533346068778, 215.4937445050946]

Distortion model: equidistant

Distortion coefficients: [0.012245093310874177, -0.06011529683474609, 0.17162762296825532, -0.1534

Type: checkerboard

Rows

Count: 7

Distance: 0.07 [m]

Cols

Count: 6

Distance: 0.07 [m]

IMU configuration

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IMU0:

Model: calibrated

Update rate: 200.0

Accelerometer:

Noise density: 0.01

Noise density (discrete): 0.141421356237

Random walk: 0.0002

Gyroscope:

Noise density: 0.005

Noise density (discrete): 0.0707106781187

Random walk: 4e-06

T_i b

[[1. 0. 0. 0.]

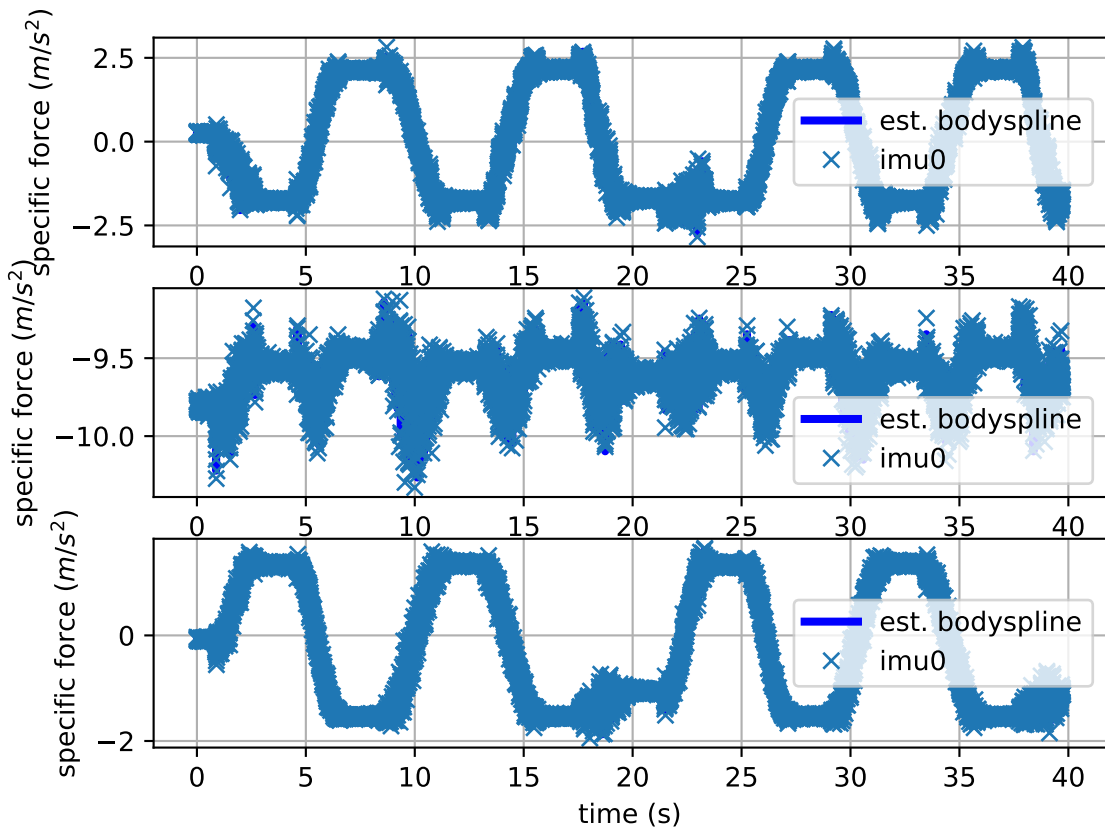
[0. 1. 0. 0.]

[0. 0. 1. 0.]

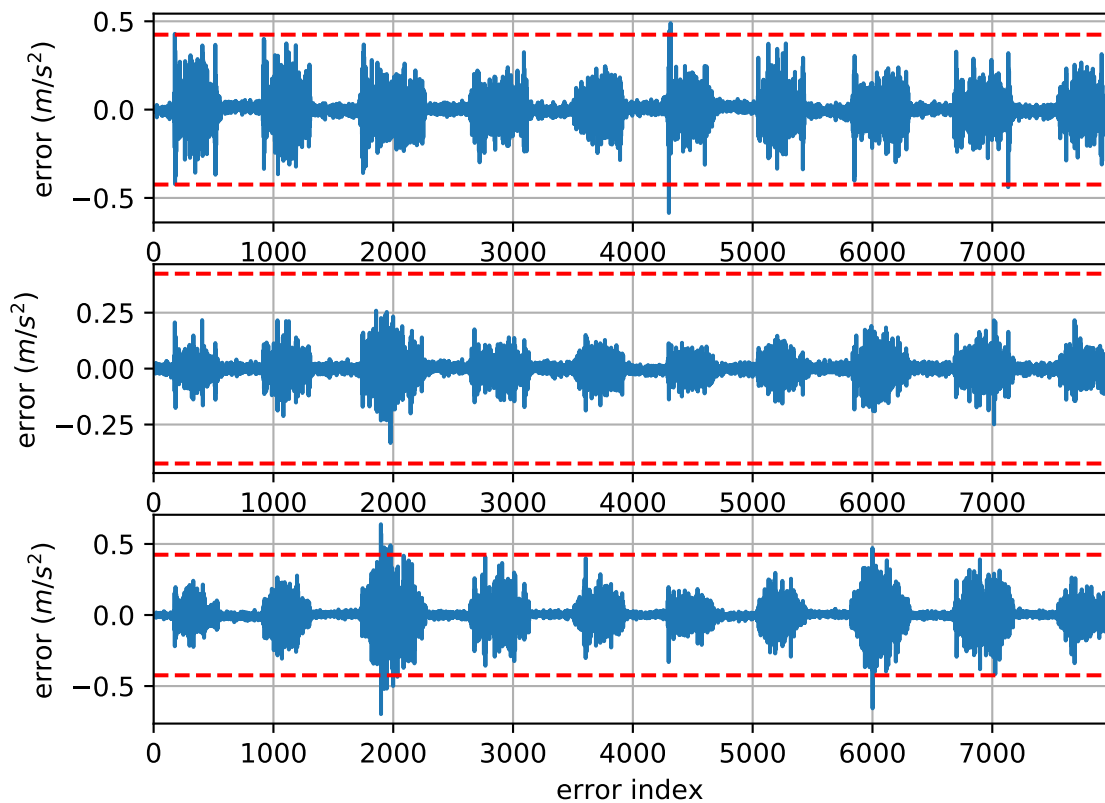
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

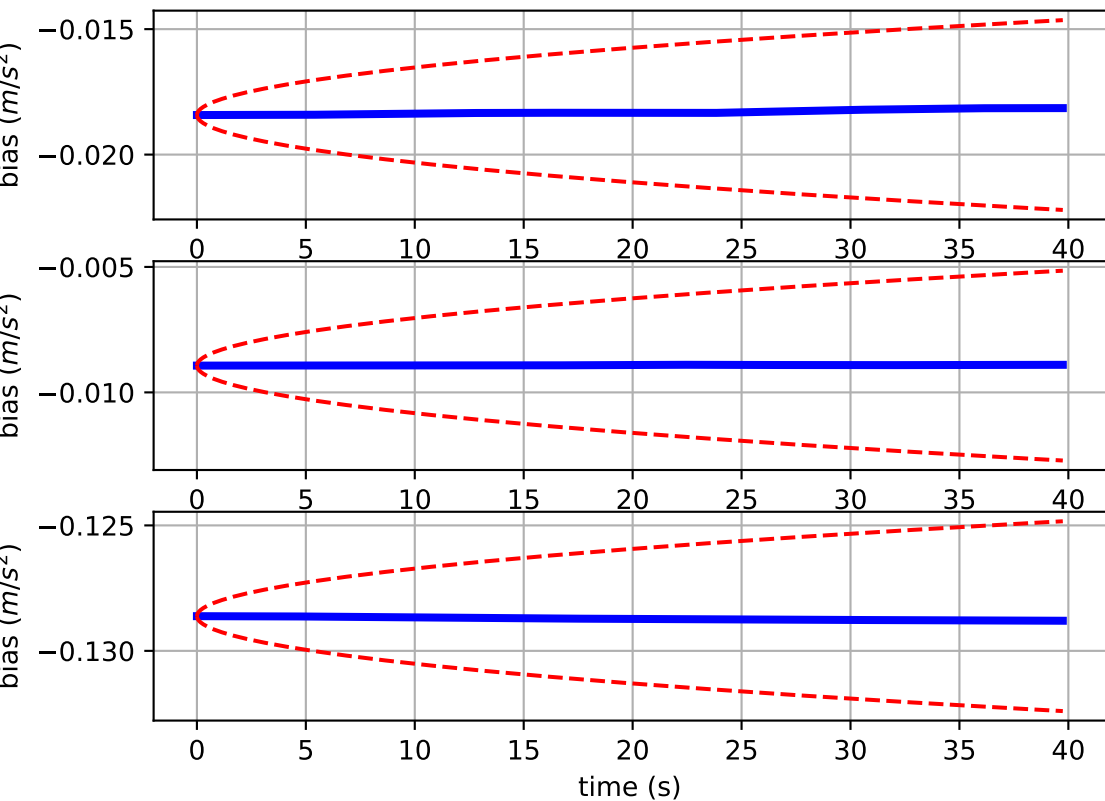
Comparison of predicted and measured specific force (imu0 frame)



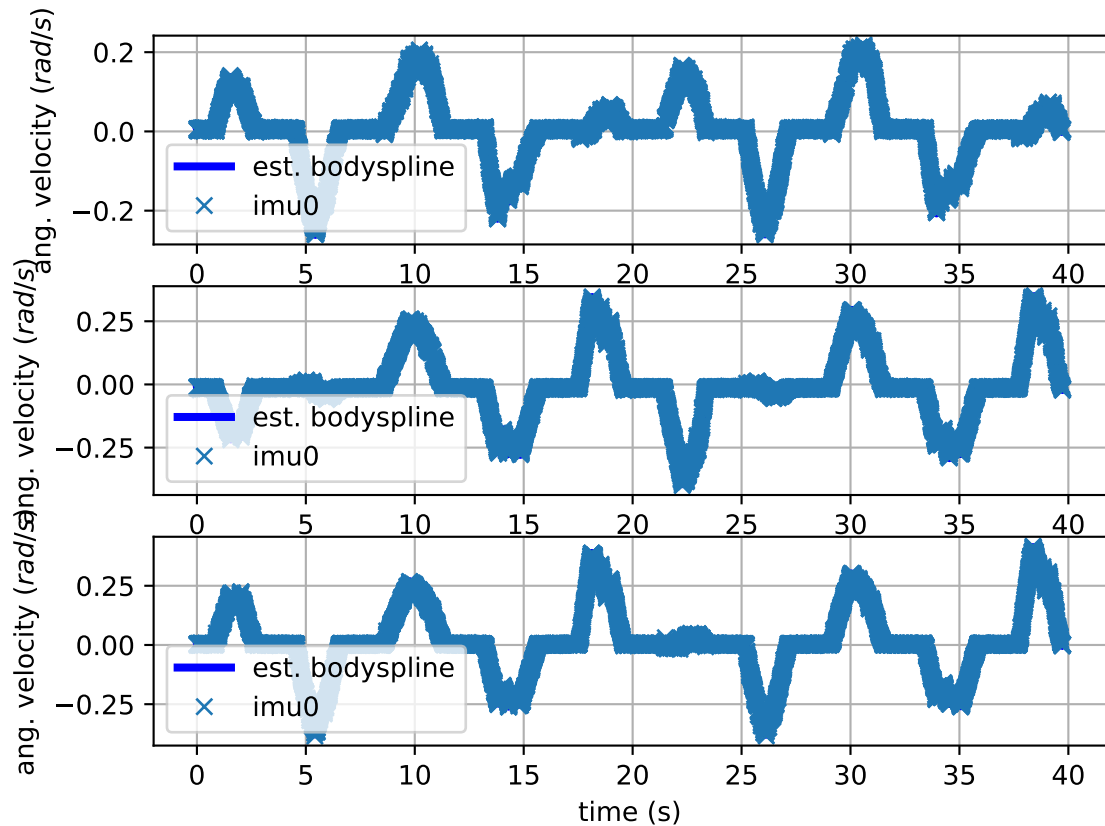
imu0: acceleration error



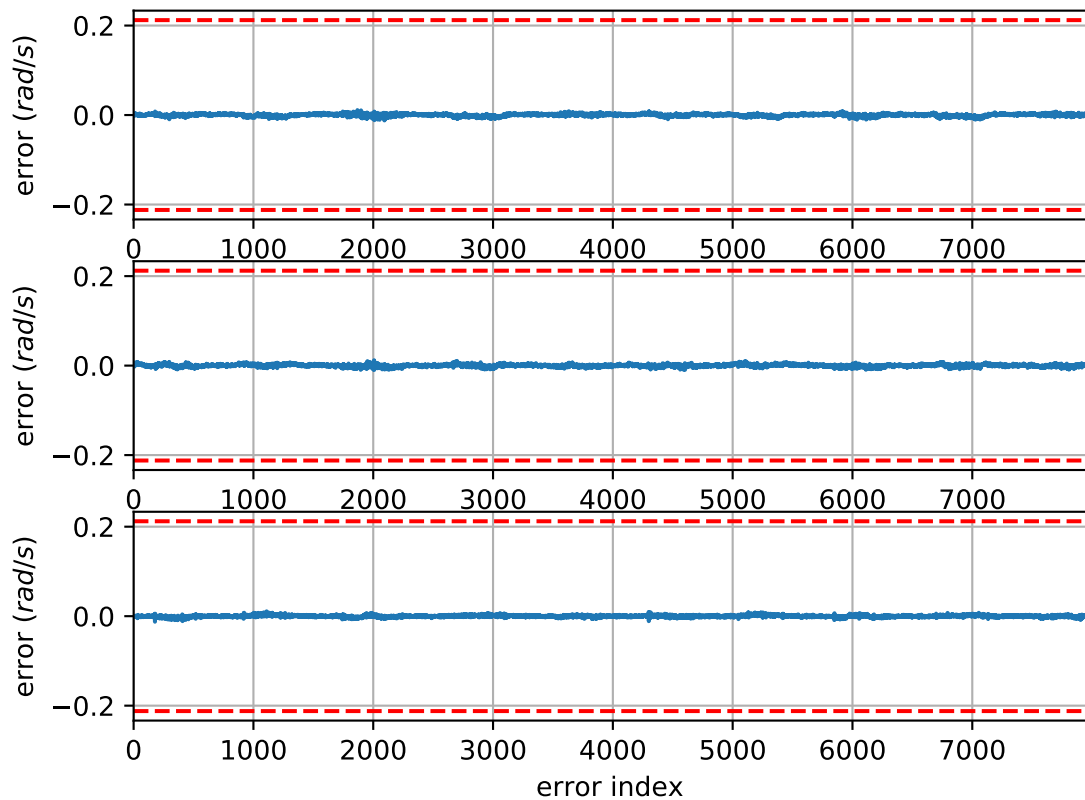
imu0: estimated accelerometer bias (imu frame)



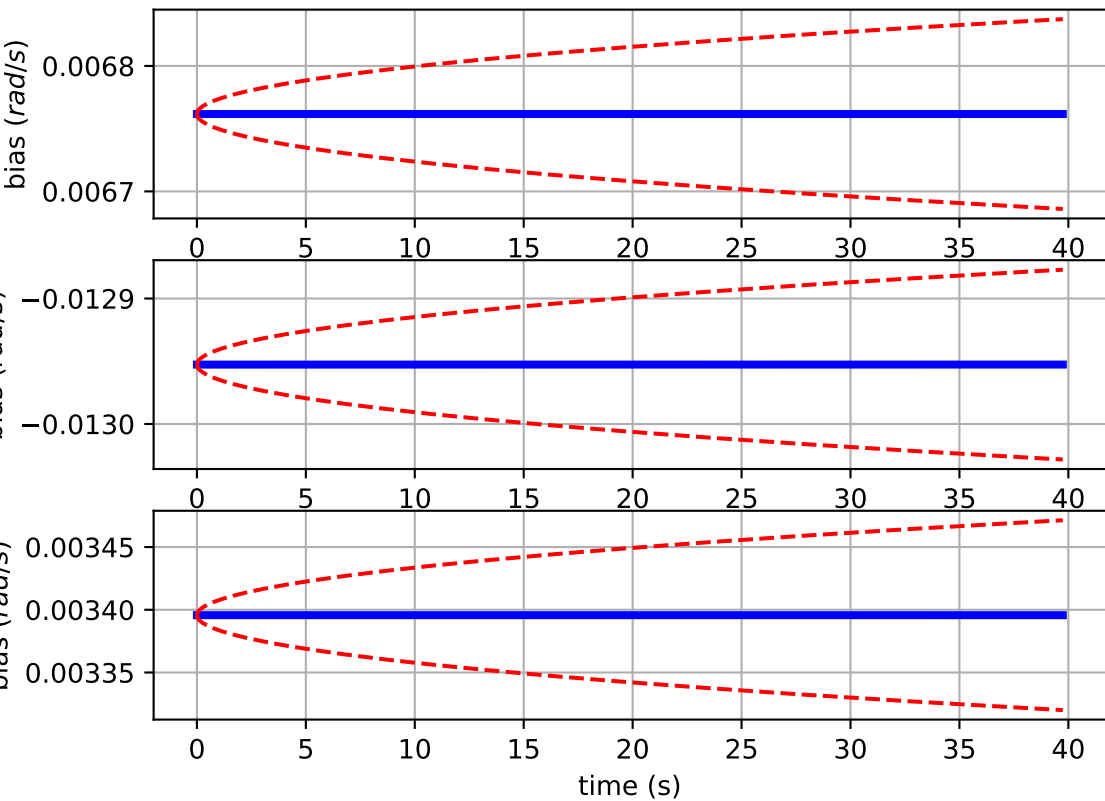
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

