

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.126619557459, median 0.118597992368, std: 0.0674321308571
Gyroscope error (imu0): mean 0.0586078283541, median 0.0322830675639, std: 0.0696698158154
Accelerometer error (imu0): mean 0.0528684048131, median 0.0472255209777, std: 0.0305169235047

Residuals

Reprojection error (cam0) [px]: mean 0.126619557459, median 0.118597992368, std: 0.0674321308571
Gyroscope error (imu0) [rad/s]: mean 0.0161570632657, median 0.00889982754337, std: 0.019206642755
Accelerometer error (imu0) [m/s²]: mean 0.0364370334695, median 0.0325479441749, std: 0.0210323380677

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.0048948 -0.99998792 0.00045283 0.0061995 ]
 [ 0.01416633 -0.00038345 -0.99989958 -0.02847324]
 [ 0.99988767 0.00490073 0.01416428 -0.10481046]
 [ 0.         0.         0.         1.        ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.0048948 0.01416633 0.99988767 0.1051717 ]
 [-0.99998792 -0.00038345 0.00490073 0.00670216]
 [ 0.00045283 -0.99989958 0.01416428 -0.02698862]
 [ 0.         0.         0.         1.        ]]
```

timeshift cam0 to imu0: [s] ($t_{imu} = t_{cam} + \text{shift}$)

0.0

Gravity vector in target coords: [m/s²]
[-0.18282551 -9.80357863 -0.15761903]

Calibration configuration

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cam0

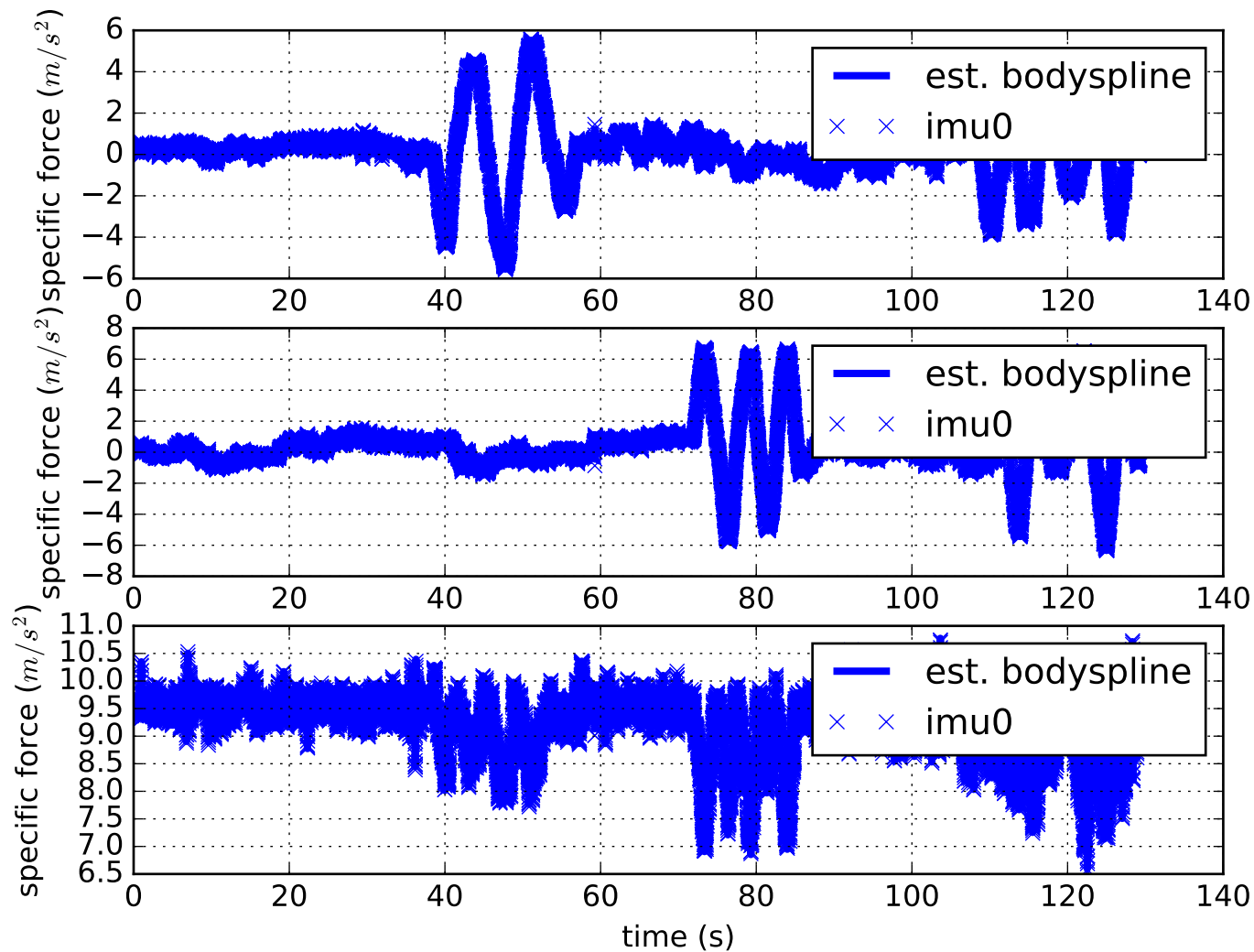
Camera model: pinhole
Focal length: [437.9446619859144, 437.20674125837894]
Principal point: [333.2810599972569, 249.16103363786752]
Distortion model: equidistant
Distortion coefficients: [-0.030931984892282122, 0.05966444865054952, -0.06312013819360535, 0.031405114547754694]
Type: aprilgrid
Tags:
 Rows: 6
 Cols: 6
 Size: 0.02 [m]
 Spacing 0.006 [m]

IMU configuration
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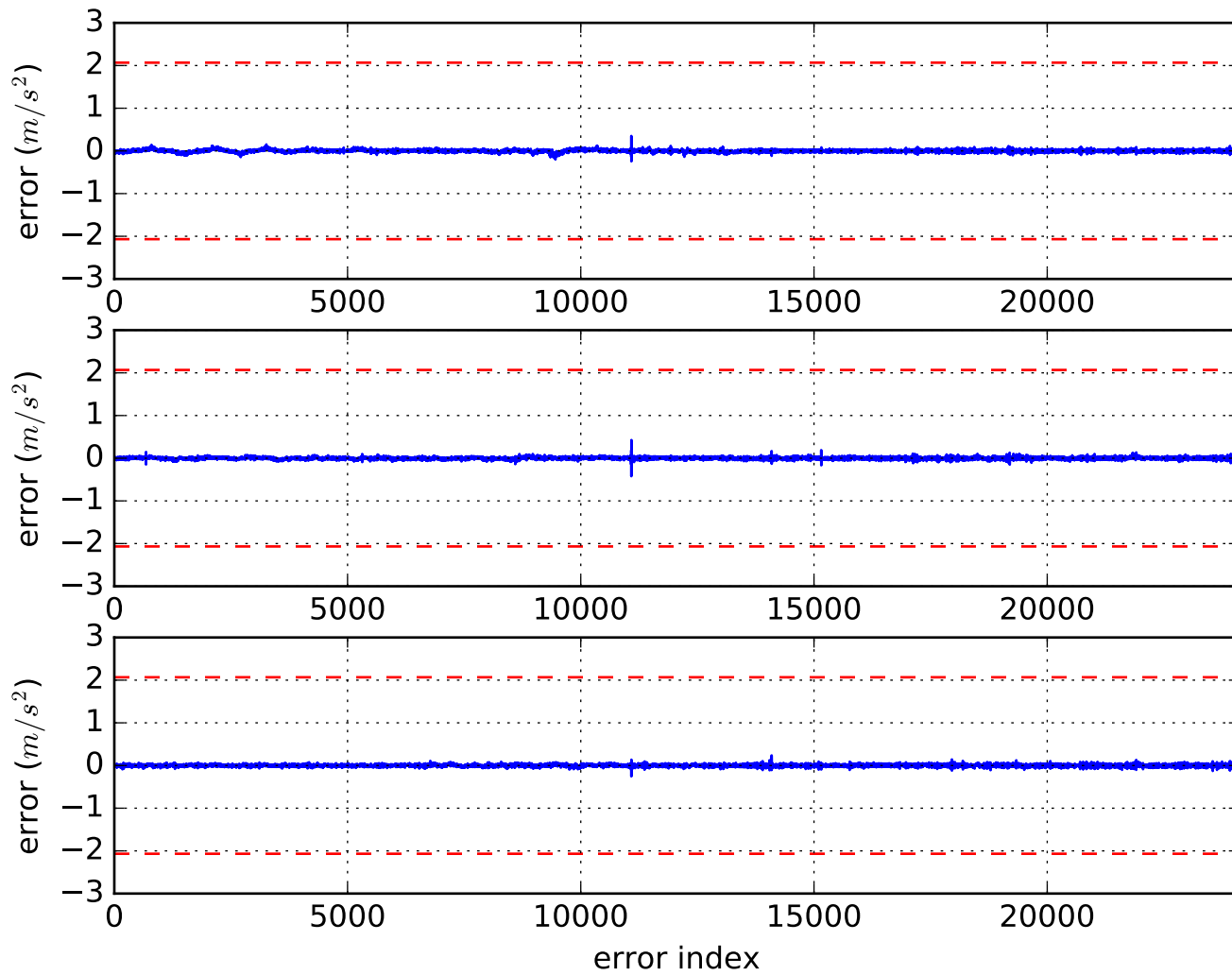
IMU0:

Model: calibrated
Update rate: 190.0
Accelerometer:
 Noise density: 0.05
 Noise density (discrete): 0.689202437605
 Random walk: 0.001
Gyroscope:
 Noise density: 0.02
 Noise density (discrete): 0.275680975042
 Random walk: 4e-05
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]

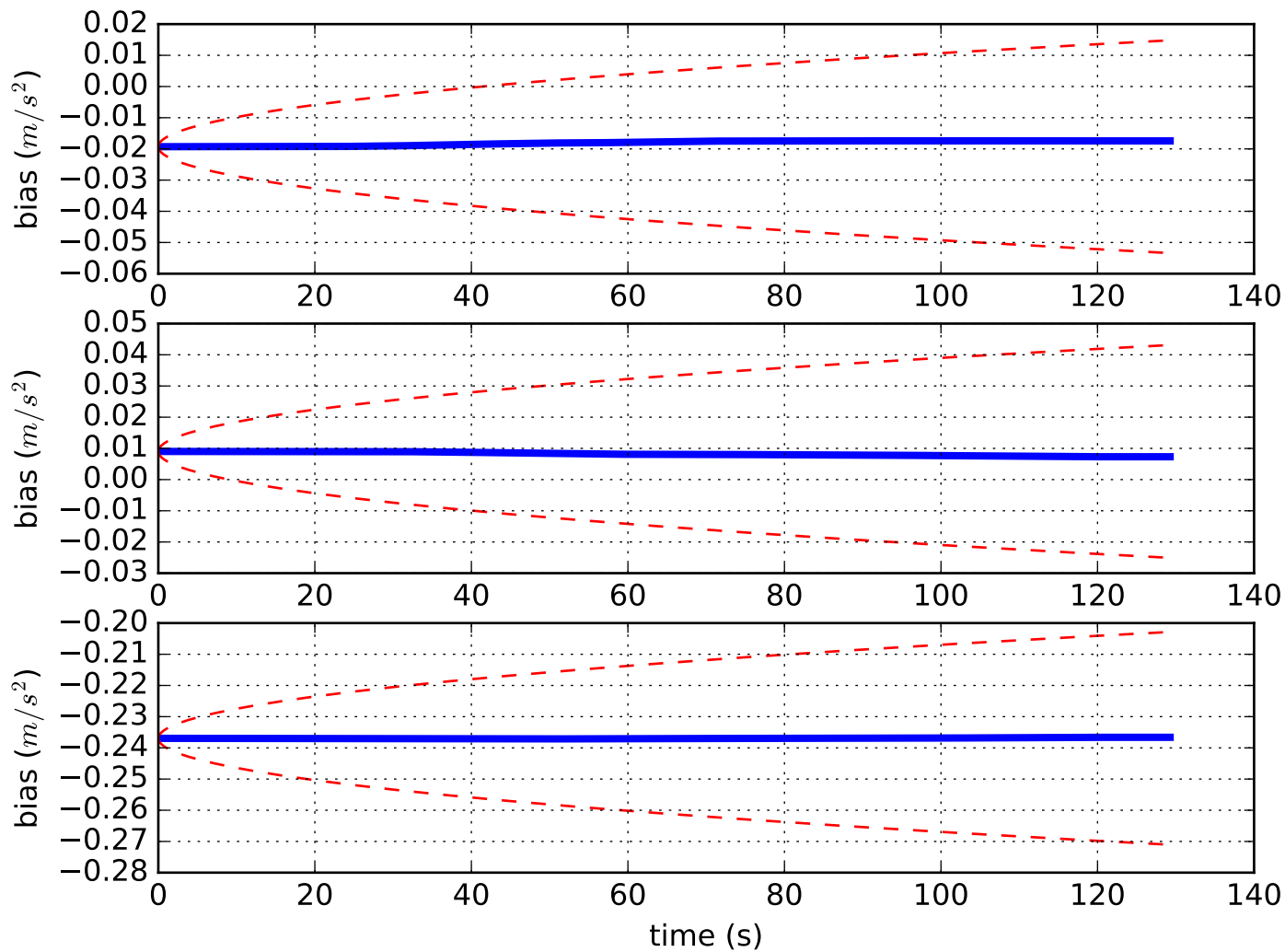
Comparison of predicted and measured specific force (imu0 frame)



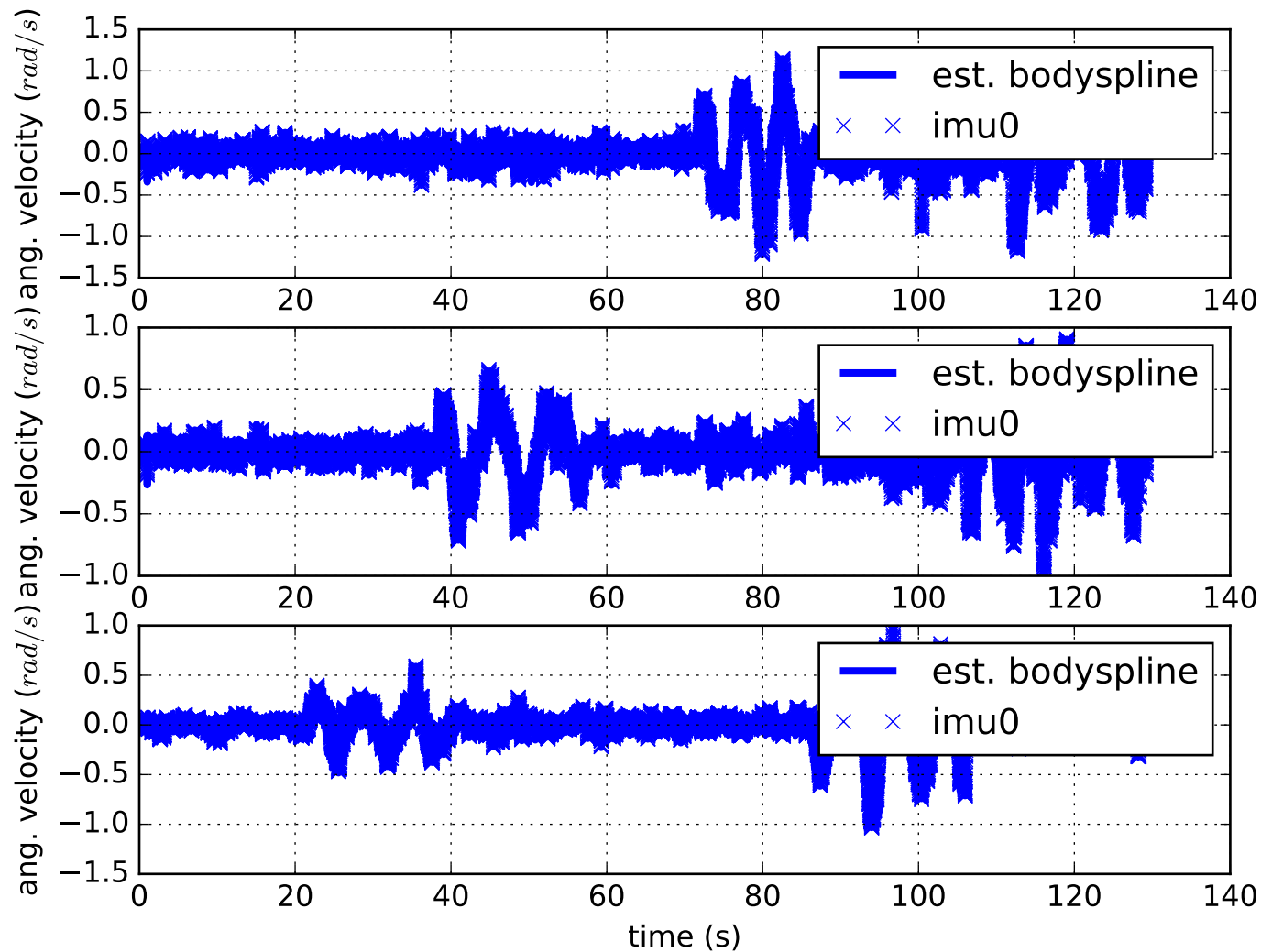
imu0: acceleration error



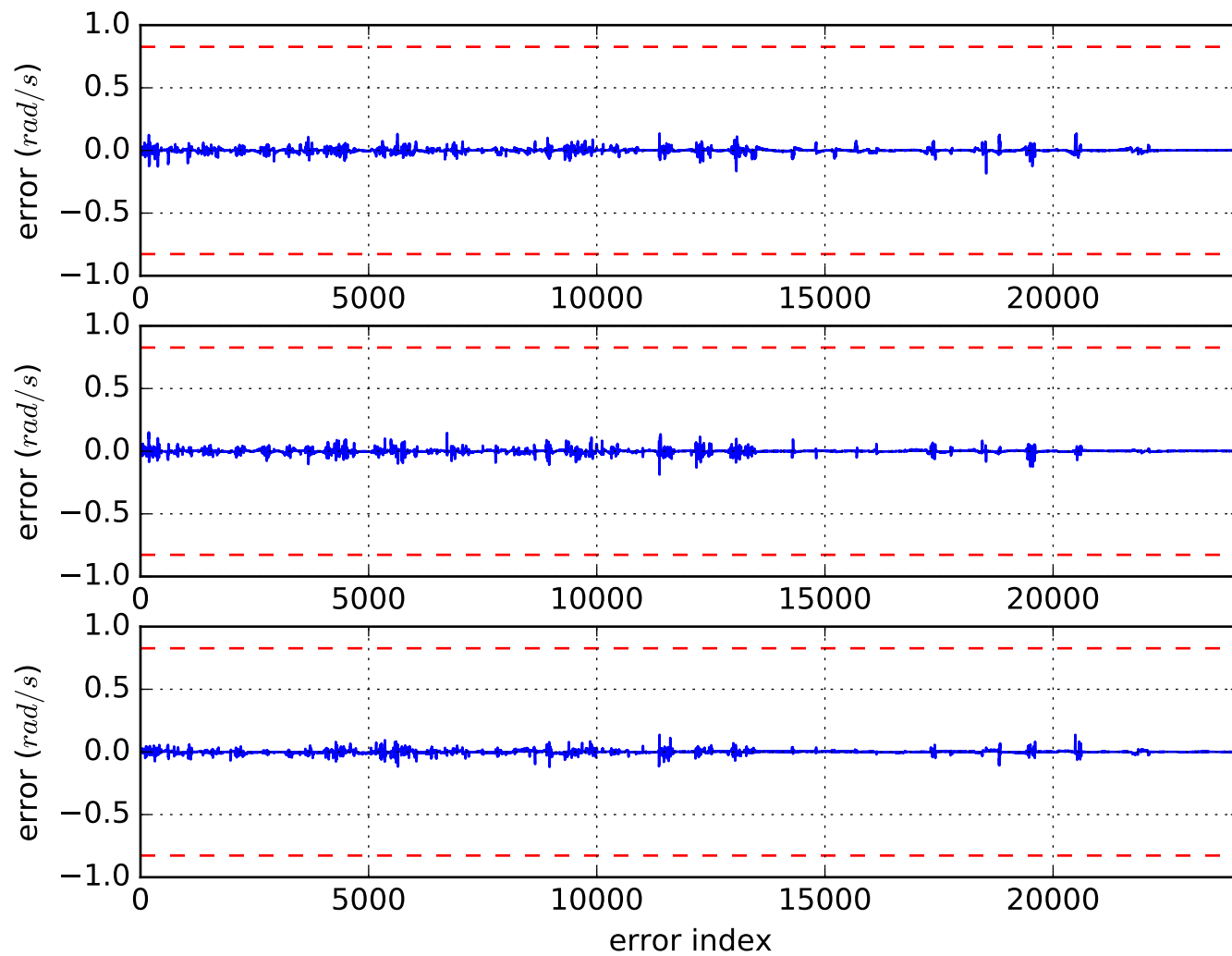
imu0: estimated accelerometer bias (imu frame)



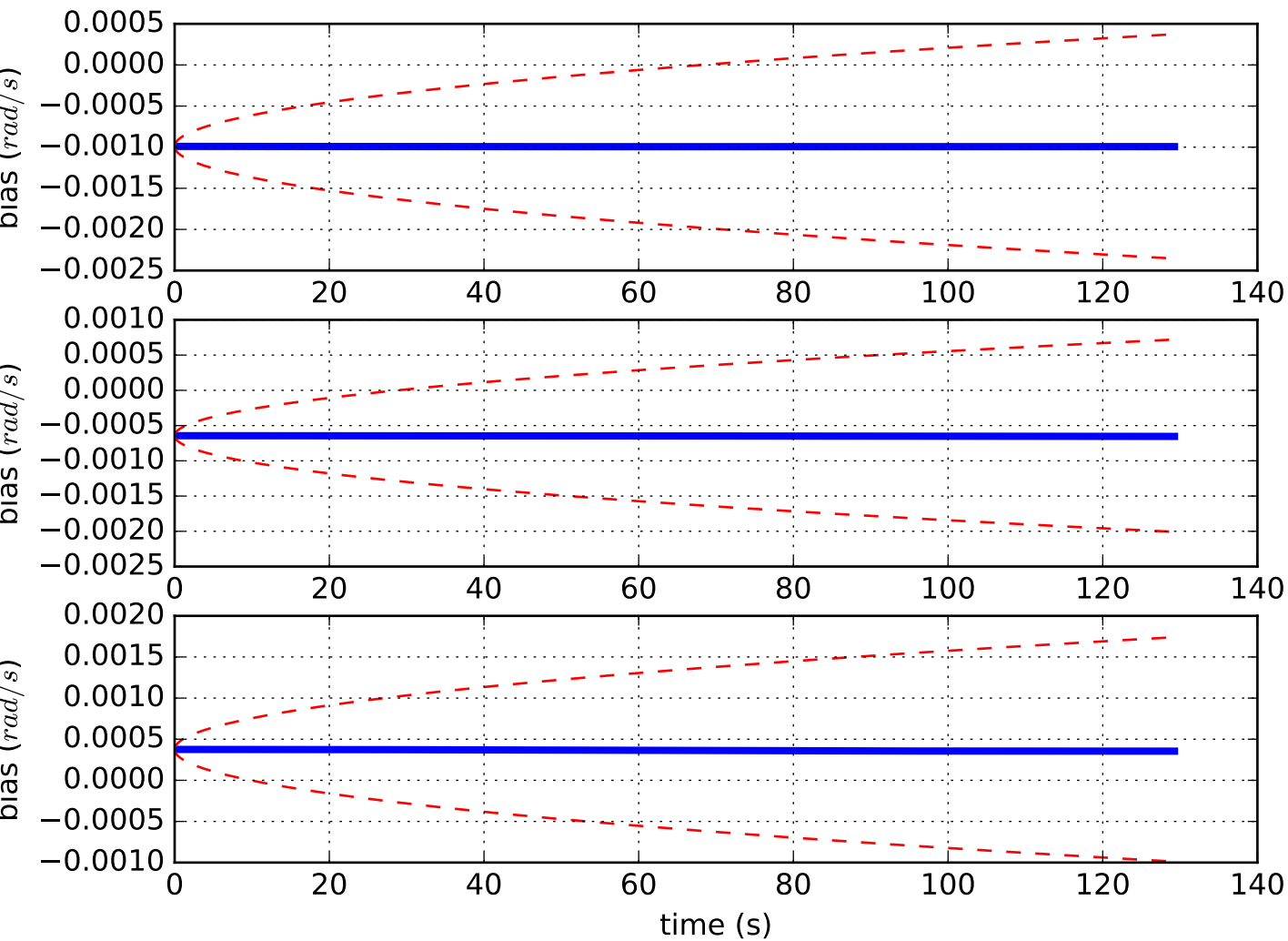
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

