

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 1.91342213567, median 1.66940737774, std: 1.31772463985

Gyroscope error (imu0): mean 0.000650883369293, median 4.06631188614e-08, std: 0.00461701503366

Accelerometer error (imu0): mean 0.000233800411951, median 0.000236739104959, std: 1.63477268265e-05

Residuals

Reprojection error (cam0) [px]: mean 1.91342213567, median 1.66940737774, std: 1.31772463985

Gyroscope error (imu0) [rad/s]: mean 1.33431090705e-05, median 8.33593936658e-10, std: 9.46488081901e-05

Accelerometer error (imu0) [m/s^2]: mean 7.48161318245e-07, median 7.5756513587e-07, std: 5.23127258447e-08

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ -0.0877146  -0.98924242 -0.11707083  0.00037449]
 [ -0.47429039  0.14482152 -0.86837512 -0.00003595]
 [  0.87598789 -0.02064361 -0.48189113 -0.00240202]
 [  0.          0.          0.          1.        ]]
```

T_ic: (cam0 to imu0):

```
[[ -0.0877146  -0.47429039  0.87598789  0.00211994]
 [ -0.98924242  0.14482152 -0.02064361  0.00032608]
 [ -0.11707083 -0.86837512 -0.48189113 -0.00114488]
 [  0.          0.          0.          1.        ]]
```

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

0.0

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

[0.91648205 -9.50205071 -2.24488658]

Calibration configuration

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cam0

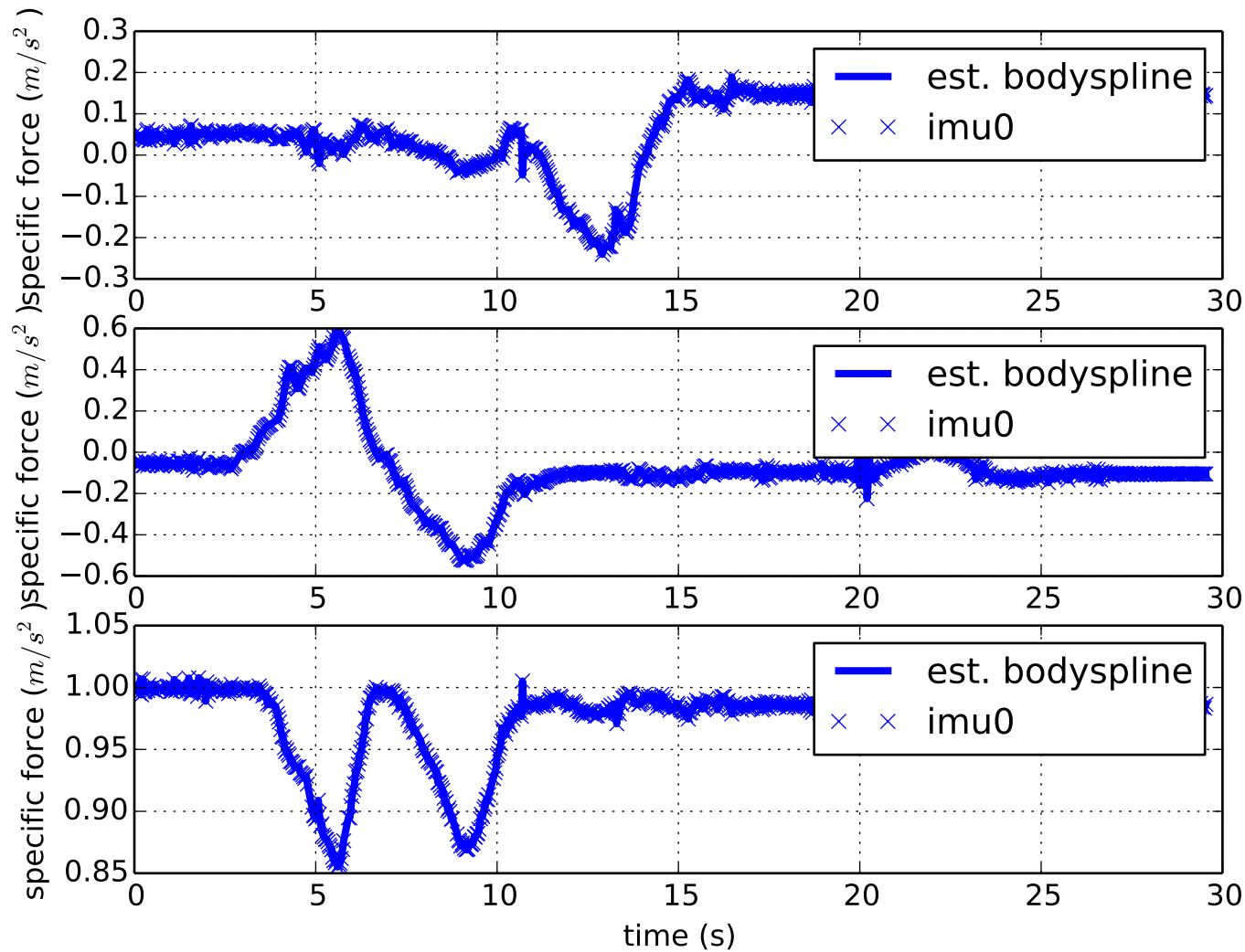
Camera model: omni
Focal length: [207.06448, 206.66068]
Principal point: [324.838, 208.3764]
Omni xi: 1
Distortion model: radtan
Distortion coefficients: [1.2828, 0.0108, -0.02, 0.0167]
Type: aprilgrid
Tags:
 Rows: 6
 Cols: 6
 Size: 0.067 [m]
 Spacing 0.0199995 [m]

IMU configuration
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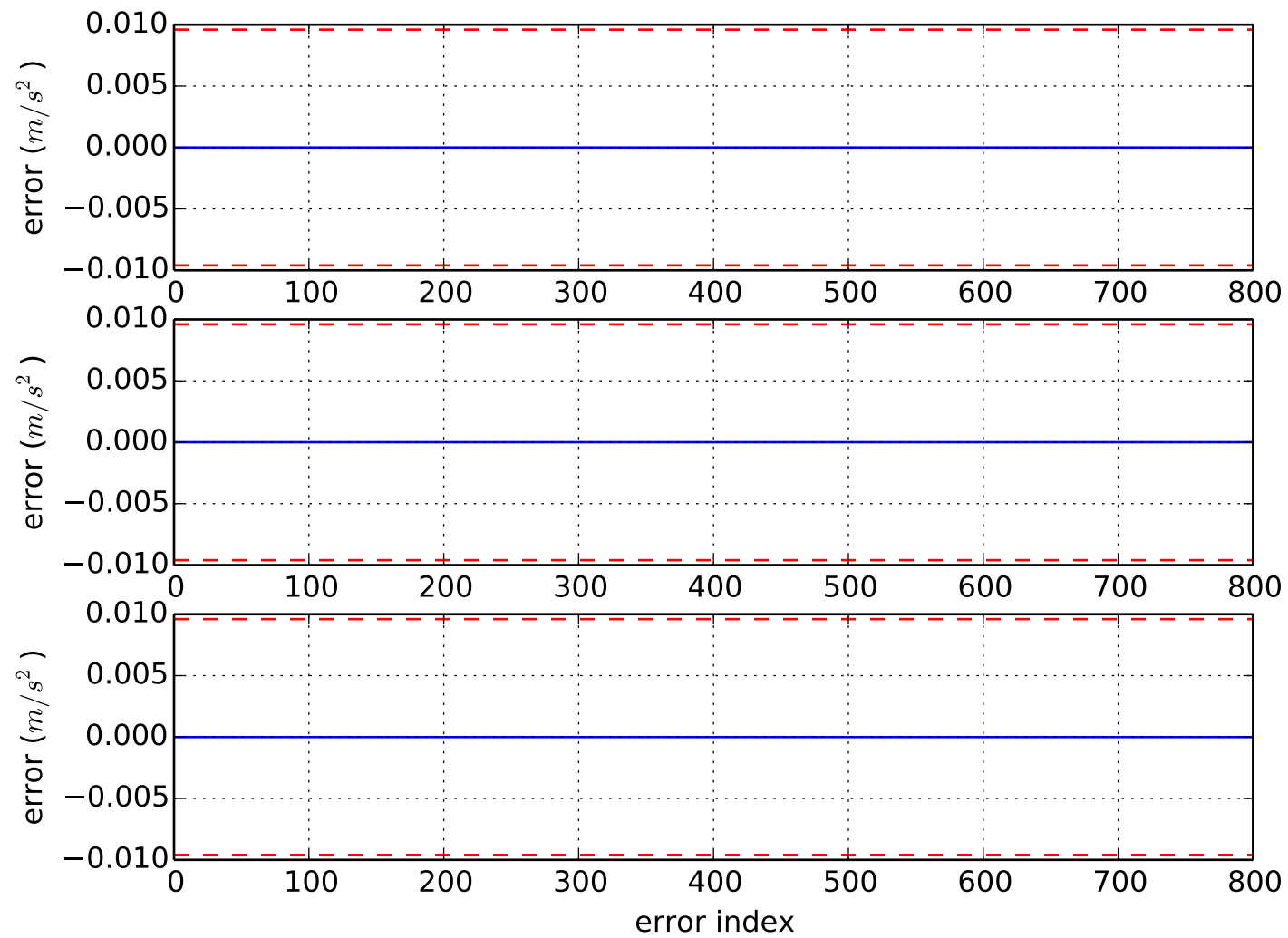
IMU0:

Model: calibrated
Update rate: 25
Accelerometer:
 Noise density: 0.00064
 Noise density (discrete): 0.0032
 Random walk: 8.86e-07
Gyroscope:
 Noise density: 0.0041
 Noise density (discrete): 0.0205
 Random walk: 5.7e-07
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]

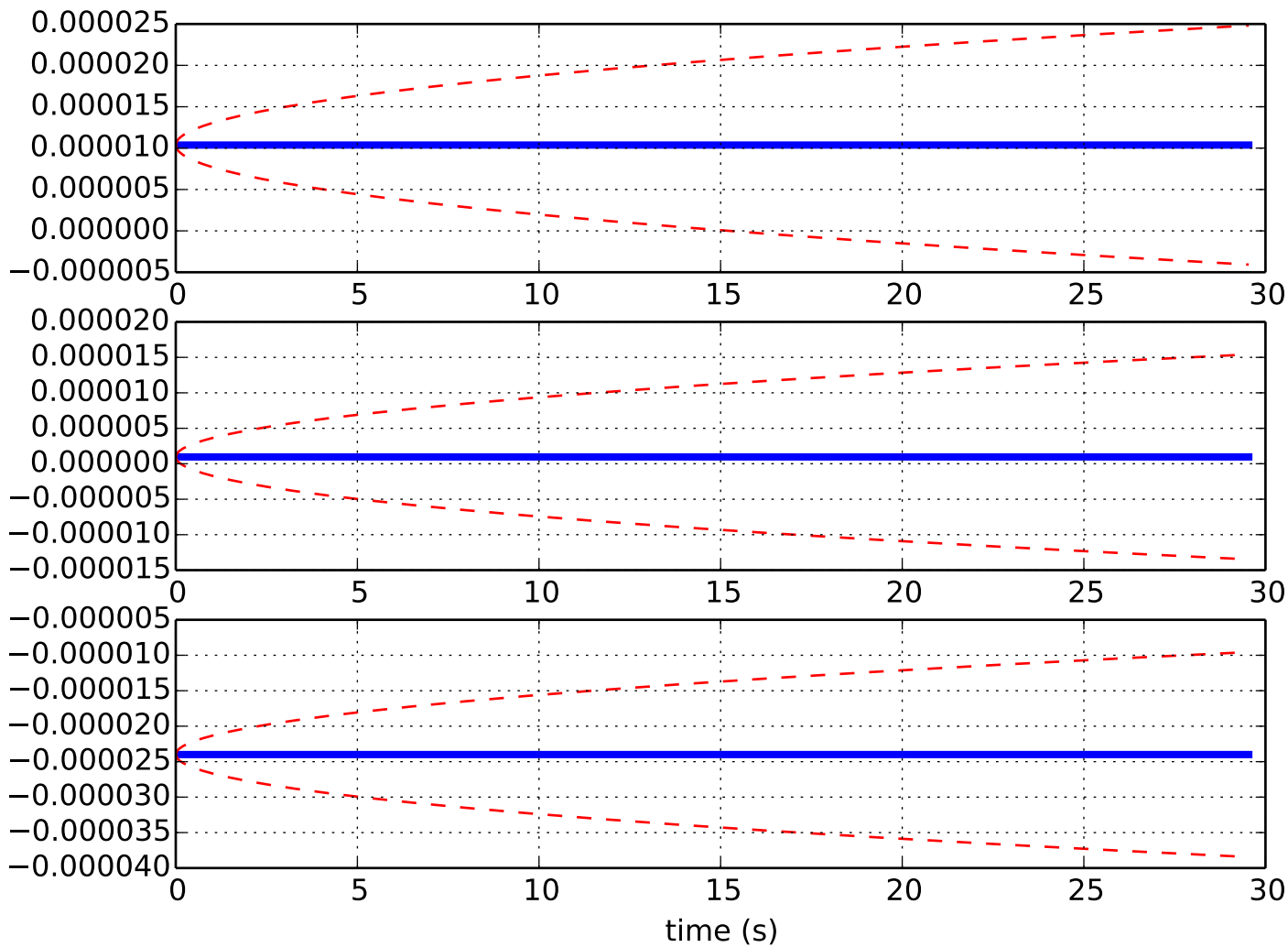
Comparison of predicted and measured specific force (imu0 frame)



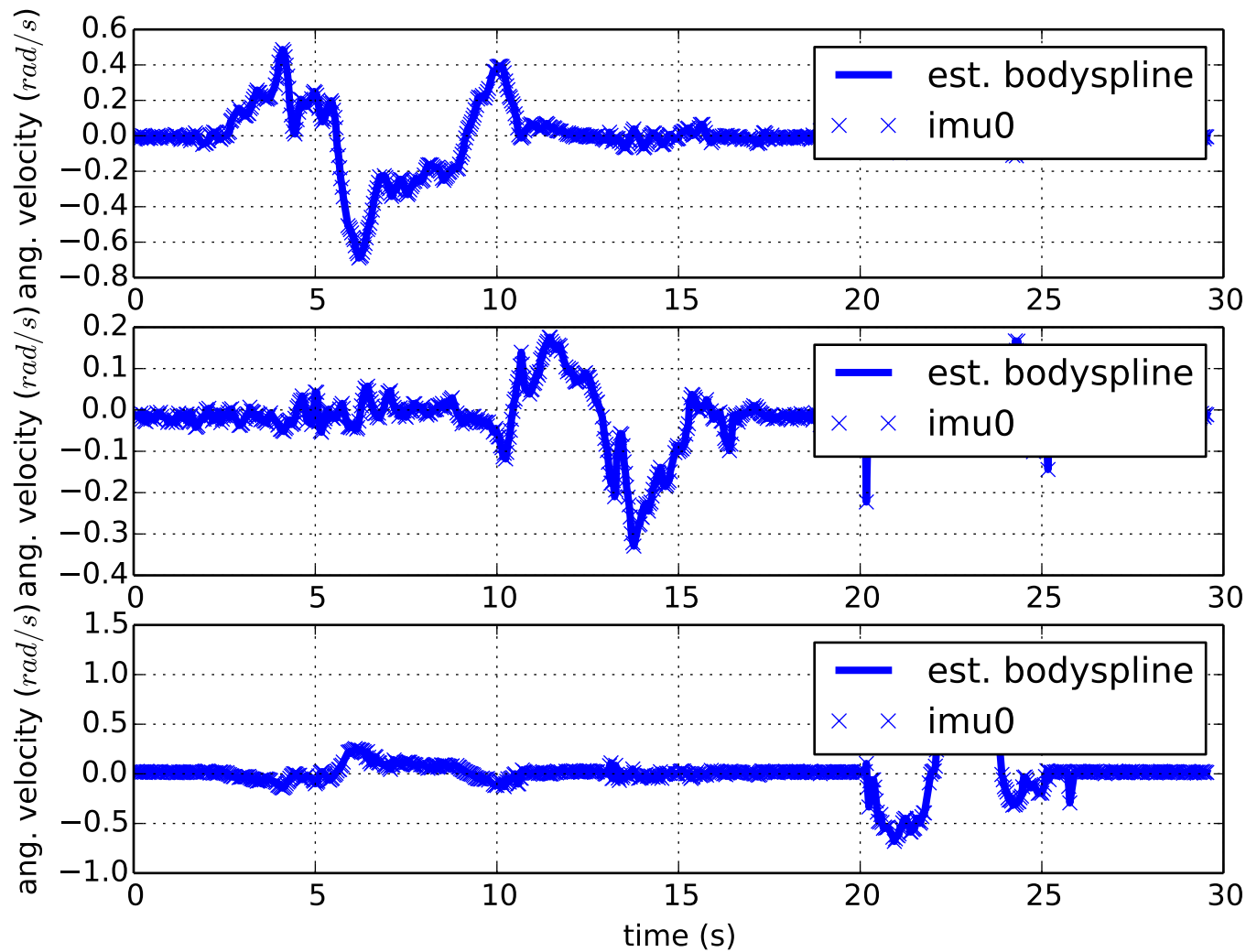
imu0: acceleration error



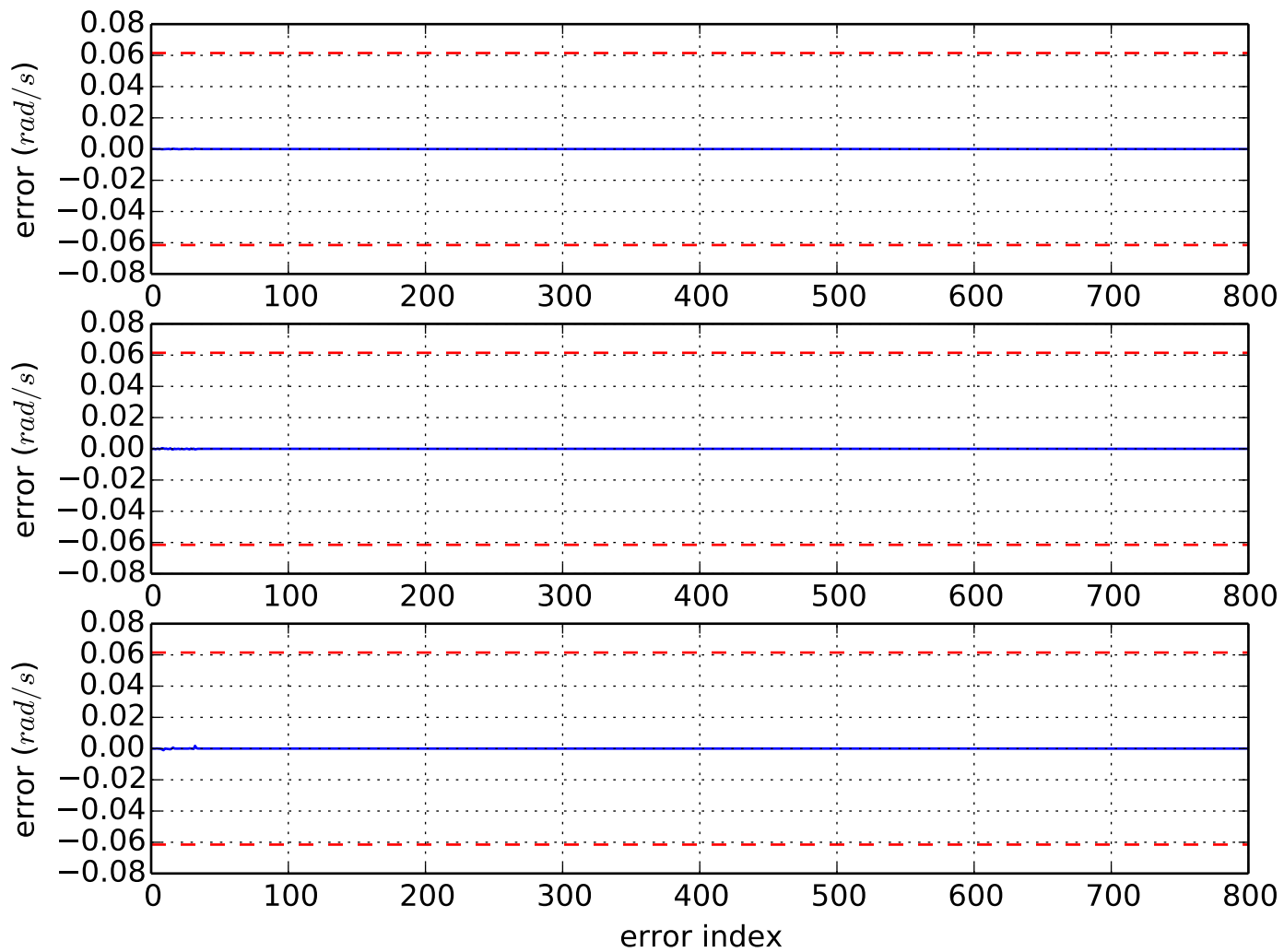
imu0: estimated accelerometer bias (imu frame)



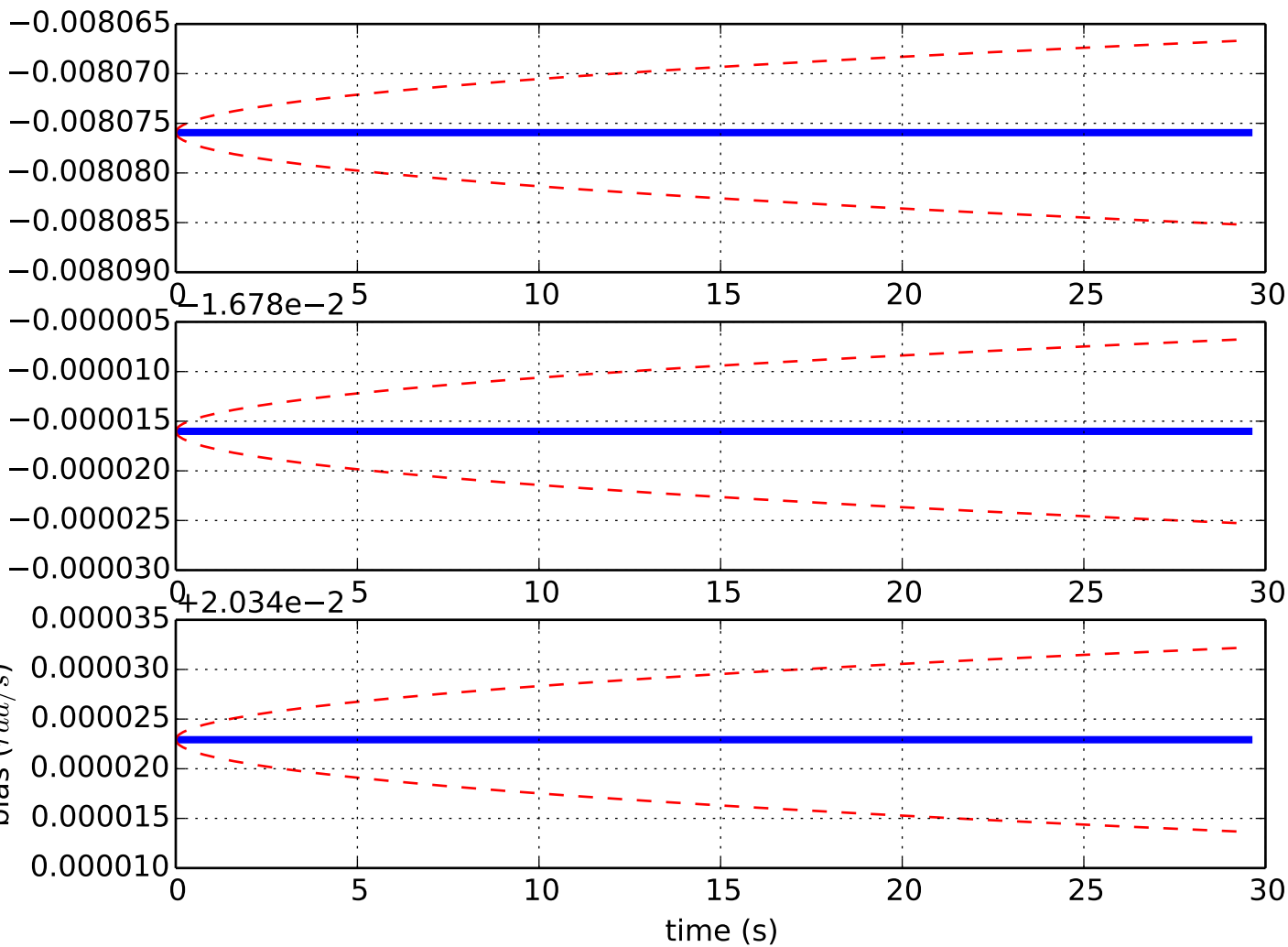
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

