

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.75018257195, median 0.632591581519, std: 0.680438373211
Gyroscope error (imu0): mean 0.000526005324738, median 2.30072114129e-08, std: 0.00325590102483
Accelerometer error (imu0): mean 0.000270095443626, median 0.000270898516727, std: 5.02897459184e-06

Residuals

Reprojection error (cam0) [px]: mean 0.75018257195, median 0.632591581519, std: 0.680438373211
Gyroscope error (imu0) [rad/s]: mean 1.18123042508e-05, median 5.16664315721e-10, std: 7.31165478884e-05
Accelerometer error (imu0) [m/s^2]: mean 9.46799149781e-07, median 9.49614261798e-07, std: 1.76286900805e-08

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.01529035 -0.99962054 0.02291245 0.00009977]
 [-0.11319256 -0.02449832 -0.993271 -0.00055228]
 [ 0.99345541 0.01259395 -0.11352419 -0.00043419]
 [ 0.         0.         0.         1.        ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.01529035 -0.11319256 0.99345541 0.00036731]
 [-0.99962054 -0.02449832 0.01259395 0.00009167]
 [ 0.02291245 -0.993271 -0.11352419 -0.00060014]
 [ 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]

[-0.19413165 -9.78040519 0.68877438]

Calibration configuration

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cam0

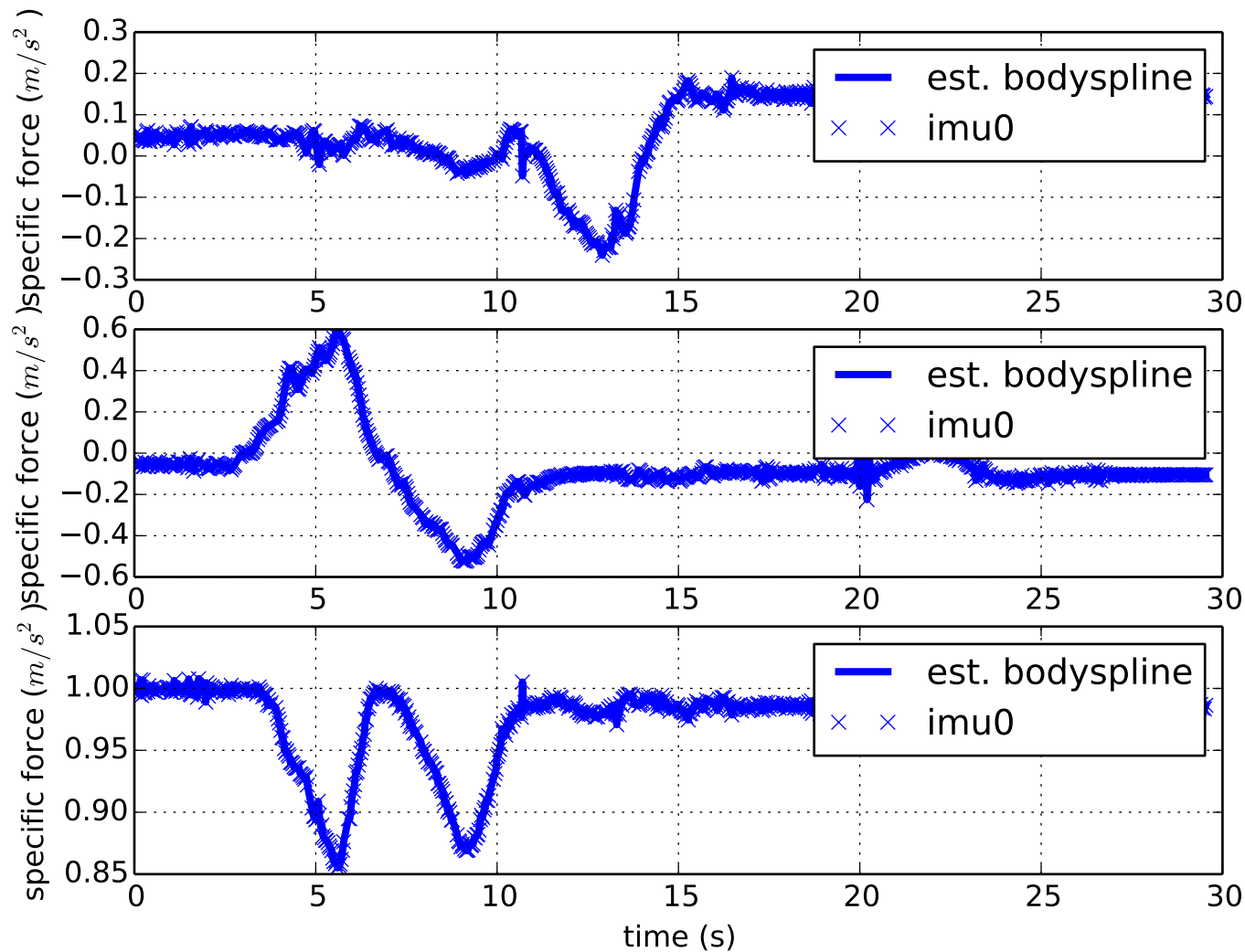
Camera model: omni
Focal length: [299.562, 299.387]
Principal point: [320.0354, 230.0574]
Omni xi: 0.8731
Distortion model: radtan
Distortion coefficients: [-0.0578, 0.0052, -0.00030508, 7.2296e-05]
Type: aprilgrid
Tags:
 Rows: 6
 Cols: 6
 Size: 0.067 [m]
 Spacing 0.0199995 [m]

IMU configuration
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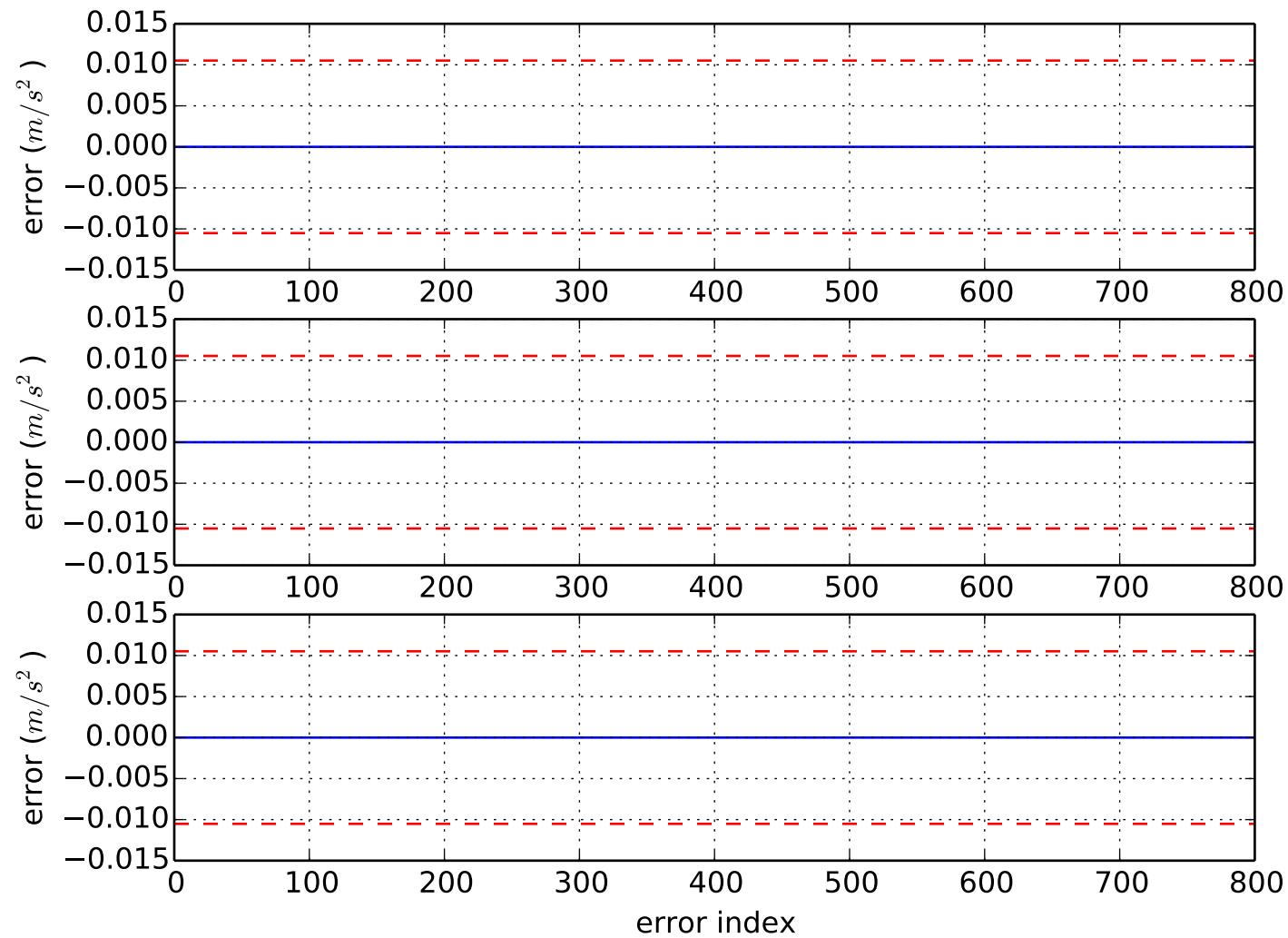
IMU0:

Model: calibrated
Update rate: 30.0
Accelerometer:
 Noise density: 0.00064
 Noise density (discrete): 0.00350542436803
 Random walk: 8.86e-07
Gyroscope:
 Noise density: 0.0041
 Noise density (discrete): 0.0224566248577
 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]

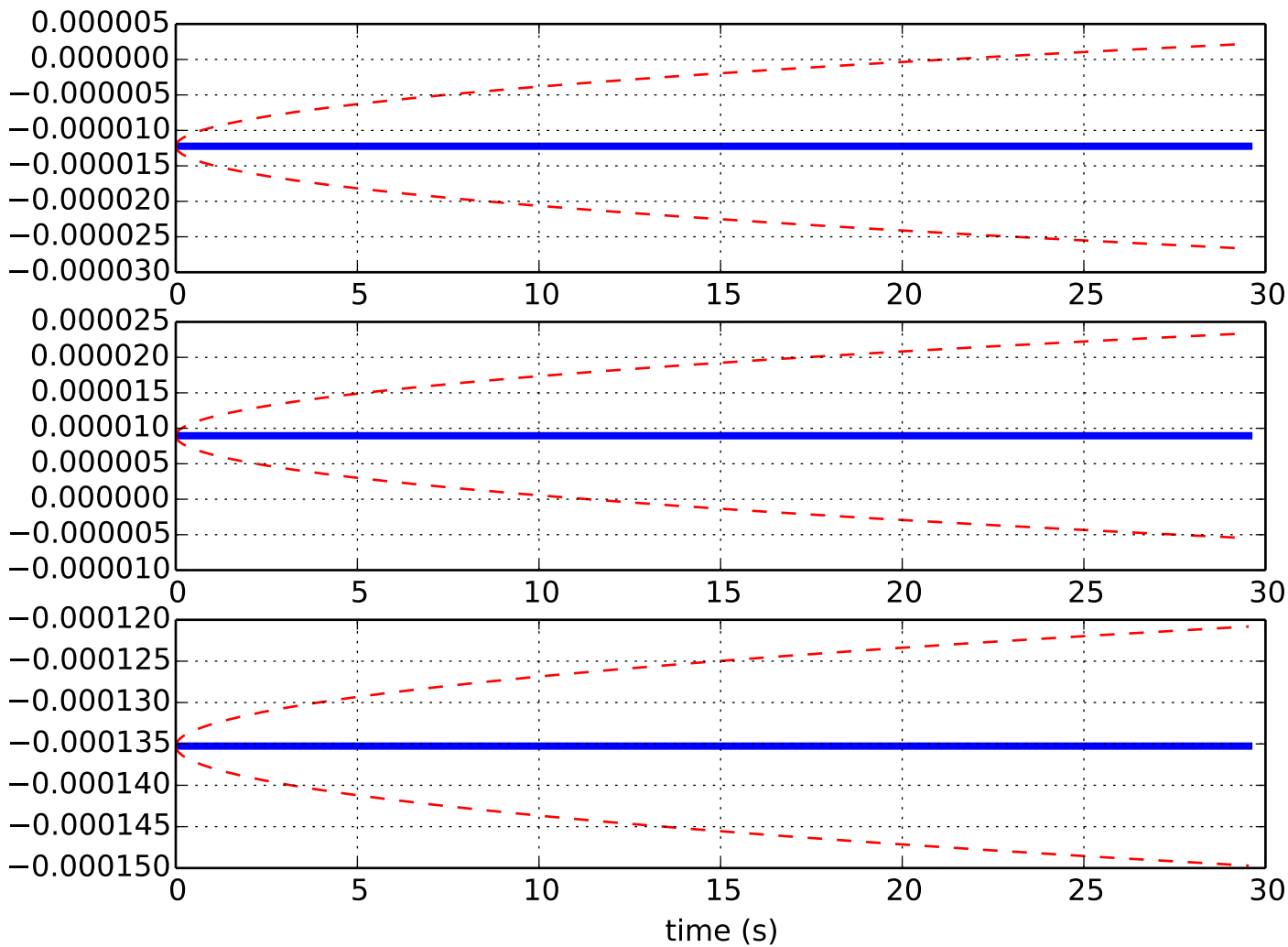
Comparison of predicted and measured specific force (imu0 frame)



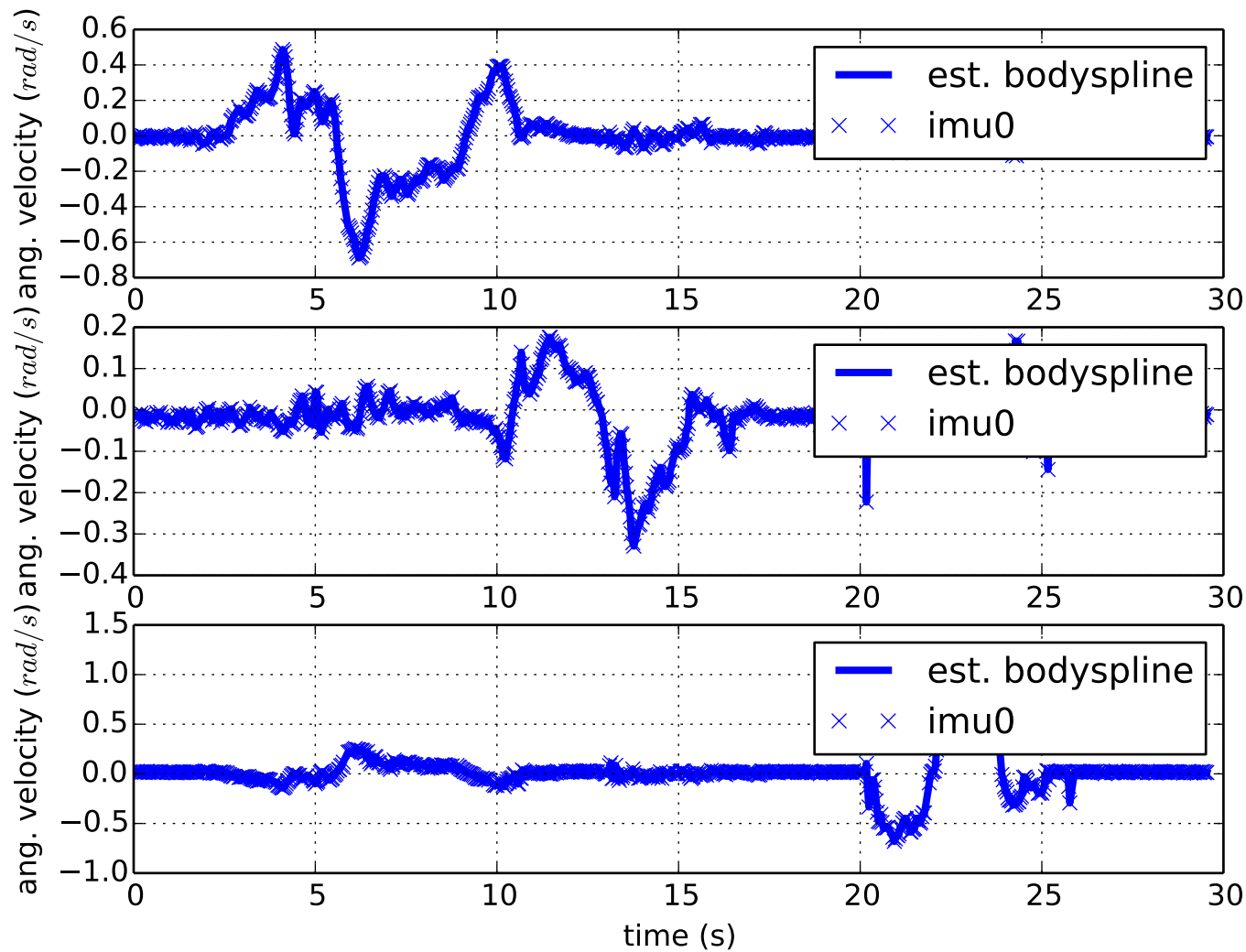
imu0: acceleration error



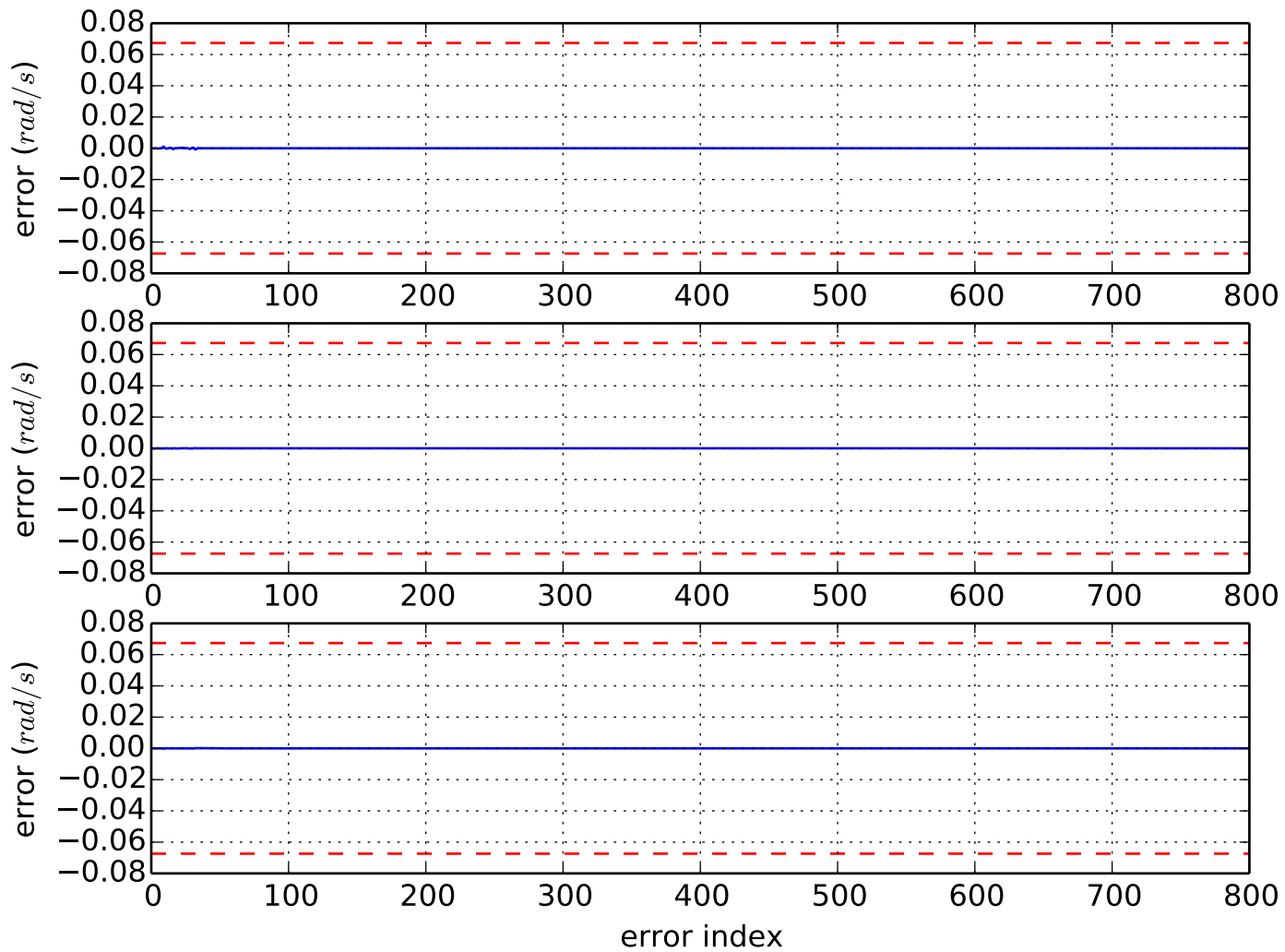
imu0: estimated accelerometer bias (imu frame)



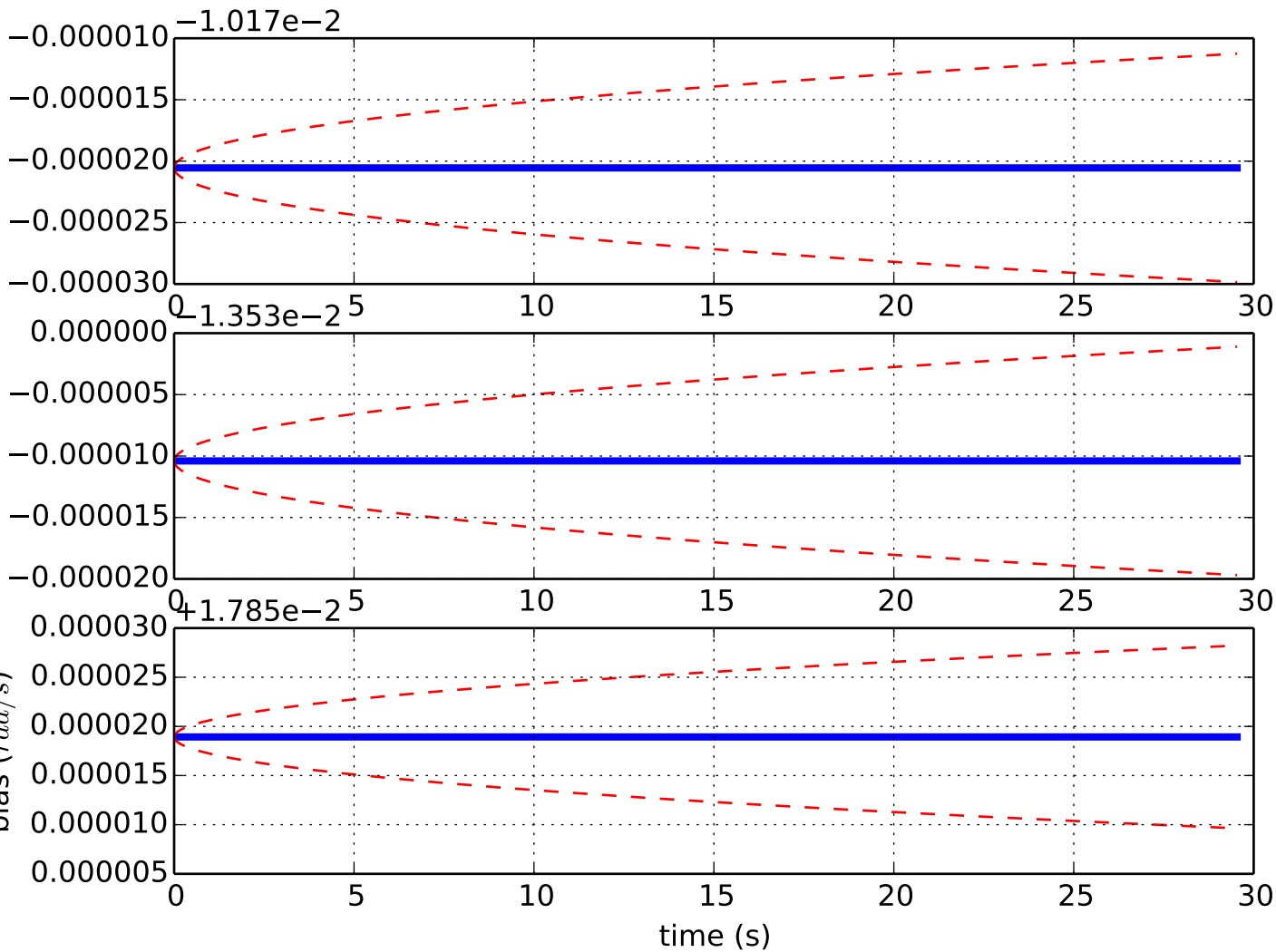
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

