

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 5.44611420995, median 4.34396942894, std: 4.70746067932

Gyroscope error (imu0): mean 31.1758811973, median 26.4576700748, std: 24.0030702895

Accelerometer error (imu0): mean 8.46971990275, median 7.33967703153, std: 6.73626958855

Residuals

Reprojection error (cam0) [px]: mean 5.44611420995, median 4.34396942894, std: 4.70746067932

Gyroscope error (imu0) [rad/s]: mean 1.01803748894, median 0.863965956106, std: 0.783811859228

Accelerometer error (imu0) [m/s^2]: mean 0.0471379296786, median 0.0408487156303, std: 0.0374904726257

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[ [ 0.97210488 0.19456176 0.13098787 0.07177823]
  [-0.12856335 0.90910811 -0.39622457 0.04522021]
  [-0.19617229 0.3683316 0.90876194 0.60808416]
  [ 0.        0.        0.        1.      ]]
```

T_ic: (cam0 to imu0):

```
[ [ 0.97210488 -0.12856335 -0.19617229 0.05532696]
  [ 0.19456176 0.90910811 0.3683316 -0.27905197]
  [ 0.13098787 -0.39622457 0.90876194 -0.54408846]
  [ 0.        0.        0.        1.      ]]
```

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

-0.144535211017

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

```
[ 1.65320618 -8.52666281 -4.55316961]
```

Calibration configuration

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cam0

Camera model: pinhole
Focal length: [657.6283690104826, 874.8200413515597]
Principal point: [295.29354482420024, 230.72956849302324]
Distortion model: radtan
Distortion coefficients: [0.21423558354382966, -0.30586368141414483, -0.00030595444685297177, -0.009906257253676505]
Type: aprilgrid
Tags:
 Rows: 6
 Cols: 6
 Size: 0.03 [m]
 Spacing 0.009 [m]

IMU configuration

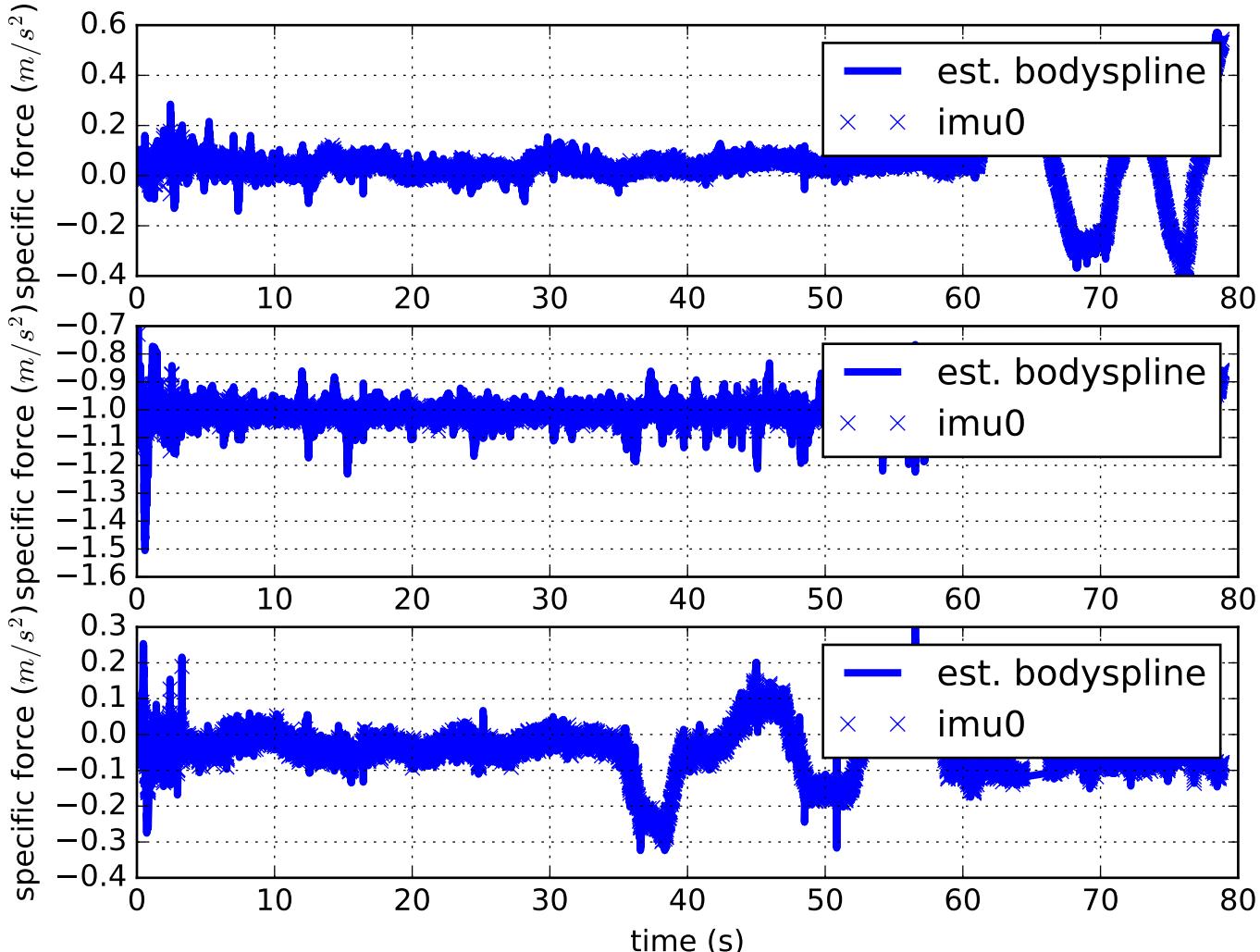
IMU0:

Model: calibrated
Update rate: 100.0
Accelerometer:
 Noise density: 0.0005565465
 Noise density (discrete): 0.005565465
 Random walk: 0.0006532546
Gyroscope:
 Noise density: 0.003265465
 Noise density (discrete): 0.03265465
 Random walk: 0.025221156

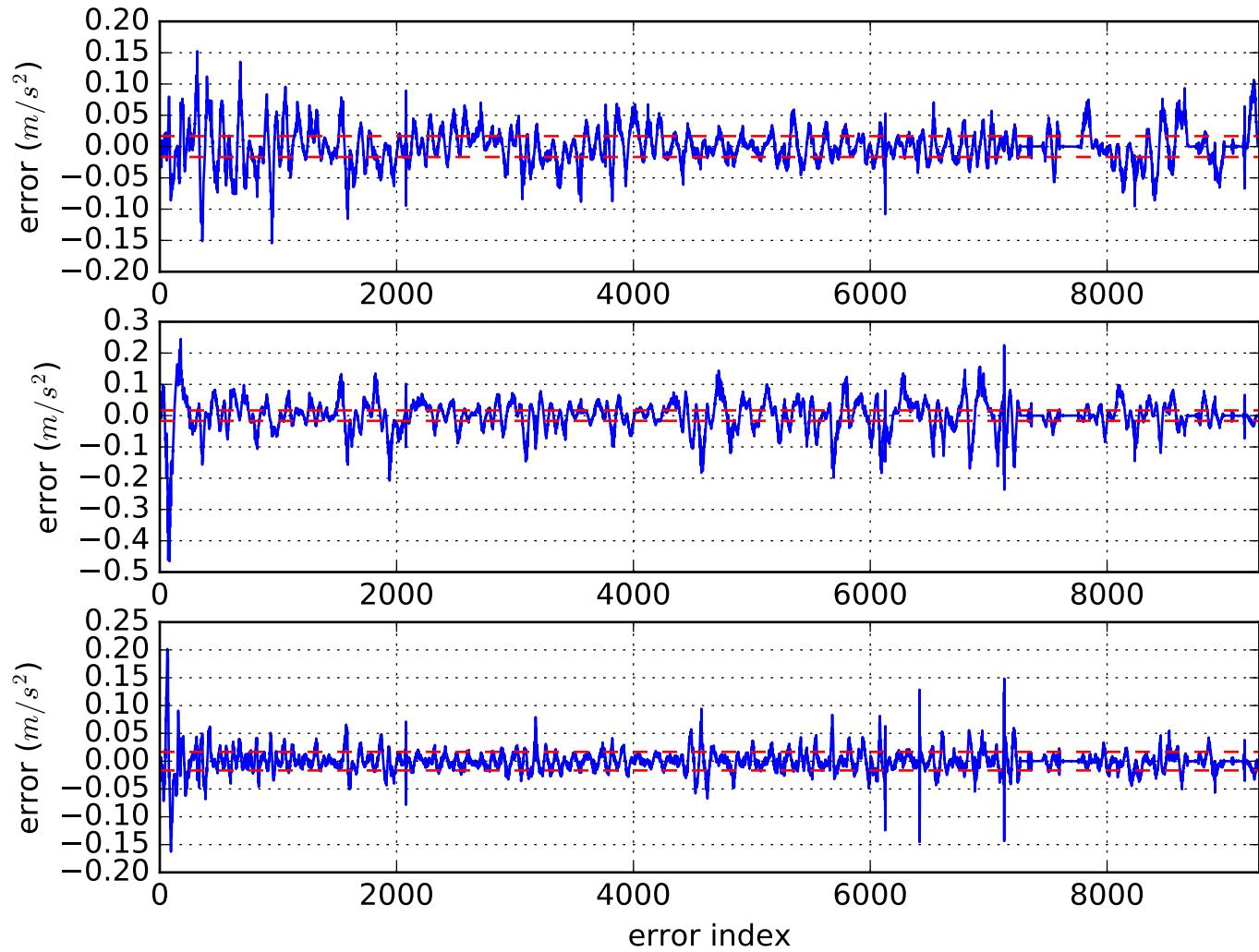
$T_{i,b}$
[[1. 0. 0. 0.]
 [0. 1. 0. 0.]
 [0. 0. 1. 0.]
 [0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

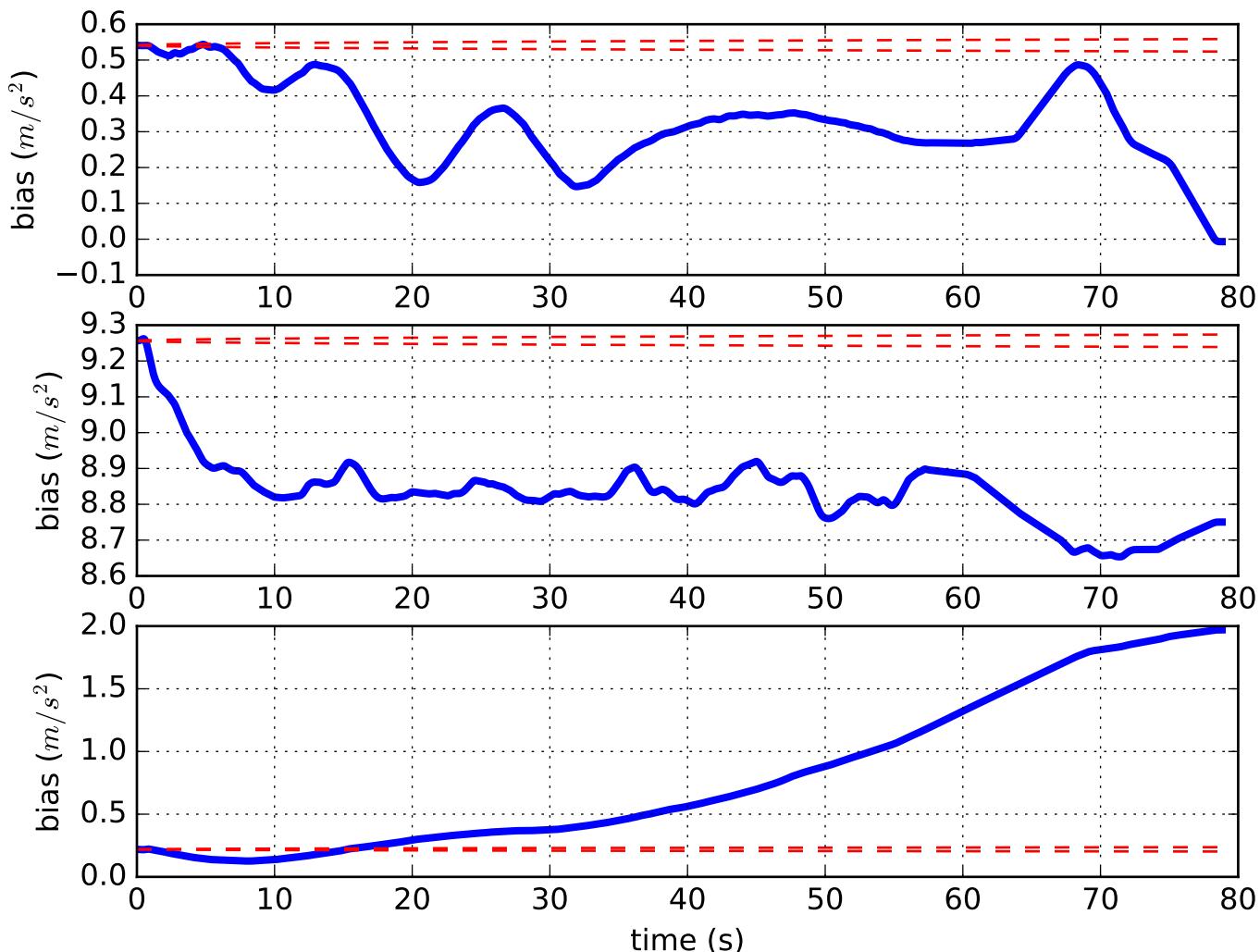
Comparison of predicted and measured specific force (imu0 frame)



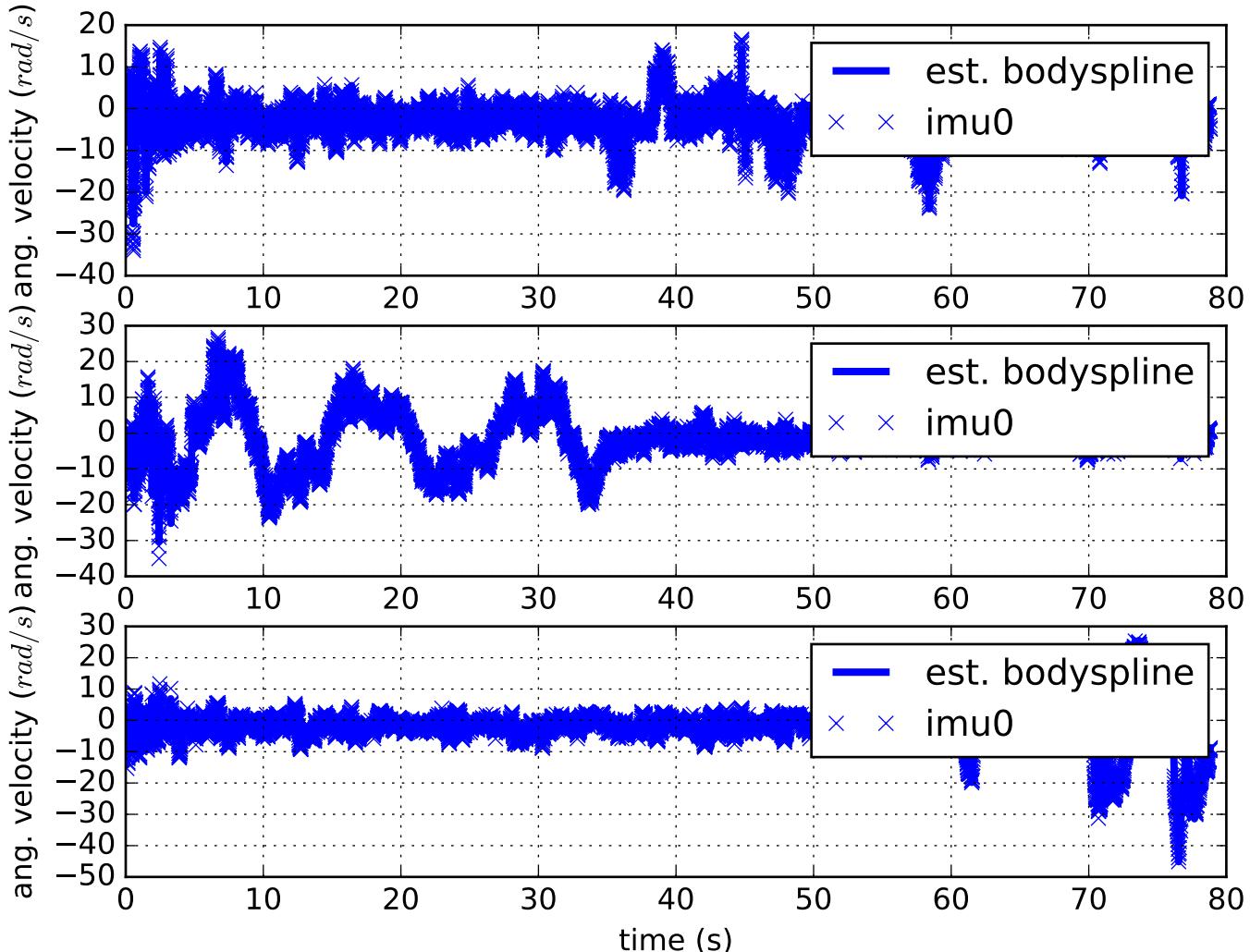
imu0: acceleration error



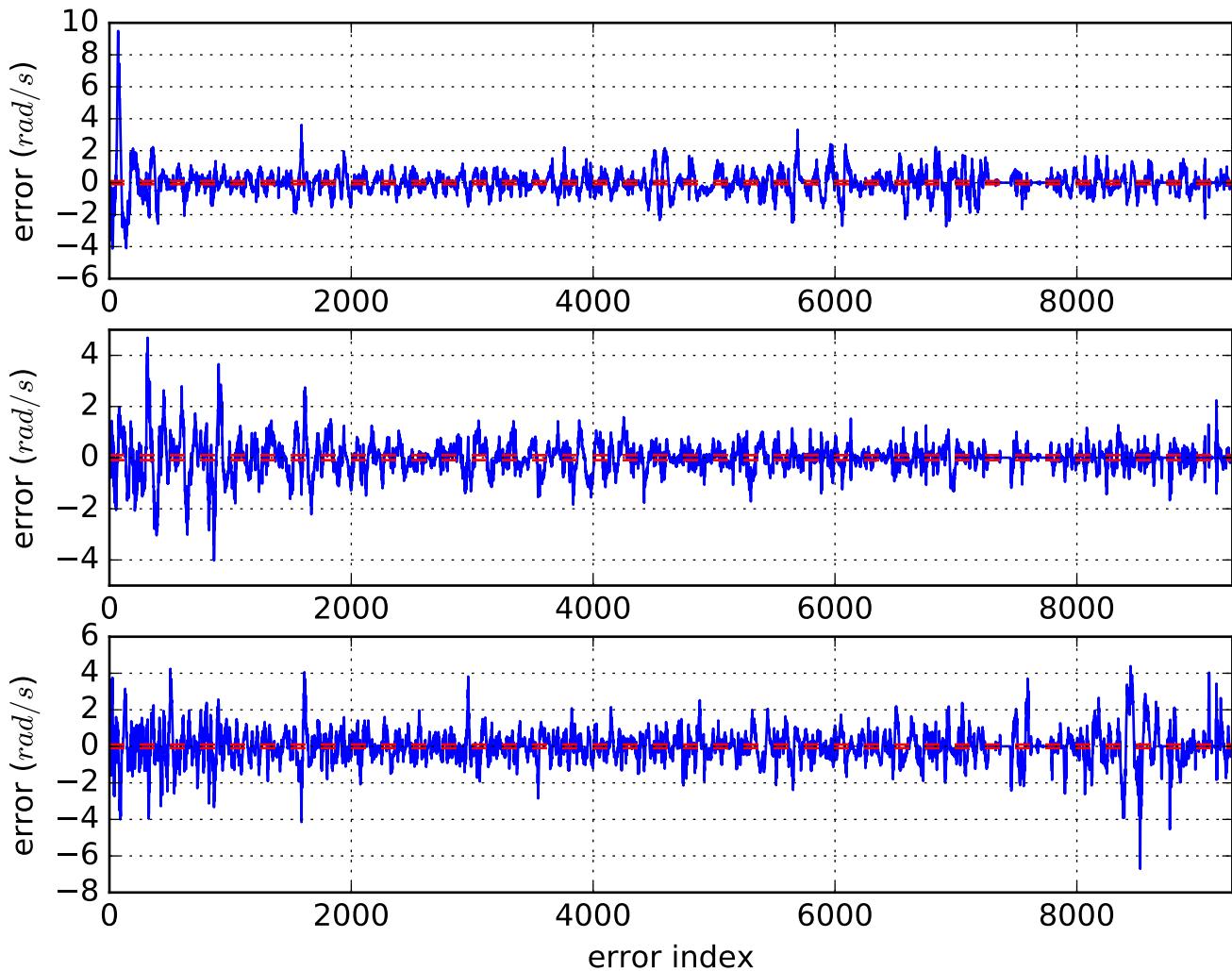
imu0: estimated accelerometer bias (imu frame)



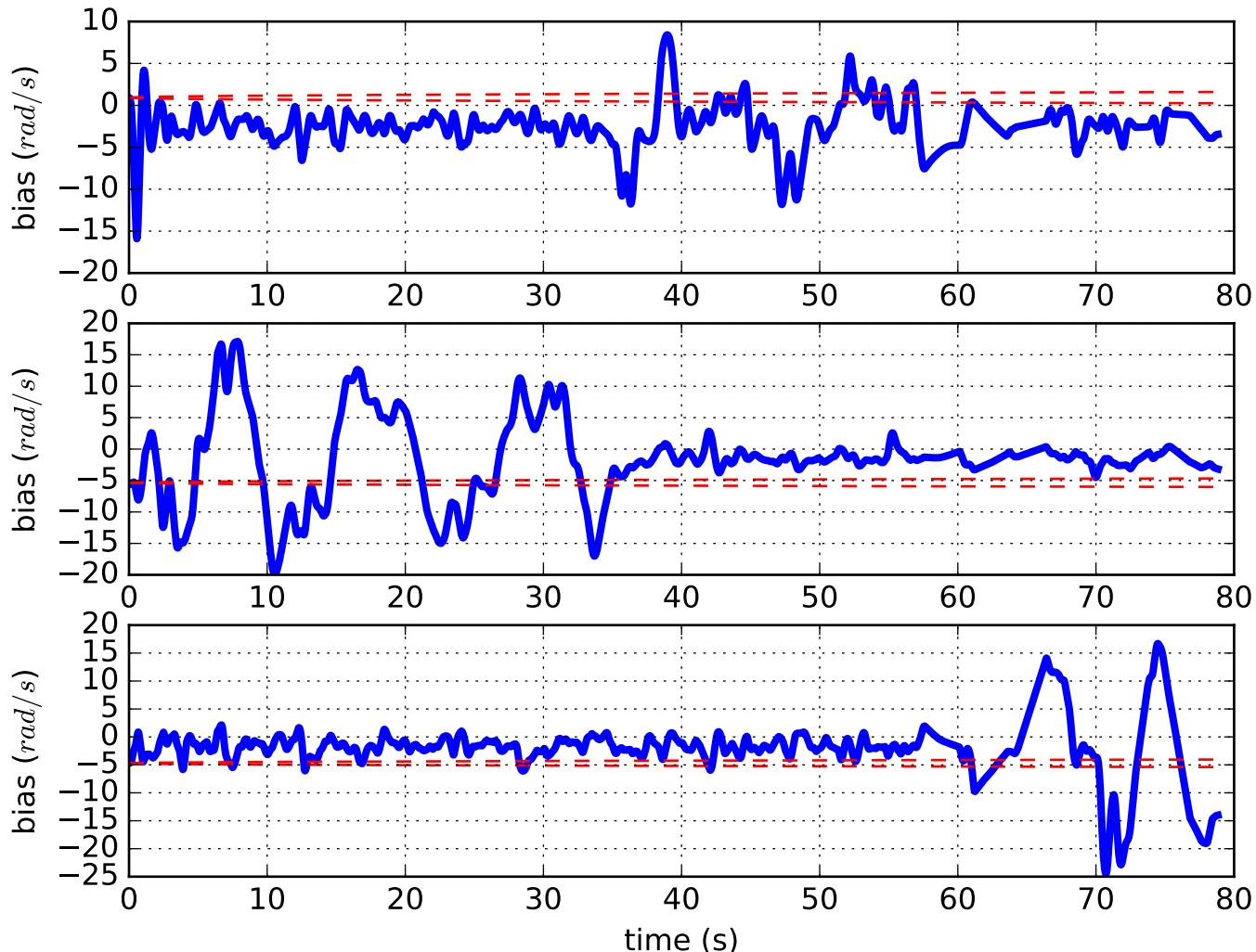
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

