

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.205883910036, median 0.183535586948, std: 0.131210272448

Gyroscope error (imu0): mean 0.21785136027, median 0.194590480179, std: 0.122608298945

Accelerometer error (imu0): mean 0.355485912787, median 0.315151968505, std: 0.21288057227

Residuals

Reprojection error (cam0) [px]: mean 0.205883910036, median 0.183535586948, std: 0.131210272448

Gyroscope error (imu0) [rad/s]: mean 0.0154044174137, median 0.0137596248089, std: 0.00866971596135

Accelerometer error (imu0) [m/s²]: mean 0.0502732999096, median 0.0445692188068, std: 0.030105859247

Transformation (cam0):

T_ci: (imu0 to cam0):

[[-0.5576586 -0.8300635 0.00338633 0.02583028]

[-0.005692 -0.0002555 -0.99998377 0.14543357]

[0.8300509 -0.55766882 -0.00458224 -0.09803832]

[0. 0. 0. 1.]]

T_ic: (cam0 to imu0):

[[-0.5576586 -0.005692 0.8300509 0.09660908]

[-0.8300635 -0.0002555 -0.55766882 -0.03319498]

[0.00338633 -0.99998377 -0.00458224 0.14489451]

[0. 0. 0. 1.]]

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

0.00306532906625

Gravity vector in target coords: [m/s²]

[-8.8000326 0.07064197 -4.3269919]

Calibration configuration

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cam0

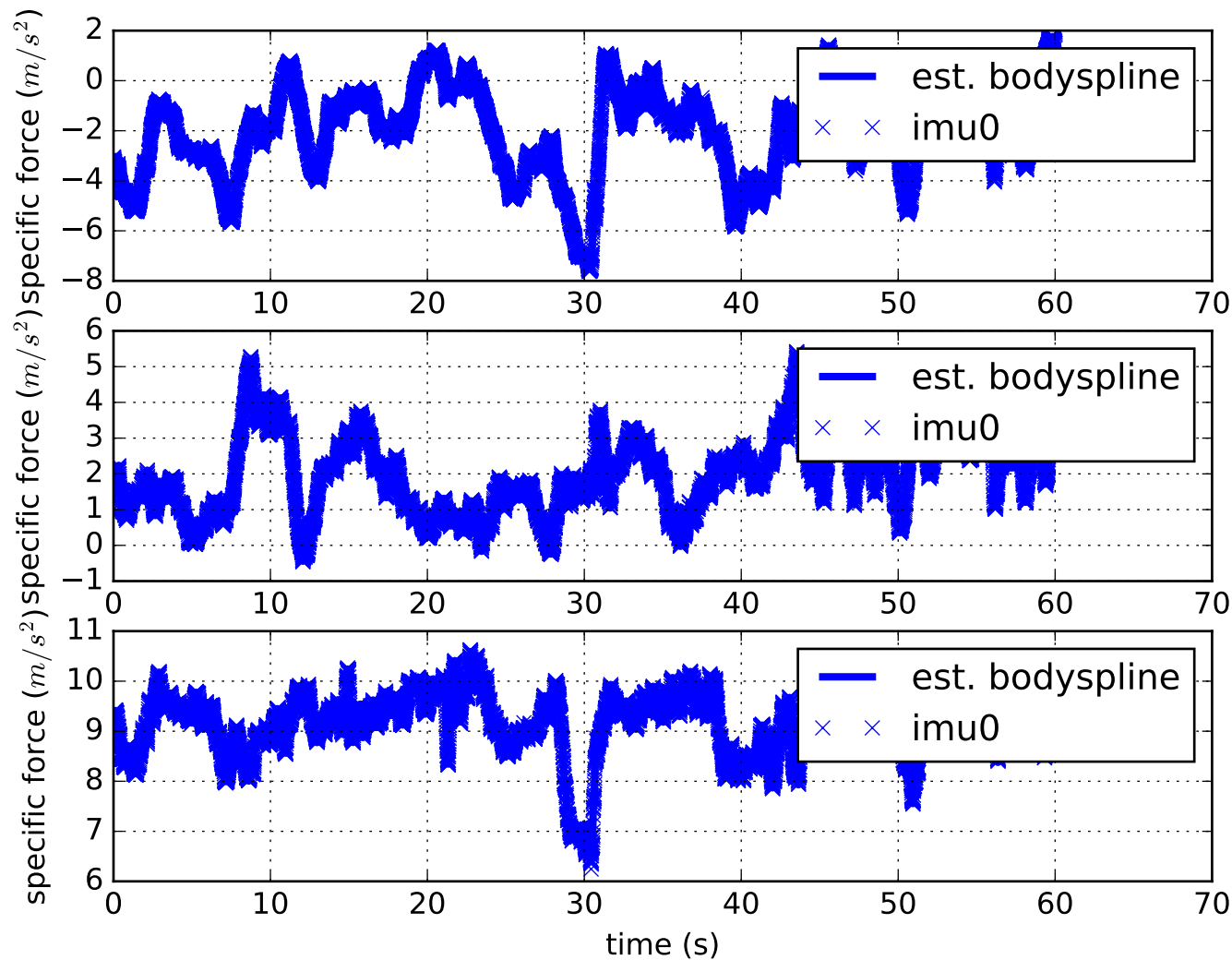
Camera model: pinhole
Focal length: [446.98213557239376, 446.67341614787443]
Principal point: [458.8195730864283, 639.0750099397338]
Distortion model: radtan
Distortion coefficients: [0.002171665342519156, 0.005702611250953197, 0.0004528481361054936, -0.007315616560140325]
Type: checkerboard
Rows
 Count: 7
 Distance: 0.06 [m]
Cols
 Count: 6
 Distance: 0.06 [m]

IMU configuration
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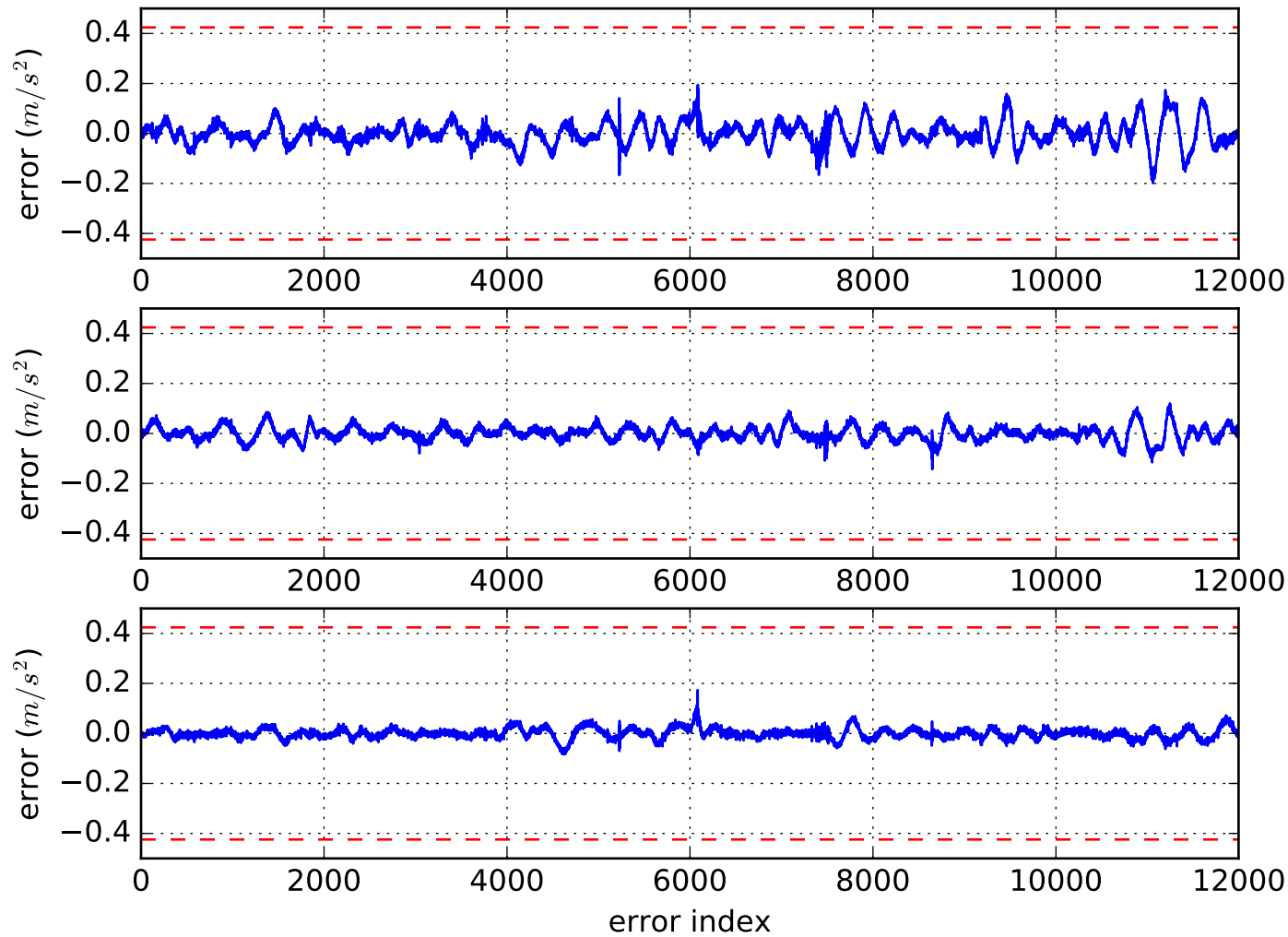
IMU0:

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]

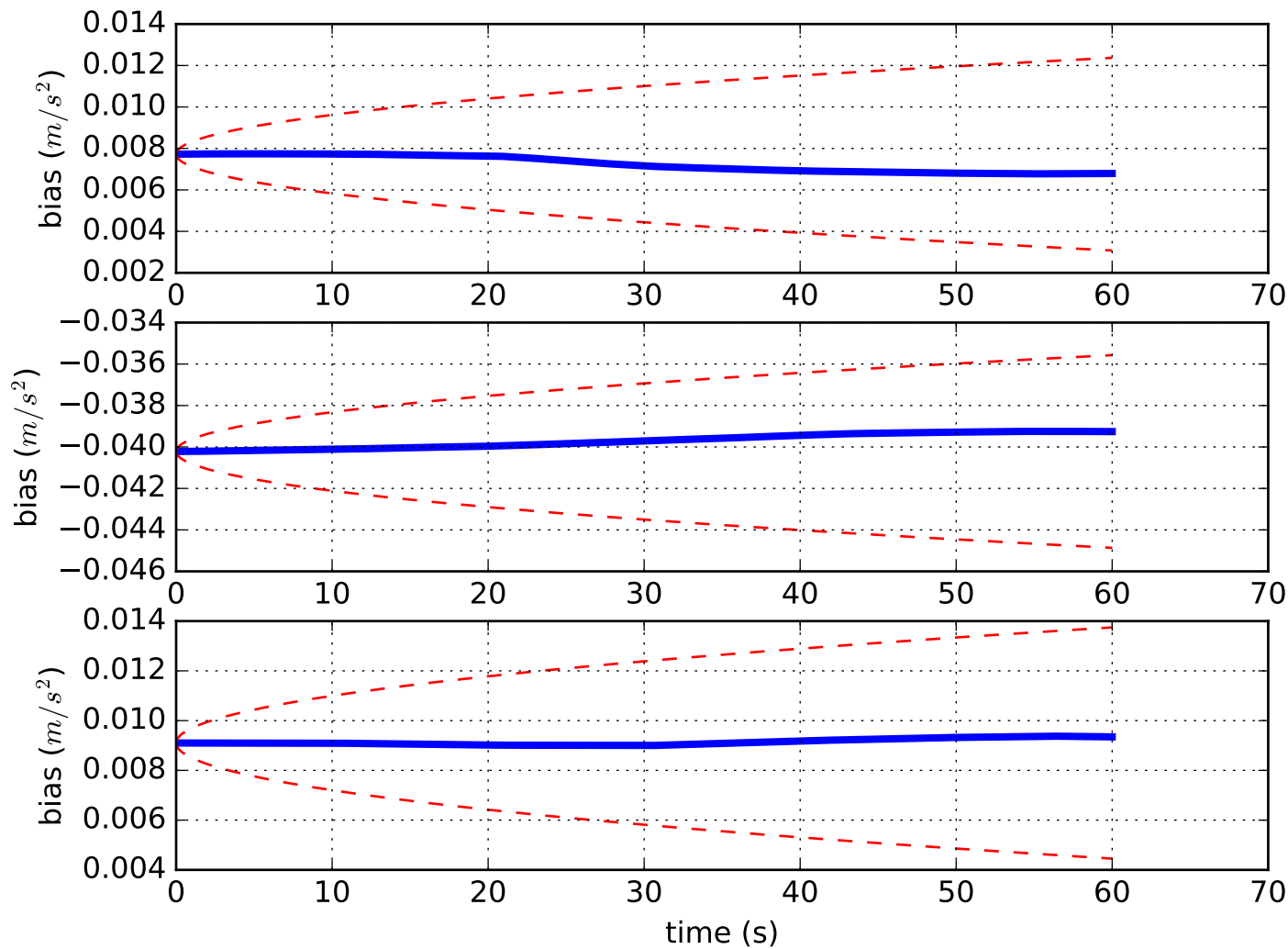
Comparison of predicted and measured specific force (imu0 frame)



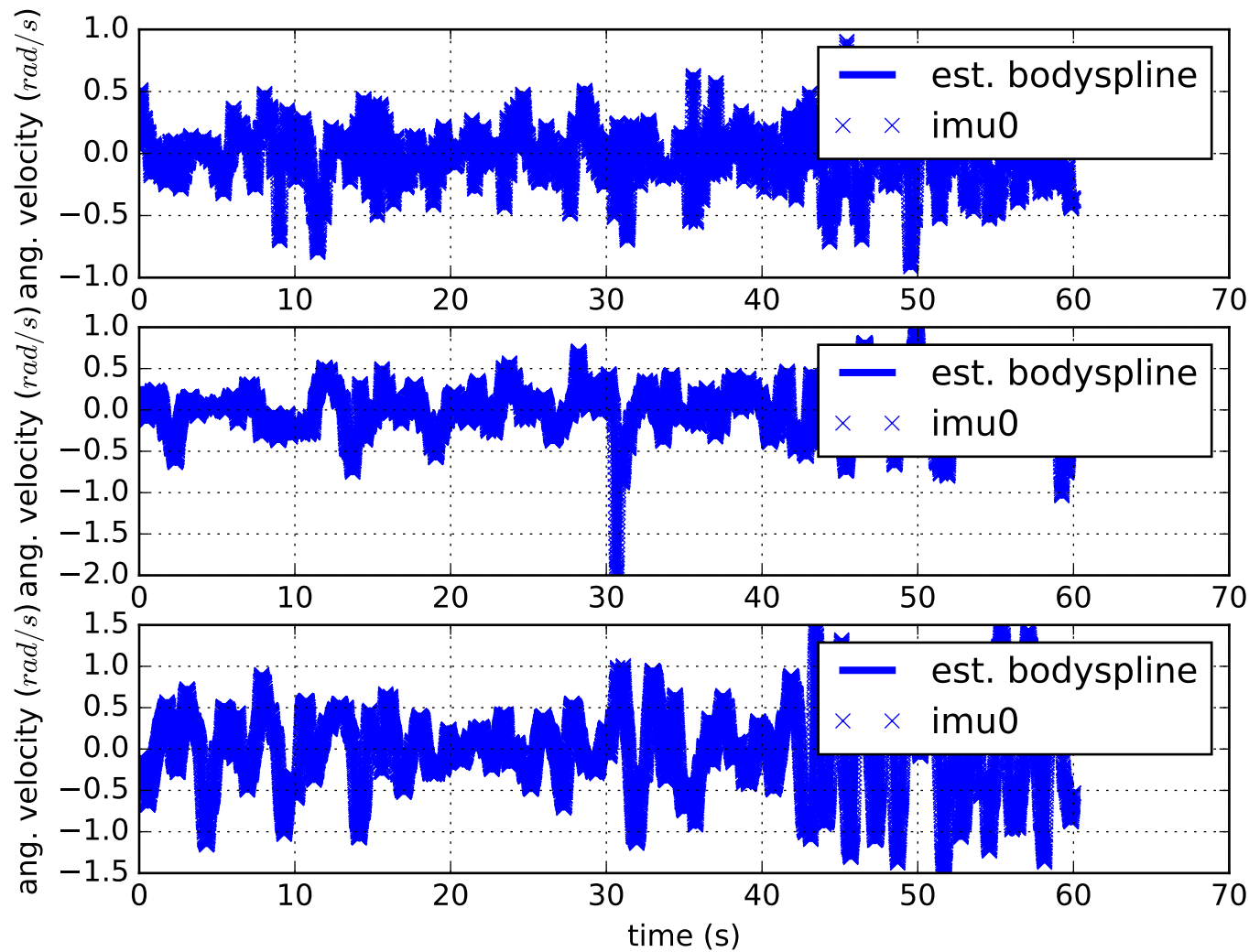
imu0: acceleration error



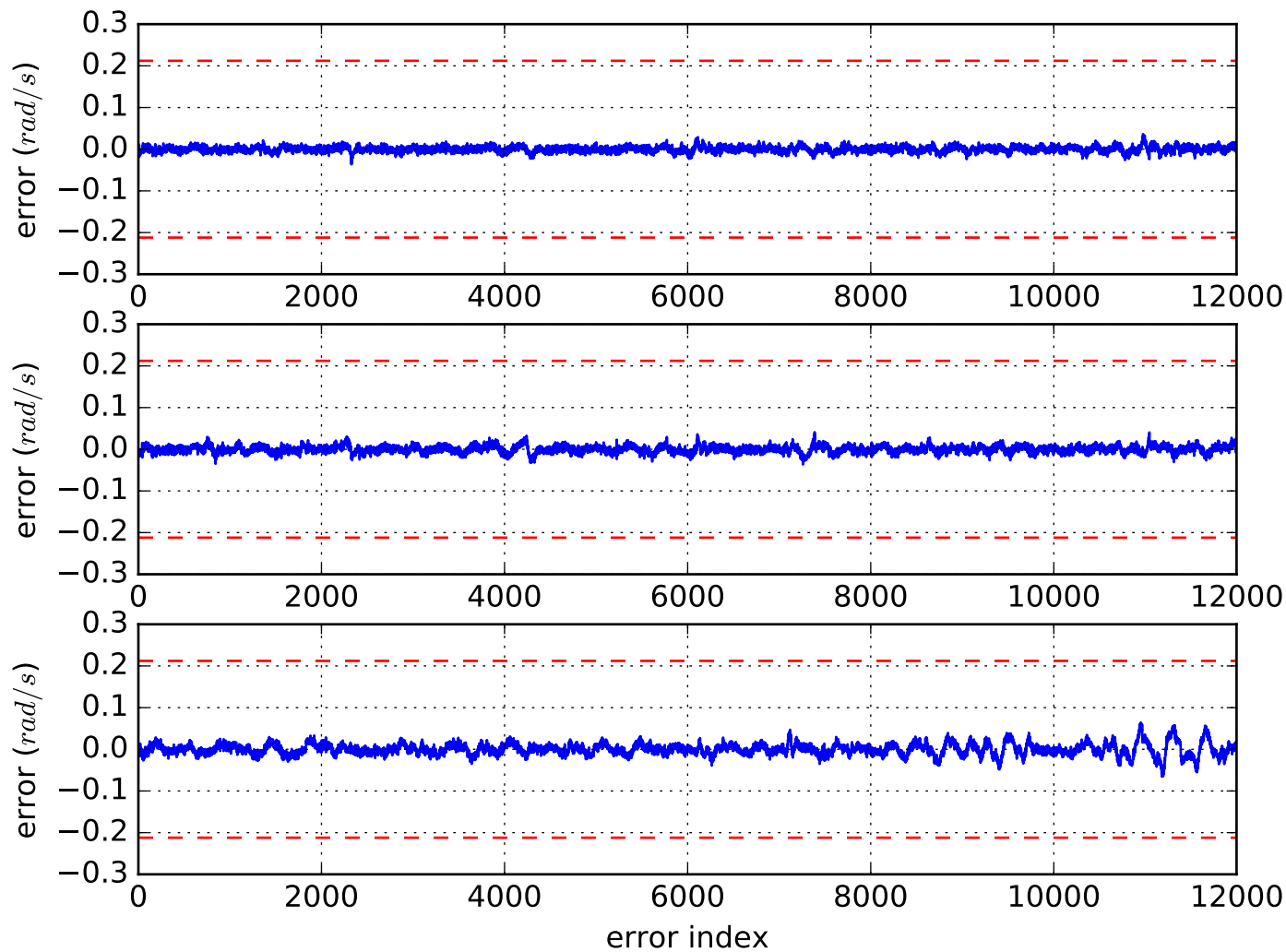
imu0: estimated accelerometer bias (imu frame)



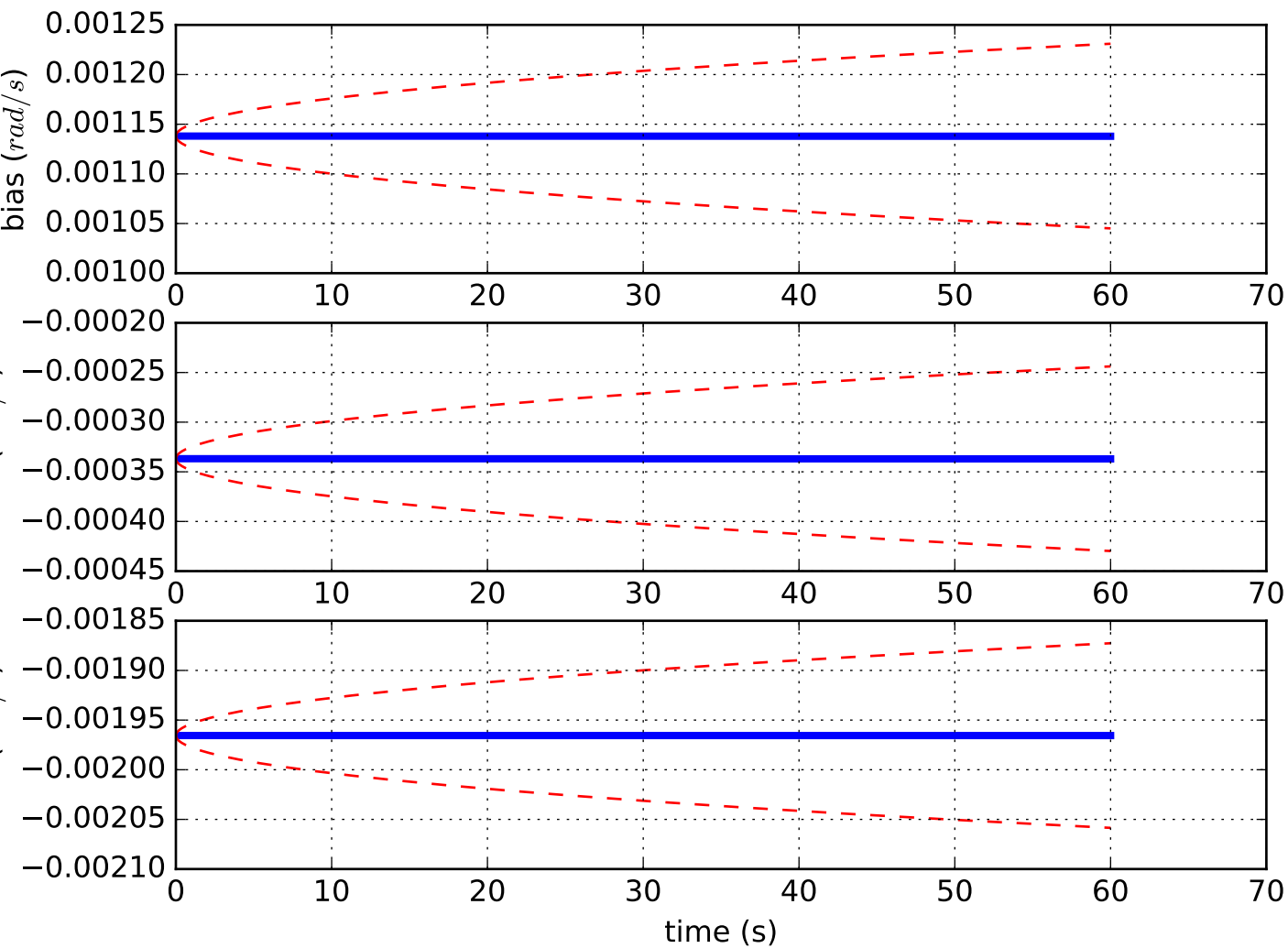
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

