Calibration results
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Normalized Residuals

Reprojection error (cam0):   mean 0.109454189124, median 0.103248861019, std: 0.0569903934595
Reprojection error (cam1):   mean 0.107862306364, median 0.101401076126, std: 0.0567957651757
Gyroscope error (imu0):   mean 0.494055841705, median 0.459218408566, std: 0.261077704433
Accelerometer error (imu0):   mean 0.589984164603, median 0.543404855875, std: 0.305882375201

Residuals

Reprojection error (cam0) [px]:   mean 0.109454189124, median 0.103248861019, std: 0.0569903934595
Reprojection error (cam1) [px]:   mean 0.107862306364, median 0.101401076126, std: 0.0567957651757
Gyroscope error (imu0) [rad/s]:   mean 0.00111792075505, median 0.00103909264238, std: 0.000590751408707
Accelerometer error (imu0) [m/s^2]: mean 0.0233621810007, median 0.0215177344771, std: 0.012112324098

Transformation (cam0):

T_ci: (imu0 to cam0):
[[-0.99952173 0.02972153 -0.00854064 0.0474336]
 [0.00751455 -0.03446553 -0.99937764 -0.0474035]
 [-0.02999739 -0.99896384 0.0342257 -0.07136636]
 [0.   0.   0.   1.   ]]

T_ic: (cam0 to imu0):
[[-0.99952173 0.00751455 -0.02999739 0.04562632]
 [0.02972153 -0.03446553 -0.99896384 -0.074336]
 [-0.00854064 -0.99937764 0.0342257 -0.04452632]
 [0.   0.   0.   1.   ]]

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.0

Transformation (cam1):

T_ci: (imu0 to cam1):
[[-0.99951294 0.03025677 -0.0076422 -0.05344183]
 [0.00803645 0.0129302 -0.99988411 -0.0458404]
 [-0.03015445 -0.99945852 -0.01316706 -0.07486061]

```
 [ 0.        0.        0.        1.       ]]

T_ic:  (cam1 to imu0):
[[-0.99951294  0.00803645 -0.03015445 -0.05530479]
 [ 0.03025677  0.0129302  -0.99945852 -0.07261037]
 [-0.0076422  -0.99988411 -0.01316706 -0.0472292 ]
 [ 0.        0.        0.        1.       ]]

timeshift cam1 to imu0: [s] (t_imu = t_cam + shift)
0.0

Baselines:
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Baseline (cam0 to cam1):
[[ 0.99999945 -0.00091627 -0.0005042  -0.10095482]
 [ 0.00089135  0.99887656 -0.04737961 -0.00191375]
 [ 0.00054705  0.04737913  0.99887683 -0.00135442]
 [ 0.        0.        0.        1.       ]]
baseline norm:  0.100982040779 [m]


Gravity vector in target coords: [m/s^2]
[ 0.03589132 -9.69641648 -1.46514235]


Calibration configuration
=========================

cam0
-----
  Camera model: omni
  Focal length: [531.3601413359268, 531.2729631218327]
  Principal point: [255.00985921934196, 256.88341818668954]
  Omni xi: 1.79649062244
  Distortion model: none
  Distortion coefficients: []
  Type: aprilgrid
  Tags:
    Rows: 6
    Cols: 6
```

```
    Size: 0.088 [m]
    Spacing 0.0264 [m]



cam1
-----
  Camera model: omni
  Focal length: [527.8136304034128, 527.7004820164801]
  Principal point: [252.617298143596, 254.95340084302208]
  Omni xi: 1.7869042981
  Distortion model: none
  Distortion coefficients: []
  Type: aprilgrid
  Tags:
    Rows: 6
    Cols: 6
    Size: 0.088 [m]
    Spacing 0.0264 [m]



IMU configuration
=================

IMU0:
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  Model: calibrated
  Update rate: 200.0
  Accelerometer:
    Noise density: 0.0028
    Noise density (discrete): 0.0395979797464
    Random walk: 0.00086
  Gyroscope:
    Noise density: 0.00016
    Noise density (discrete): 0.0022627416998
    Random walk: 2.2e-05
  T_i_b
    [[ 1.  0.  0.  0.]
     [ 0.  1.  0.  0.]
     [ 0.  0.  1.  0.]
```
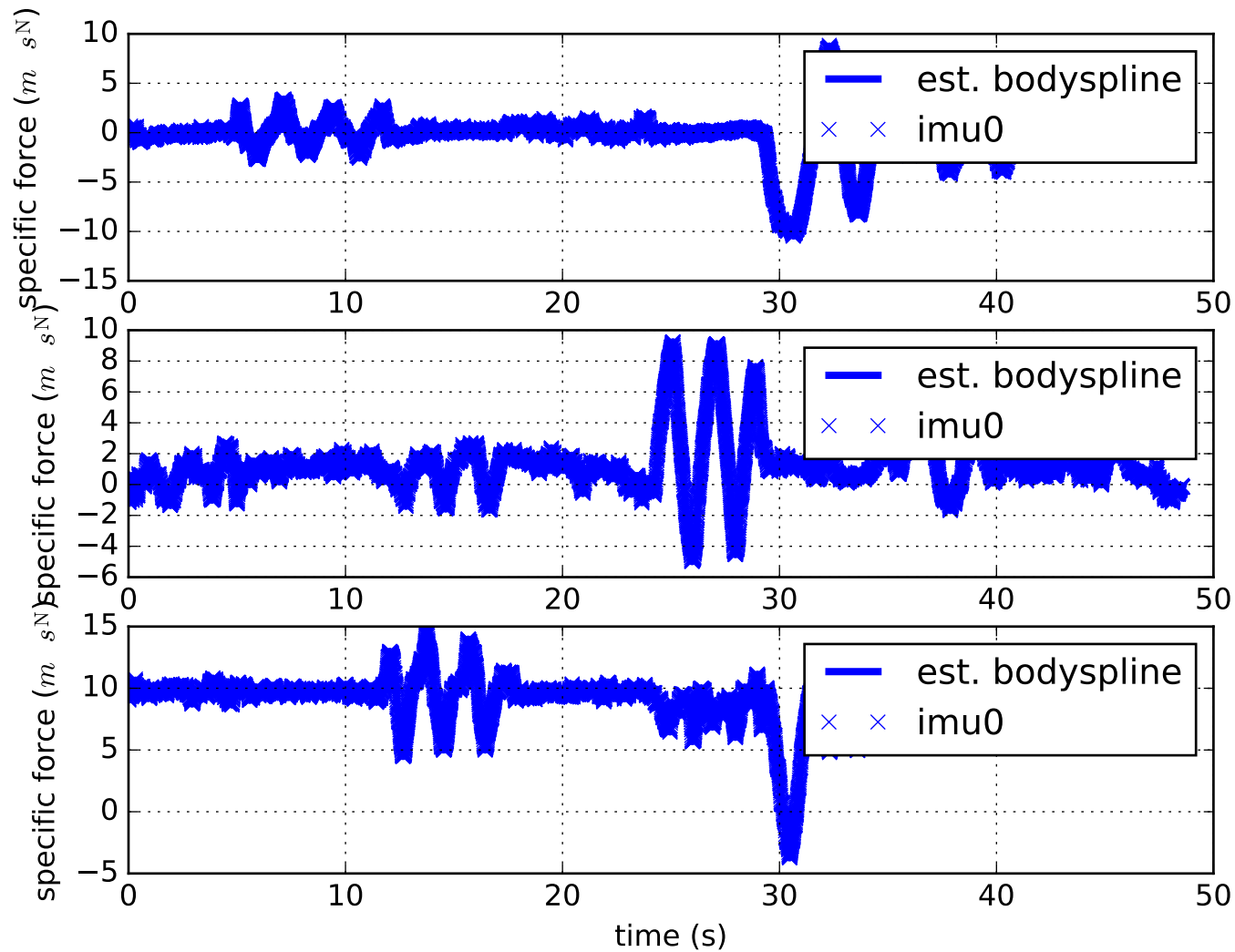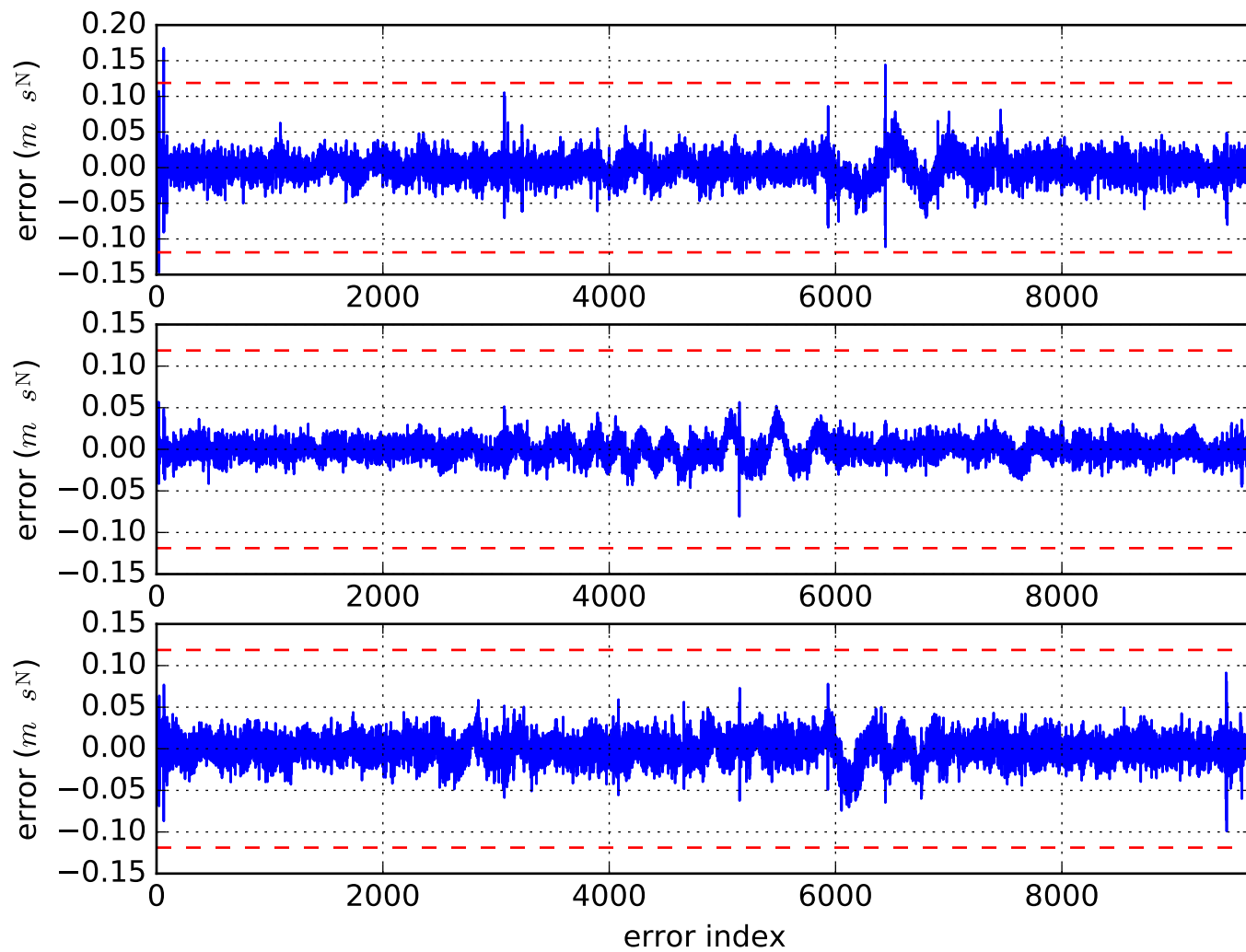
```
   [ 0.  0.  0.  1.]]
time offset with respect to IMU0: 0.0 [s]
```
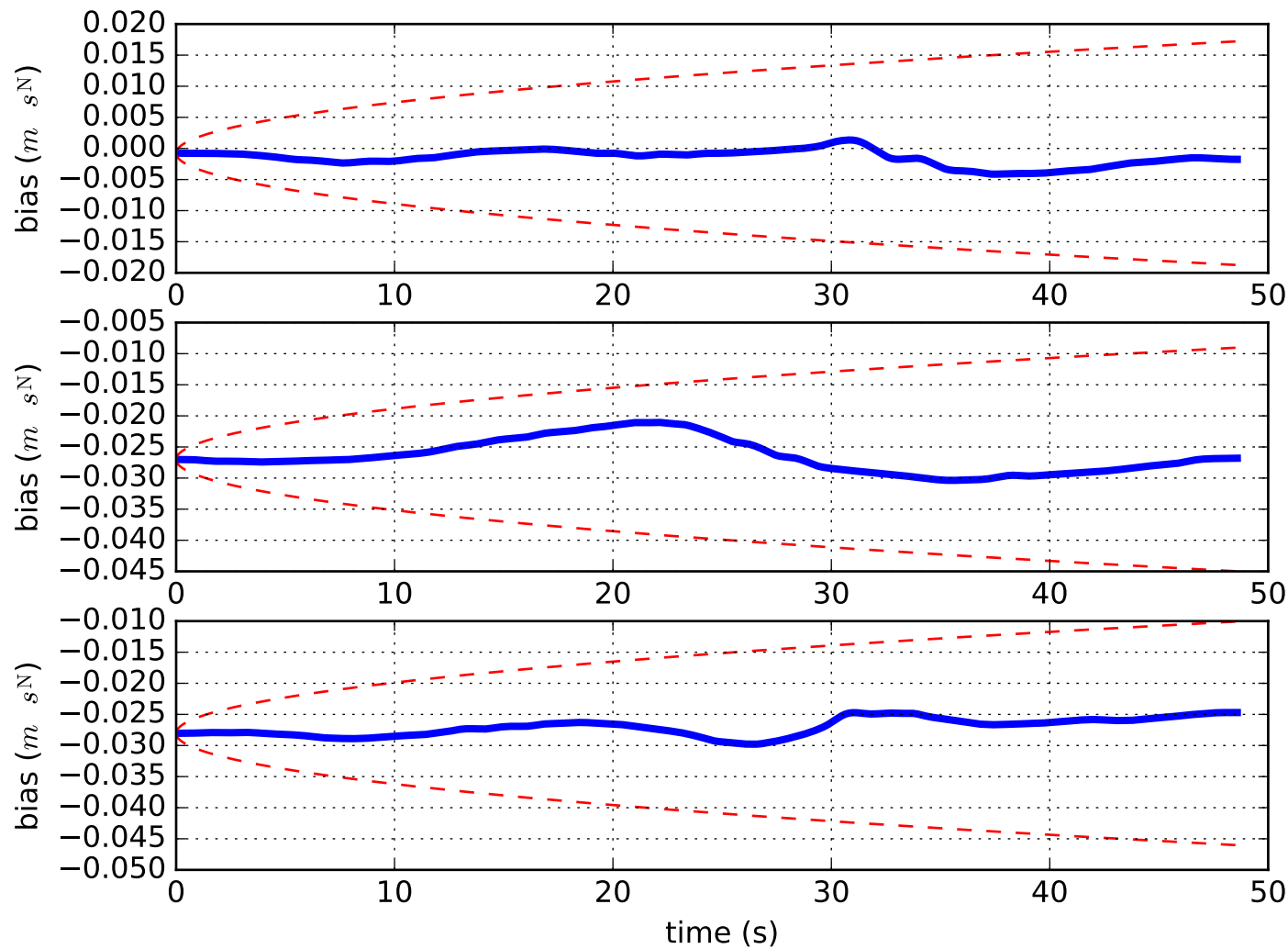
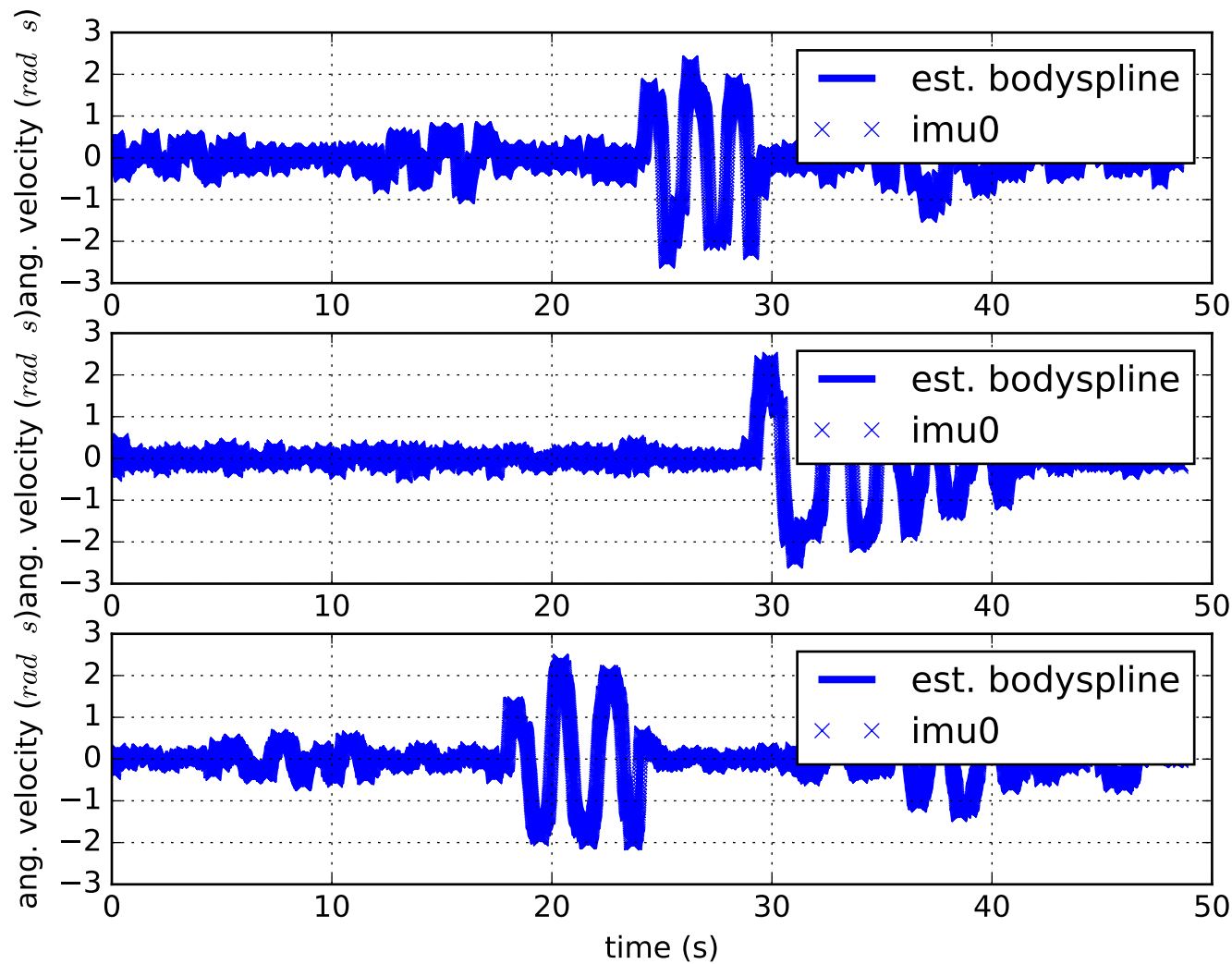Comparison of predicted and measured specific force (imu0 frame)
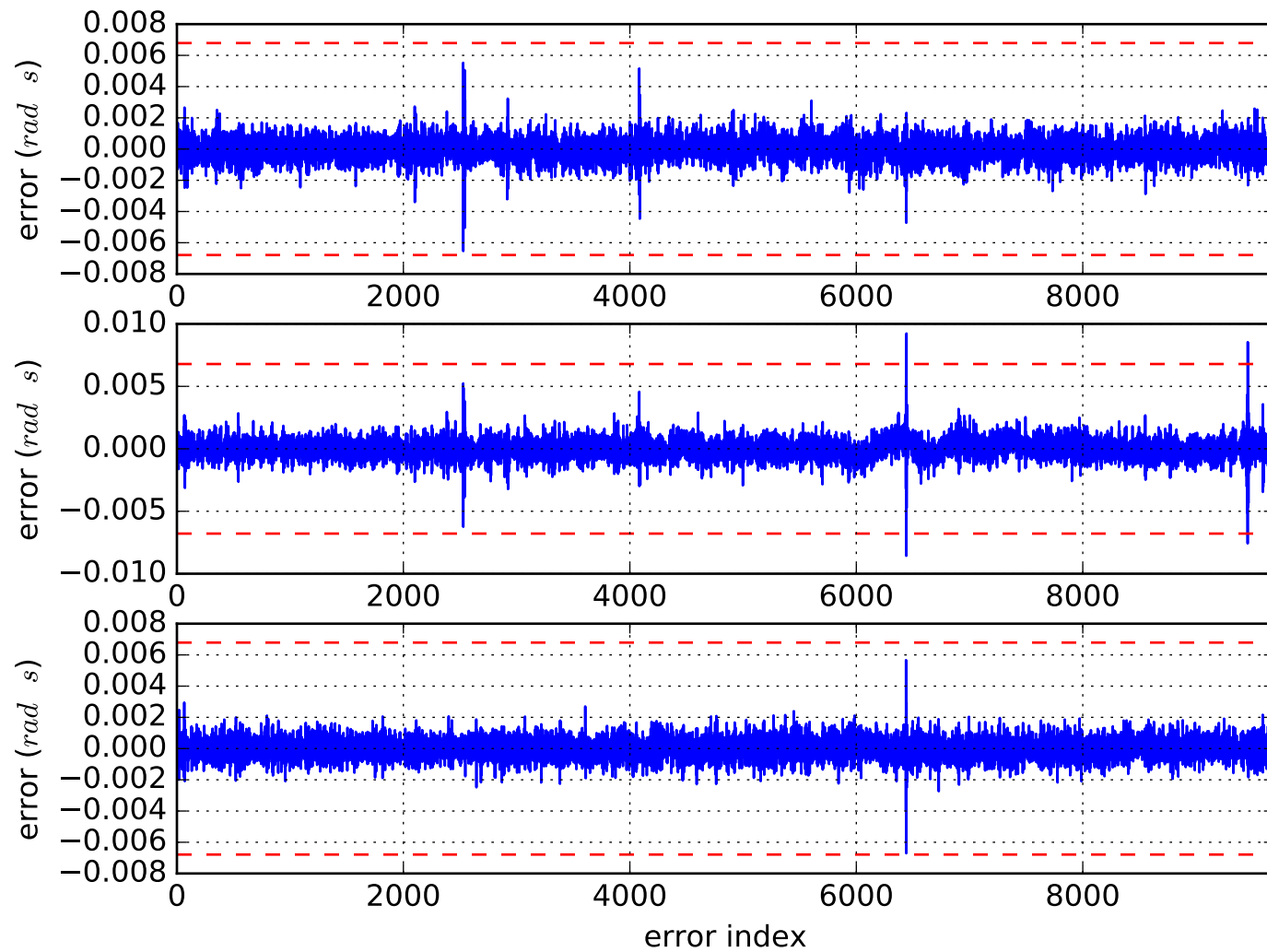
imu0: acceleration error
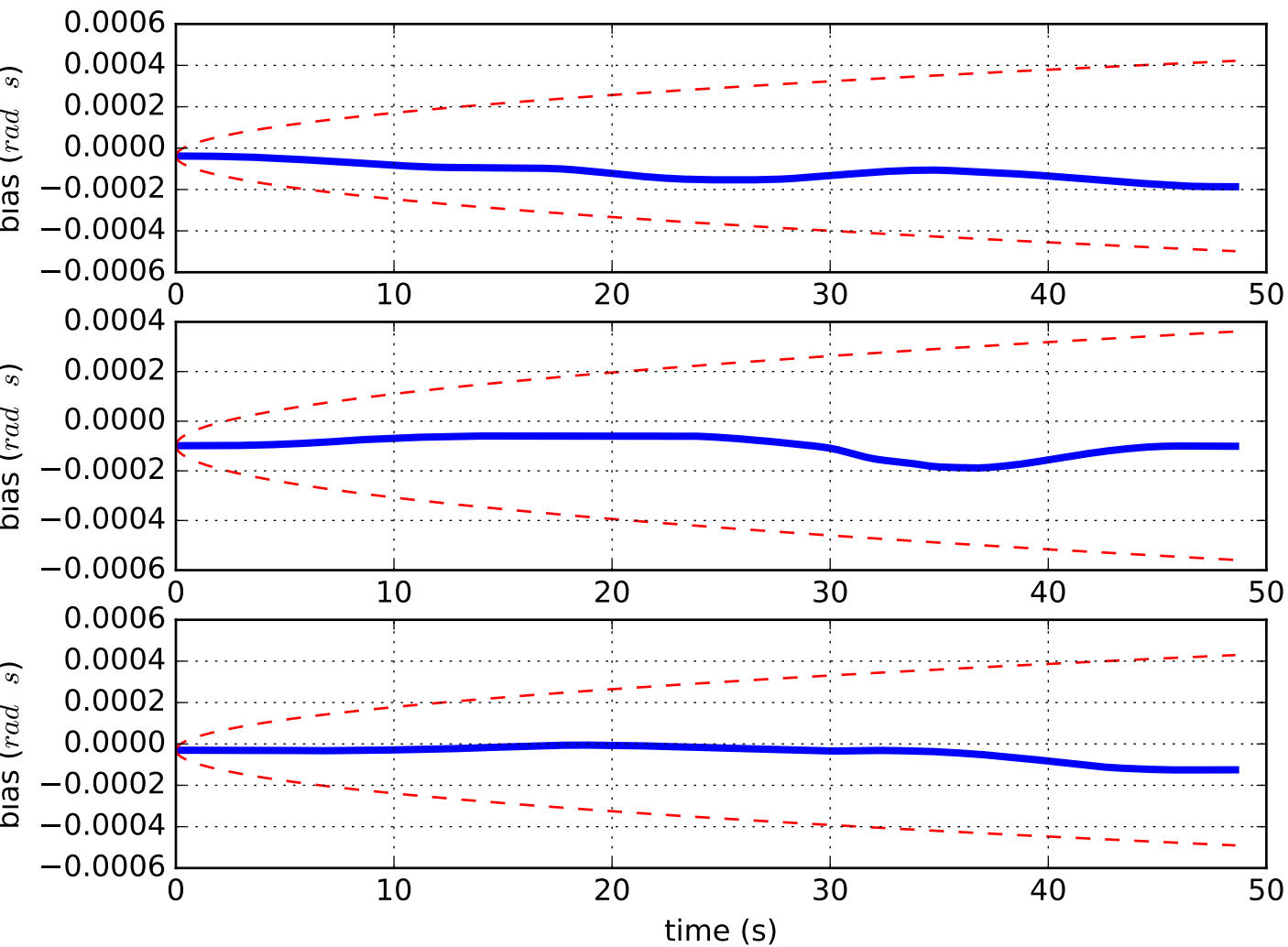
imu0: estimated accelerometer bias (imu frame)

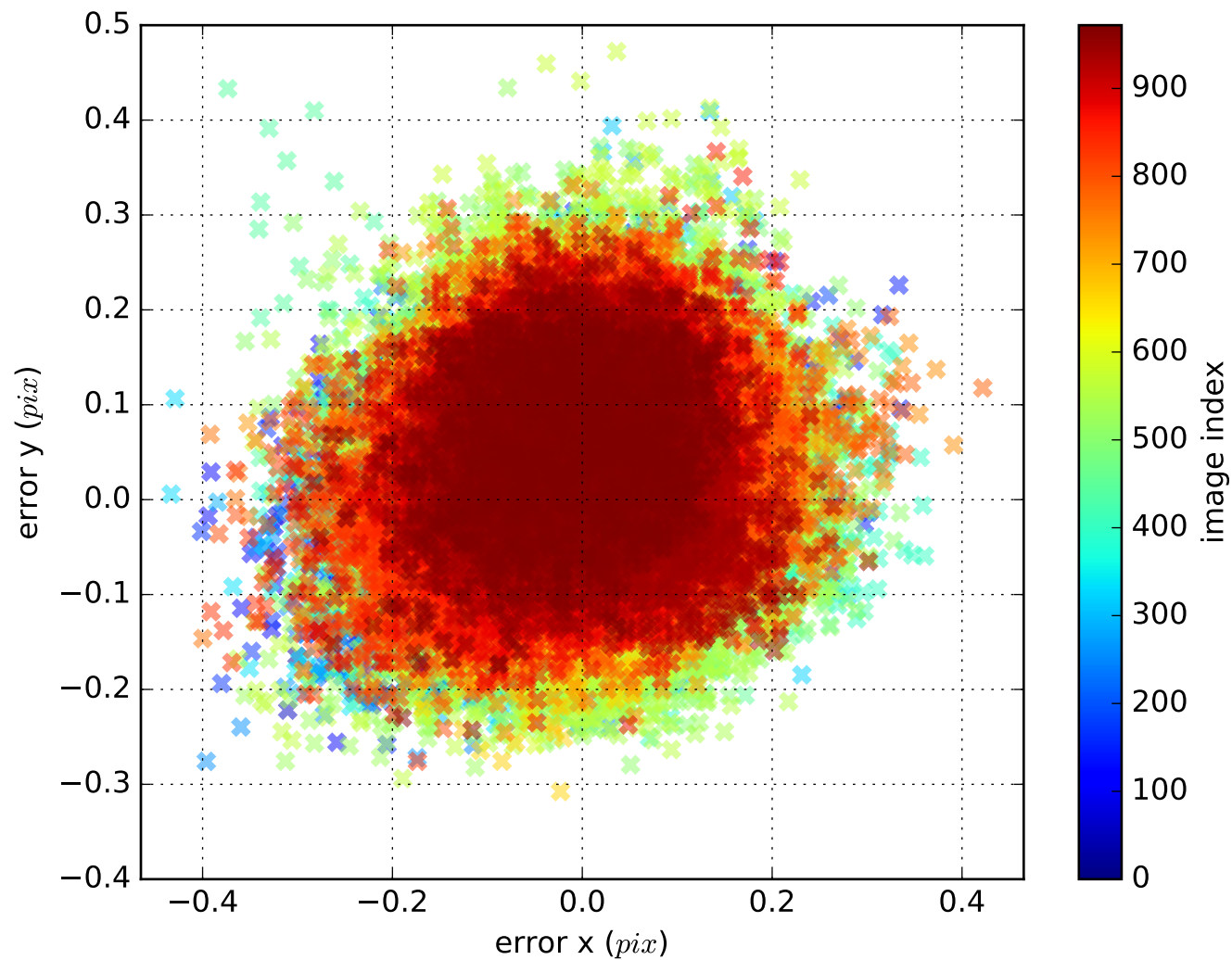Comparison of predicted and measured angular velocities (body frame)

imu0: angular velocities error

imu0: estimated gyro bias (imu frame)

cam1: reprojection errors