

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.147087377459, median 0.132624843273, std: 0.0875149526634
Reprojection error (cam1): mean 0.1478261443, median 0.133904544655, std: 0.0862658218877
Gyroscope error (imu0): mean 0.0367632756351, median 0.0283259784022, std: 0.0278161967303
Accelerometer error (imu0): mean 0.0939076355808, median 0.0792153715288, std: 0.0599211914163

Residuals

Reprojection error (cam0) [px]: mean 0.147087377459, median 0.132624843273, std: 0.0875149526634
Reprojection error (cam1) [px]: mean 0.1478261443, median 0.133904544655, std: 0.0862658218877
Gyroscope error (imu0) [rad/s]: mean 0.00698502237067, median 0.00538193589642, std: 0.0052850773
Accelerometer error (imu0) [m/s²]: mean 0.0178424507604, median 0.0150509205905, std: 0.0113850263

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.00107029  0.99997751 -0.00662073 -0.04696872]
 [-0.00780704  0.00661218  0.99994766  0.00948947]
 [ 0.99996895  0.00112192  0.00779978 -0.0462069 ]
 [ 0.          0.          0.          1.        ]]
```

T_ic: (cam0 to imu0):

```
[[-0.00107029 -0.00780704  0.99996895  0.04622928]
 [ 0.99997751  0.00661218  0.00112192  0.04695676]
 [-0.00662073  0.99994766  0.00779978 -0.00943954]
 [ 0.          0.          0.          1.        ]]
```

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

0.00183212590134

Transformation (cam1):

T_ci: (imu0 to cam1):

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

T_ic: (cam1 to imu0):

```
[[ 0.00985832 -0.00099906  0.99995091  0.04566176]
 [ 0.99994875 -0.00229559 -0.0098606 -0.06421282]
 [ 0.00230532  0.99999687  0.00097638 -0.01018616]
 [ 0.      0.      0.      1.      ]]
```

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

```
0.00184388811093
```

Baselines:

Baseline (cam0 to cam1):

```
[[ 0.99990045  0.00884008  0.01099786  0.1111712 ]
 [-0.00891518  0.99993715  0.00679815  0.00049085]
 [-0.01093707 -0.00689552  0.99991641 -0.00052797]
 [ 0.      0.      0.      1.      ]]
baseline norm: 0.11117353537 [m]
```

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

```
[ 0.00944906 -9.68339006 -1.54928709]
```

Calibration configuration

=====

cam0

Camera model: pinhole

Focal length: [353.83530850045827, 353.08084839605925]

Principal point: [354.9603638484091, 261.96623968254306]

Distortion model: equidistant

Distortion coefficients: [-0.03908623683636908, -0.008364734078508202, 0.006865315014140142, -0.002

Type: aprilgrid

Tags:

Spacing 0.0264 [m]

cam1

=====
Camera model: pinhole

Focal length: [353.6540189302263, 353.01548372647176]

Principal point: [362.4407167511296, 288.4941881913415]

Distortion model: equidistant

Distortion coefficients: [-0.039027237686972804, -0.007007232658408612, 0.004840825566050042, -0.00

Type: aprilgrid

Tags:

Rows: 6

Cols: 6

Size: 0.088 [m]

Spacing 0.0264 [m]

IMU configuration

=====

IMU0:

Model: calibrated

Update rate: 100.0

Accelerometer:

 Noise density: 0.019

 Noise density (discrete): 0.19

 Random walk: 0.0043

Gyroscope:

 Noise density: 0.019

 Noise density (discrete): 0.19

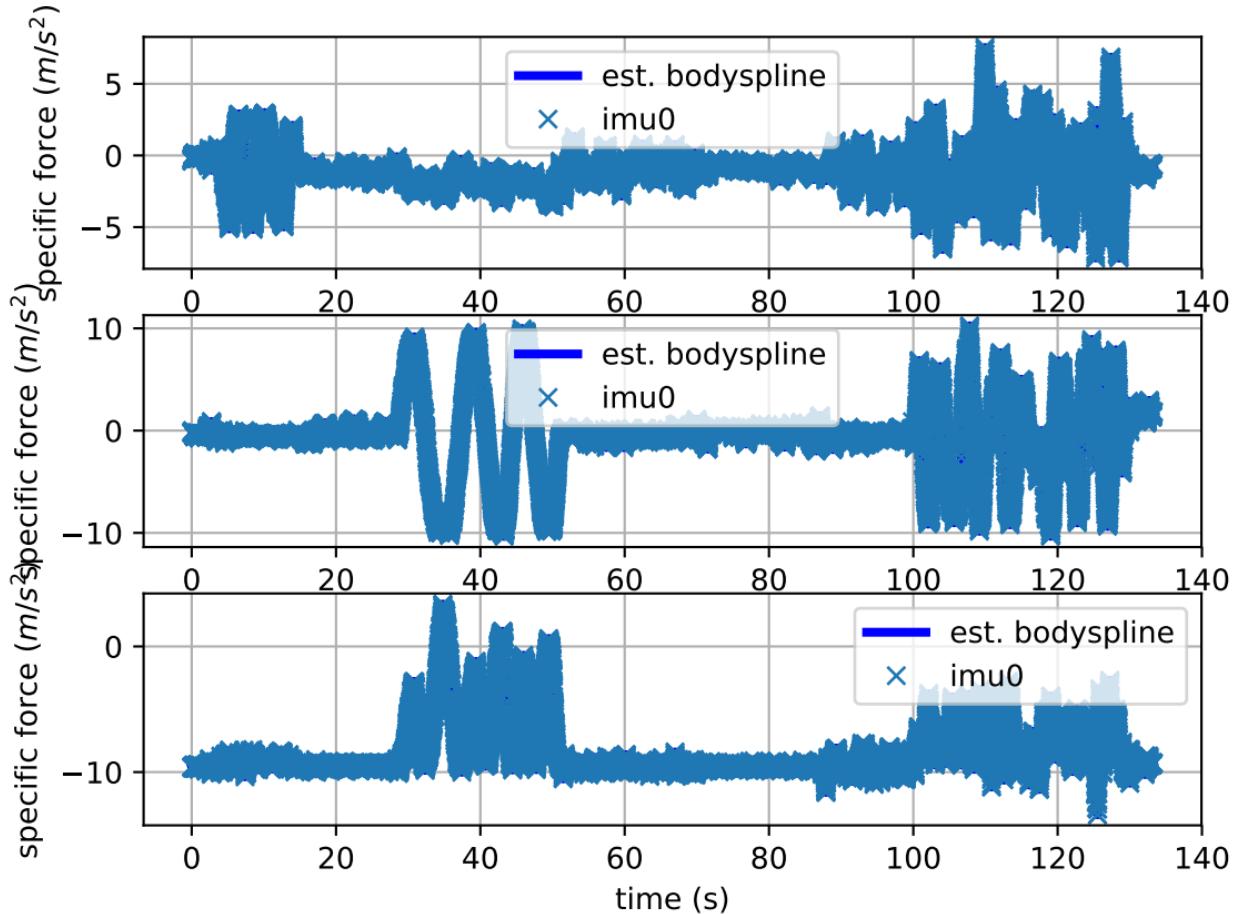
 Random walk: 0.000266

T_i_b

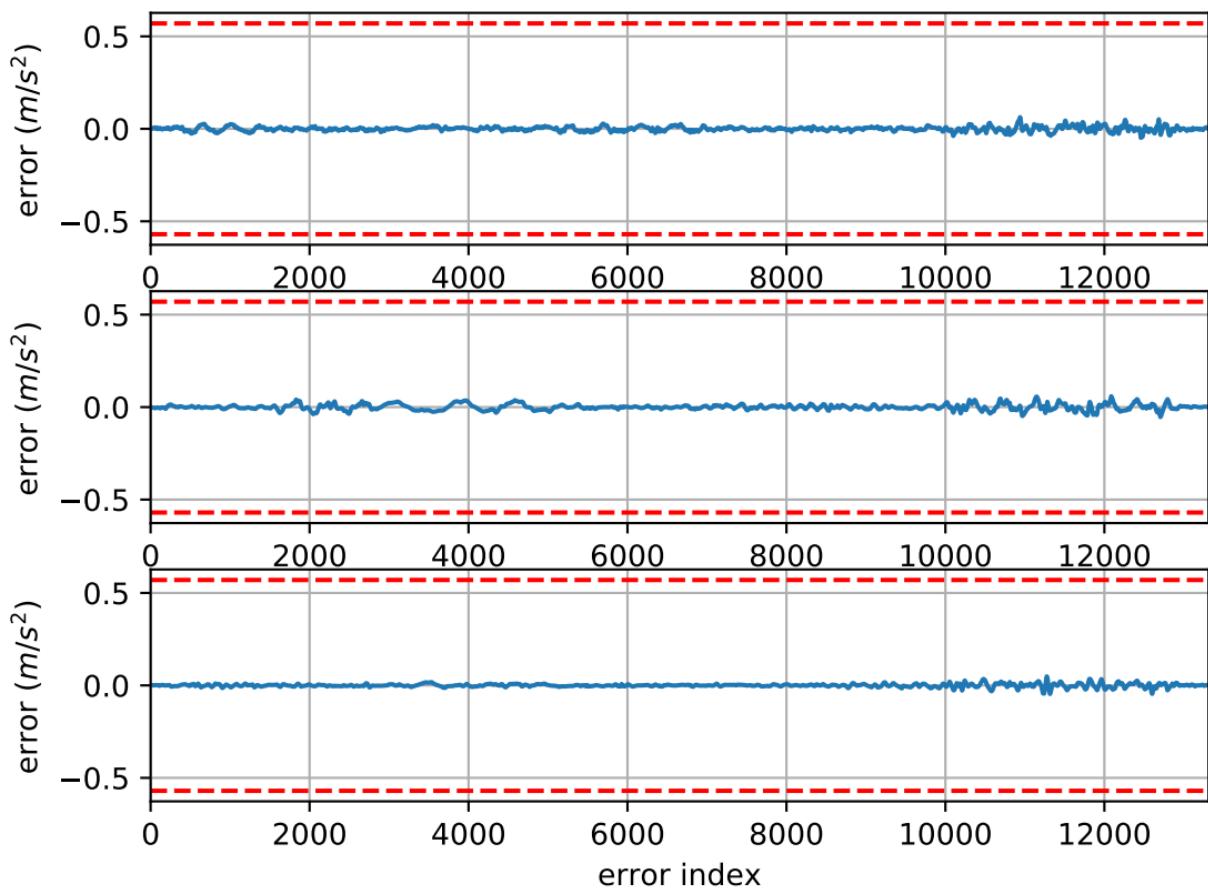
[[1. 0. 0. 0.]

[0. 1. 0. 0.]

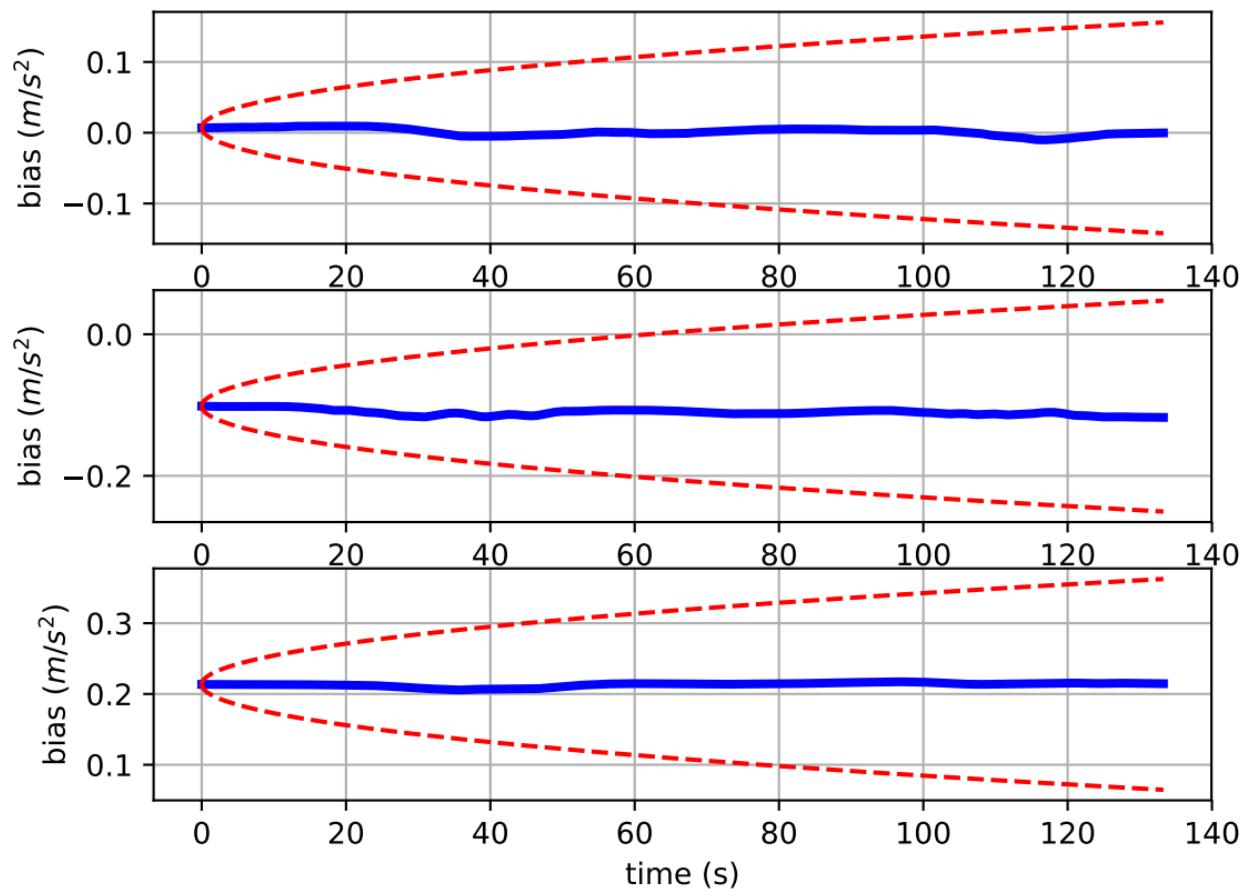
Comparison of predicted and measured specific force (imu0 frame)



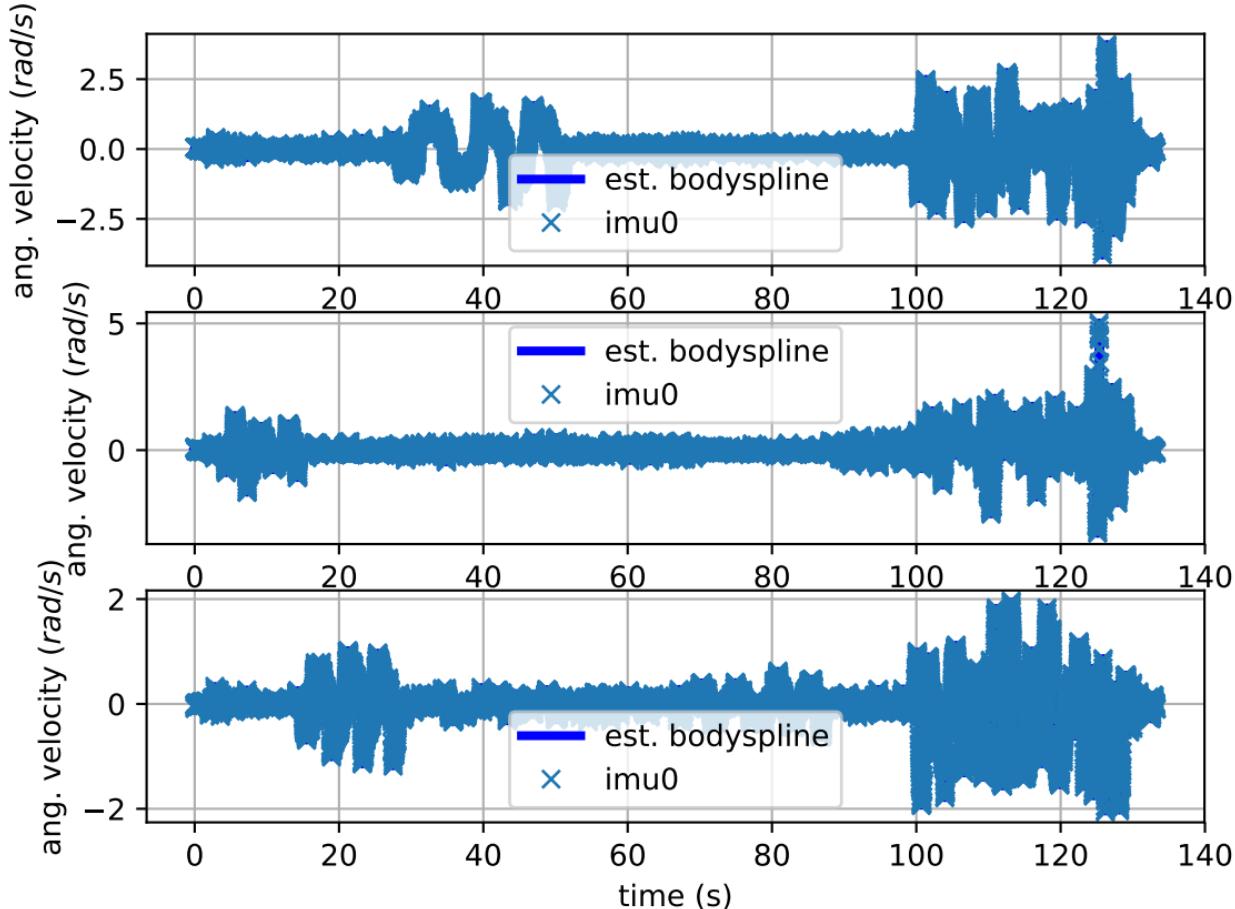
imu0: acceleration error



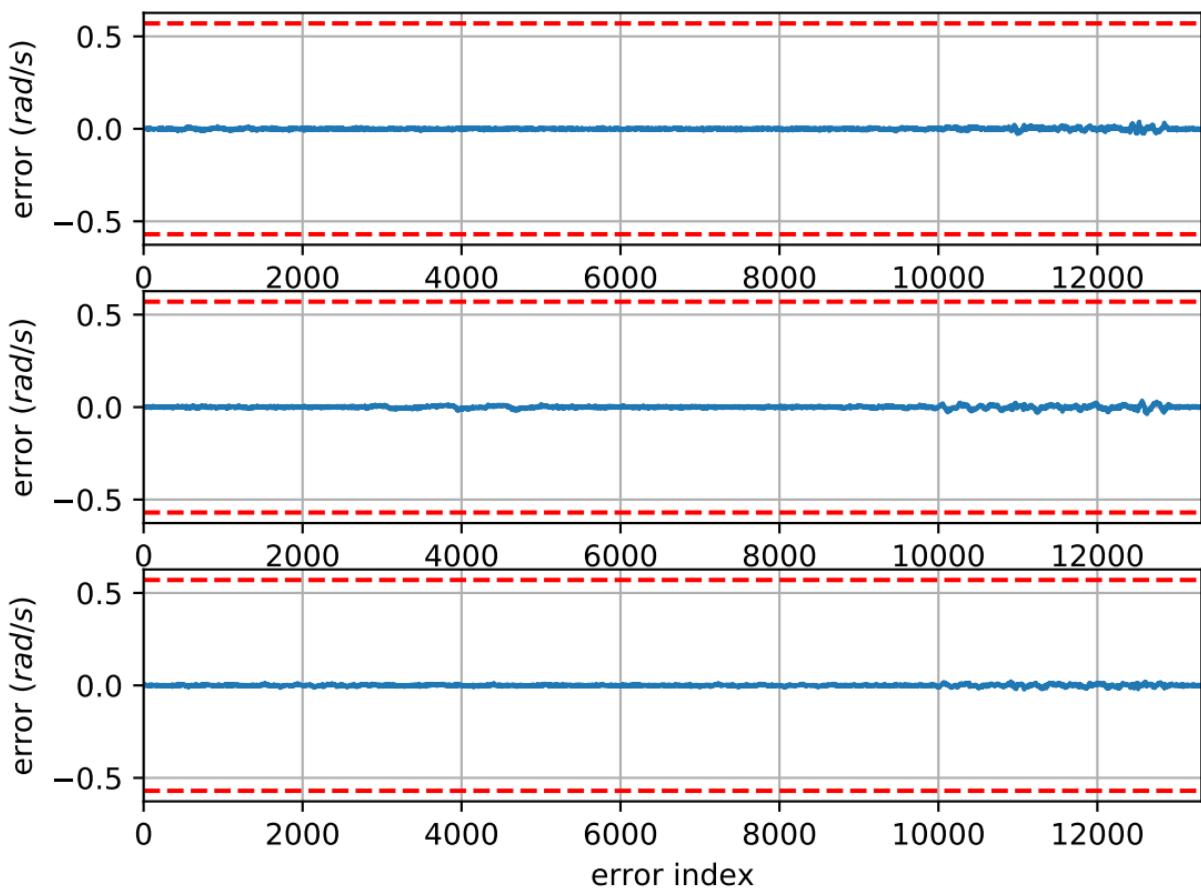
imu0: estimated accelerometer bias (imu frame)



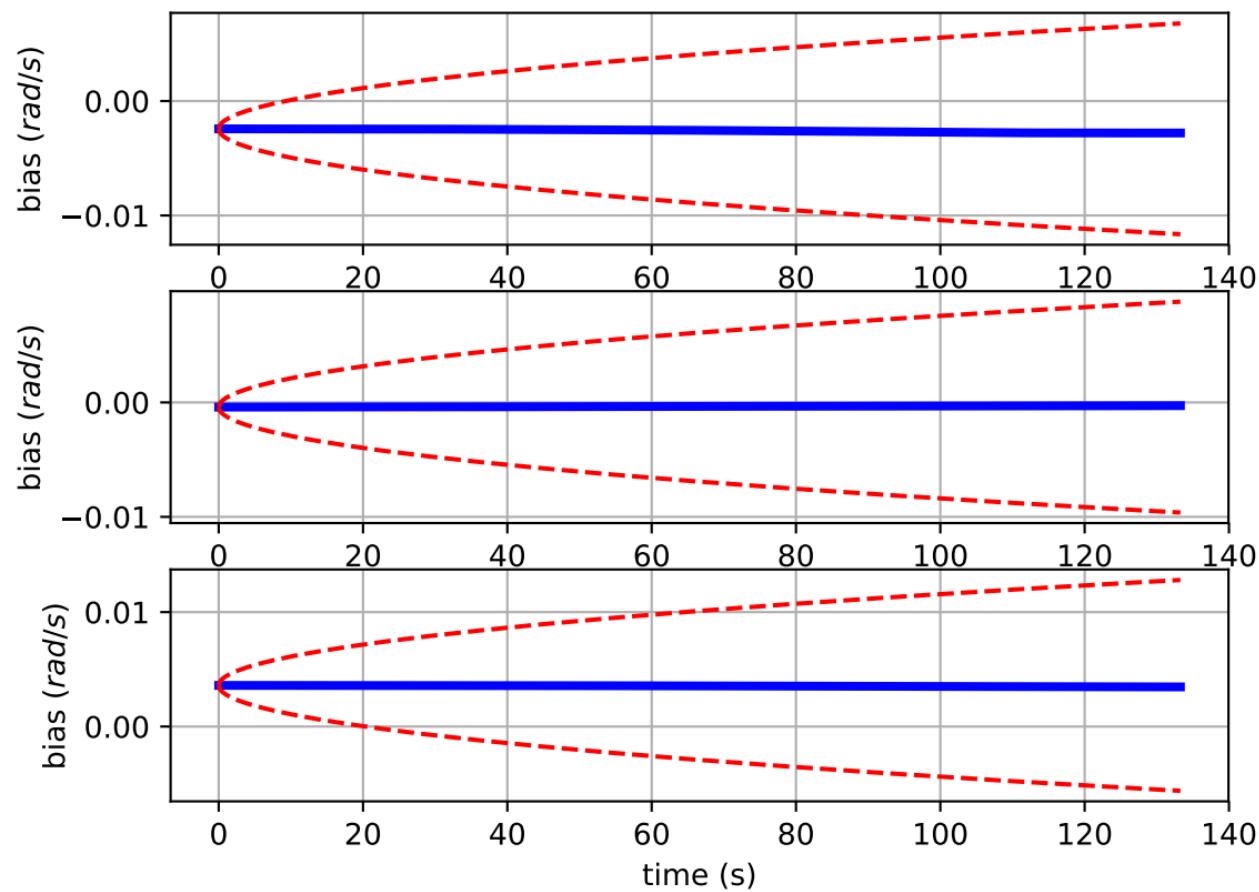
Comparison of predicted and measured angular velocities (body frame)



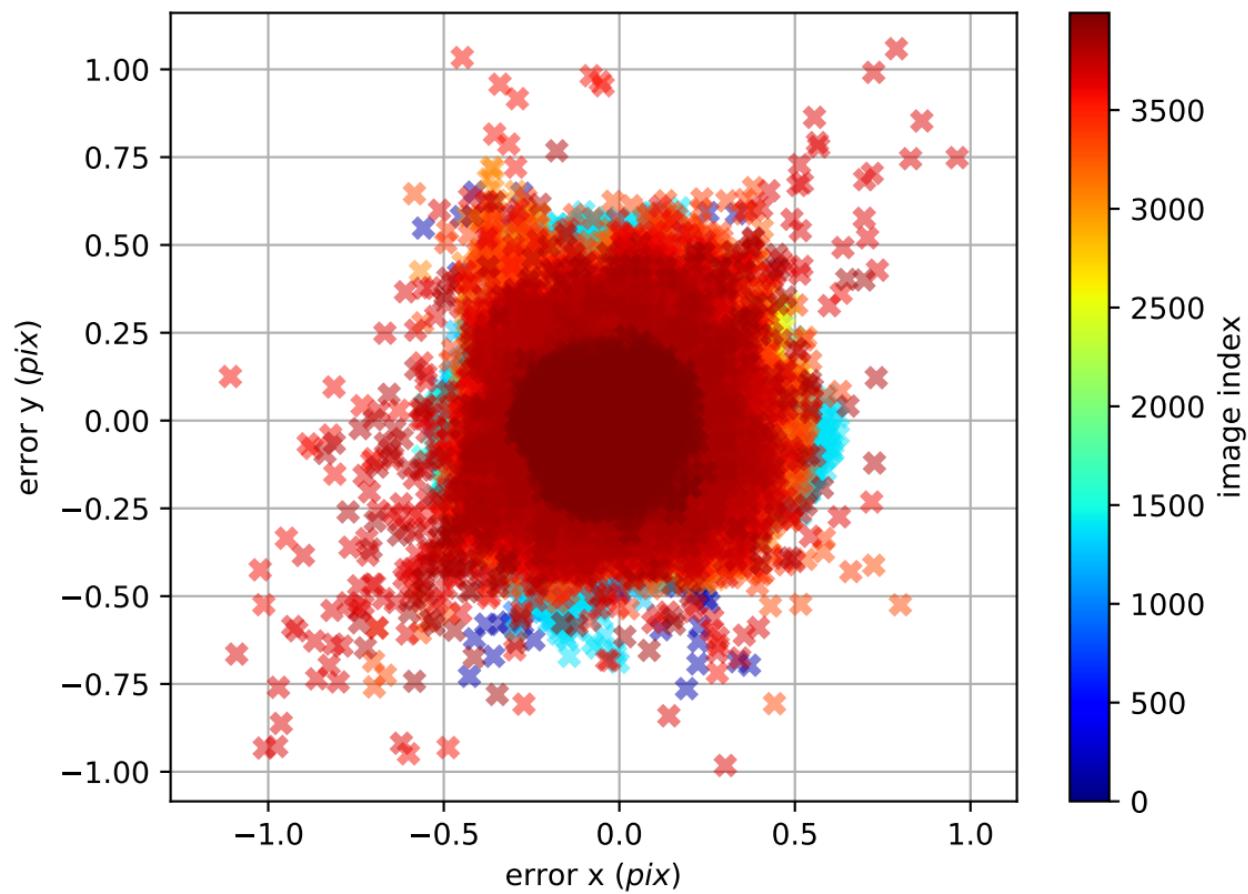
imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors



cam1: reprojection errors

