

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.125048367137, median 0.11696278854, std: 0.0699527501084

Reprojection error (cam1): mean 0.128654299281, median 0.12103571578, std: 0.0694571930776

Gyroscope error (imu0): mean 0.0707874992672, median 0.0602745117874, std: 0.0453777298565

Accelerometer error (imu0): mean 0.0576521388773, median 0.0538435494755, std: 0.0287498007952

Residuals

Reprojection error (cam0) [px]: mean 0.125048367137, median 0.11696278854, std: 0.0699527501084

Reprojection error (cam1) [px]: mean 0.128654299281, median 0.12103571578, std: 0.0694571930776

Gyroscope error (imu0) [rad/s]: mean 0.0116549161748, median 0.00992398925847, std: 0.0074712857942

Accelerometer error (imu0) [m/s^2]: mean 0.101457535474, median 0.0947550938668, std: 0.0505945484563

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.99971281  0.01368681 -0.01967138  0.04844995]
 [-0.01376862  0.99989709 -0.0040297   0.0025609 ]
 [ 0.0196142   0.00429939  0.99979838  0.00278201]
 [ 0.          0.          1.          ]]]
```

T_ic: (cam0 to imu0):

```
[[-0.99971281 -0.01376862  0.0196142  -0.04845535]
 [ 0.01368681  0.99989709  0.00429939 -0.00323573]
 [-0.01967138 -0.0040297   0.99979838 -0.00181805]
 [ 0.          0.          1.          ]]]
```

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

-0.00171919766859

Transformation (cam1):

T_ci: (imu0 to cam1):
[[0.99994645 -0.00990408 -0.0030018 -0.03187137]
[0.00987754 0.9999131 -0.00873132 0.00380266]
[0.00308801 0.0087012 0.99995738 0.00332972]
[0. 0. 0. 1.]]

T_ic: (cam1 to imu0):
[[0.99994645 0.00987754 0.00308801 0.03182182]
[-0.00990408 0.9999131 0.0087012 -0.00414696]
[-0.0030018 -0.00873132 0.99995738 -0.00339205]
[0. 0. 0. 1.]]

timeshift cam1 to imu0: [s] (t_imu = t_cam + shift)
-0.00169906240424

Baselines:

Baseline (cam0 to cam1):
[[0.99958277 -0.02365885 0.01656938 -0.08028662]
[0.02373207 0.99970938 -0.0042368 0.00010447]
[-0.01646432 0.00462825 0.99985374 0.00133396]
[0. 0. 0. 1.]]
baseline norm: 0.0802977685066 [m]

Gravity vector in target coords: [m/s^2]
[-9.80596392 0.00777743 0.10692972]

Calibration configuration

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cam0

Camera model: omni
Focal length: [820.8458761742098, 823.0141517537045]
Principal point: [315.7660050688321, 199.6833587569817]
Omni xi: 1.86148616552
Distortion model: none
Distortion coefficients: []
Type: aprilgrid
Tags:
Rows: 6
Cols: 6
Size: 0.0312 [m]
Spacing 0.00959999976 [m]

cam1

=====

Camera model: omni
Focal length: [816.0099981144361, 818.4071559795211]
Principal point: [314.2579071943643, 198.80782322064974]
Omni xi: 1.84427451412
Distortion model: none
Distortion coefficients: []
Type: aprilgrid
Tags:
Rows: 6
Cols: 6
Size: 0.0312 [m]
Spacing 0.00959999976 [m]

IMU configuration

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IMU0:

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Model: calibrated

Update rate: 1000.0

Accelerometer:

Noise density: 0.055650476137

Noise density (discrete): 1.75982257466

Random walk: 0.000935944634767

Gyroscope:

Noise density: 0.00520658046016

Noise density (discrete): 0.16464653075

Random walk: 9.79101890858e-05

T_ib (imu0 to imu0)

[[1. 0. 0. 0.]

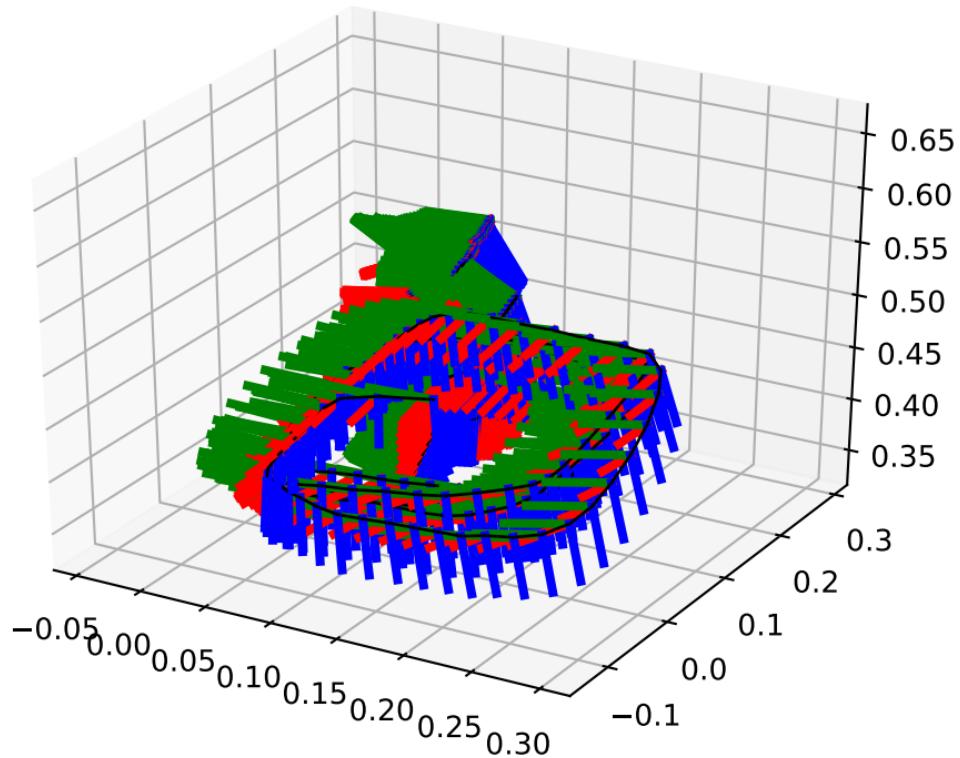
 [0. 1. 0. 0.]

 [0. 0. 1. 0.]

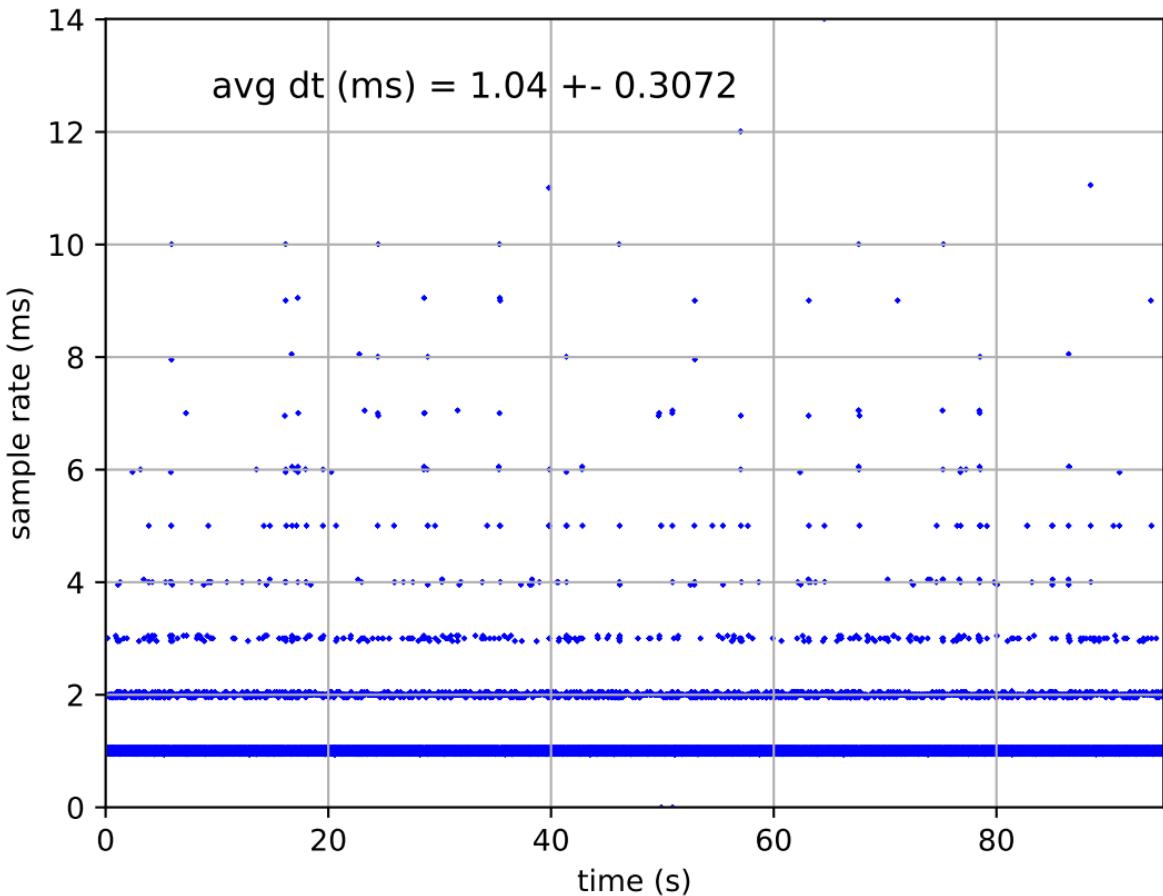
 [0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

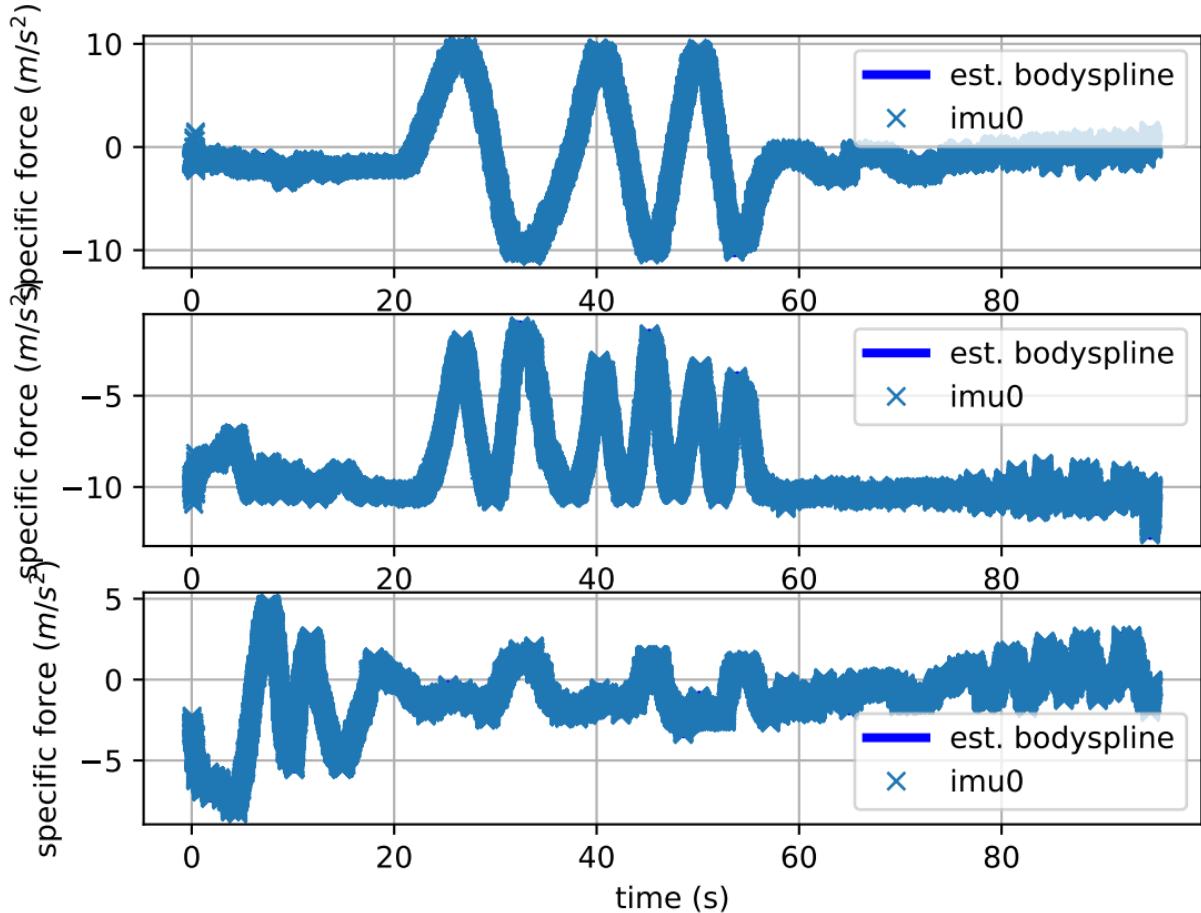
imu0: estimated poses



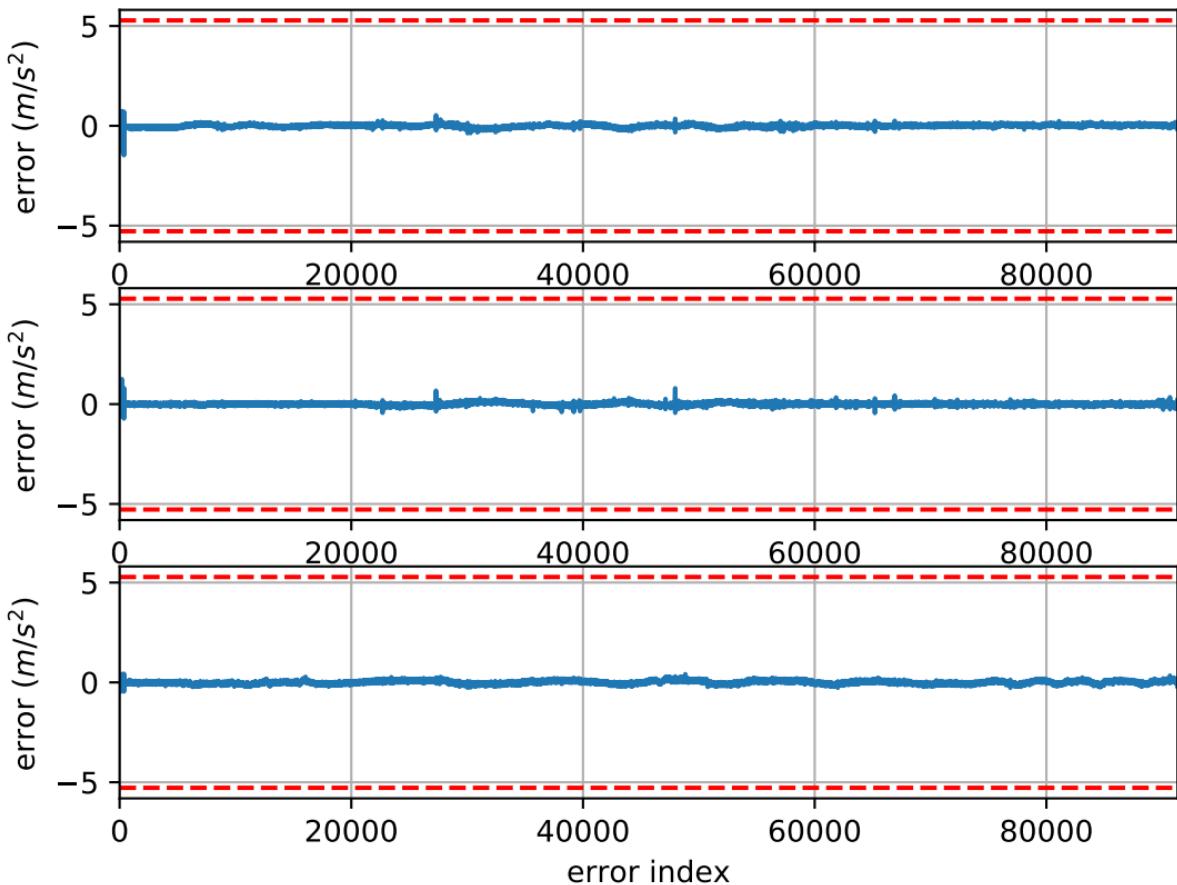
imu0: sample inertial rate



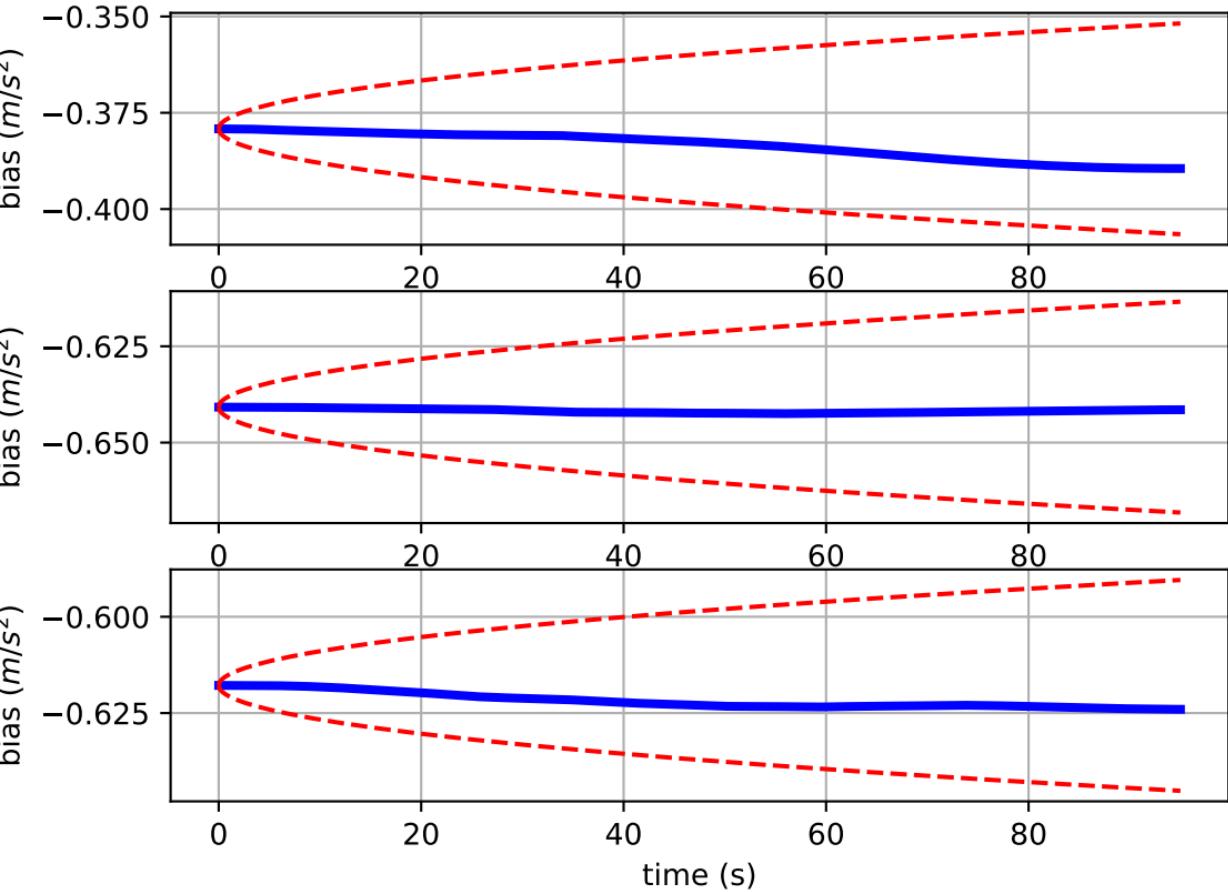
Comparison of predicted and measured specific force (imu0 frame)



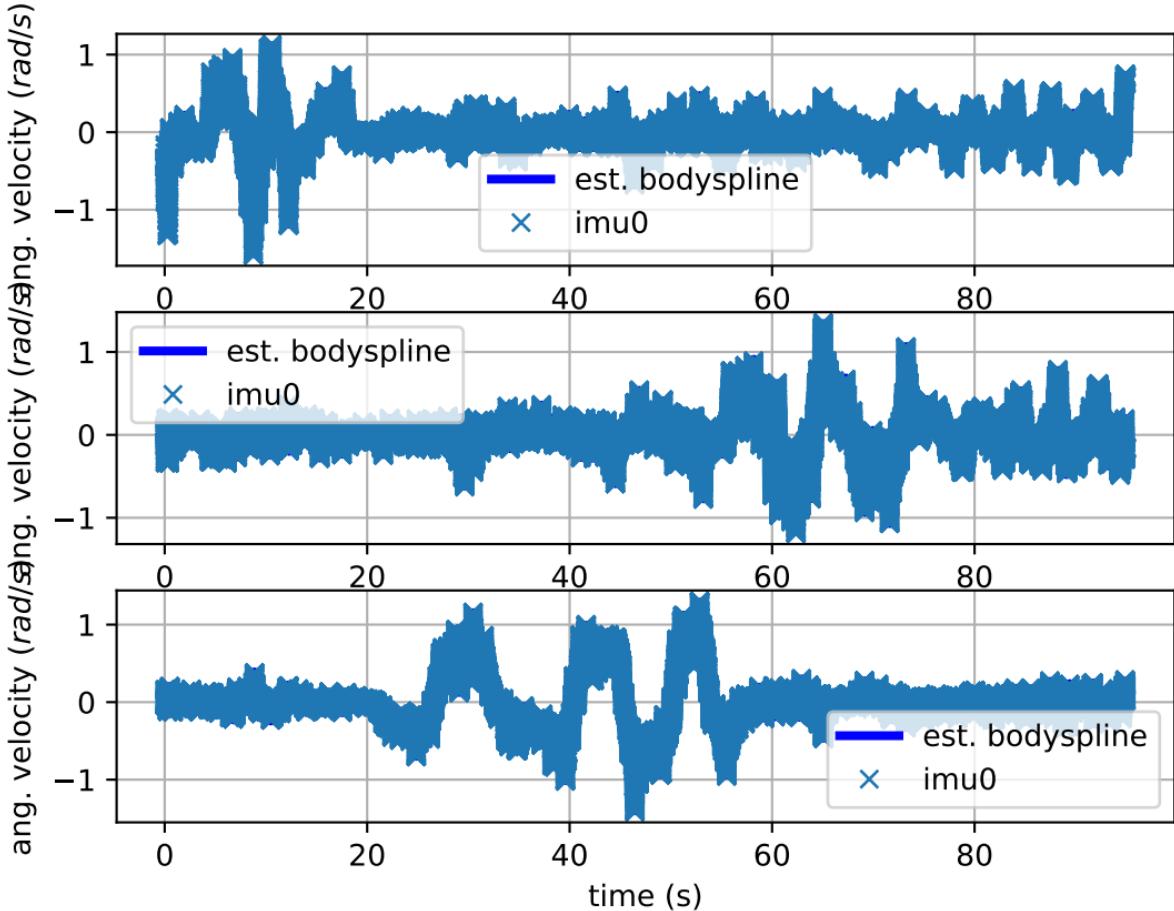
imu0: acceleration error



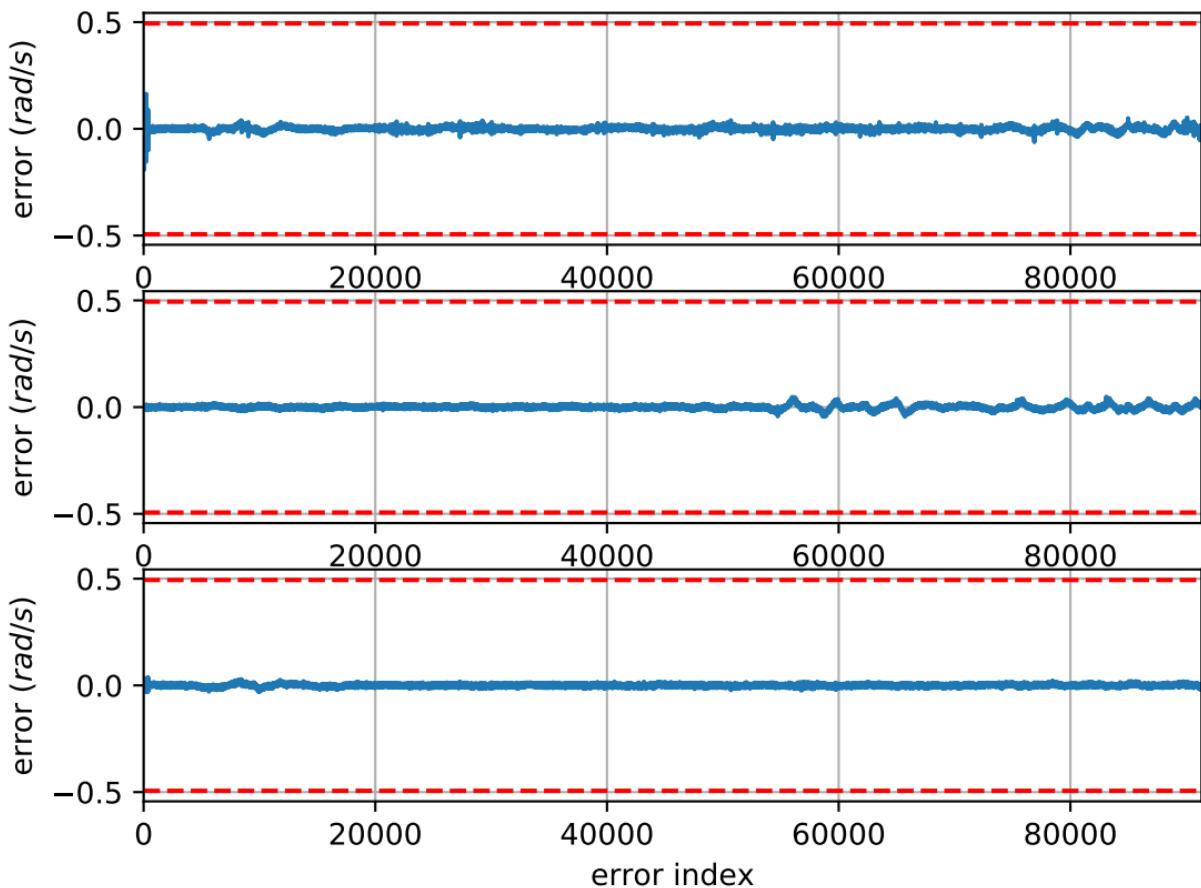
imu0: estimated accelerometer bias (imu frame)



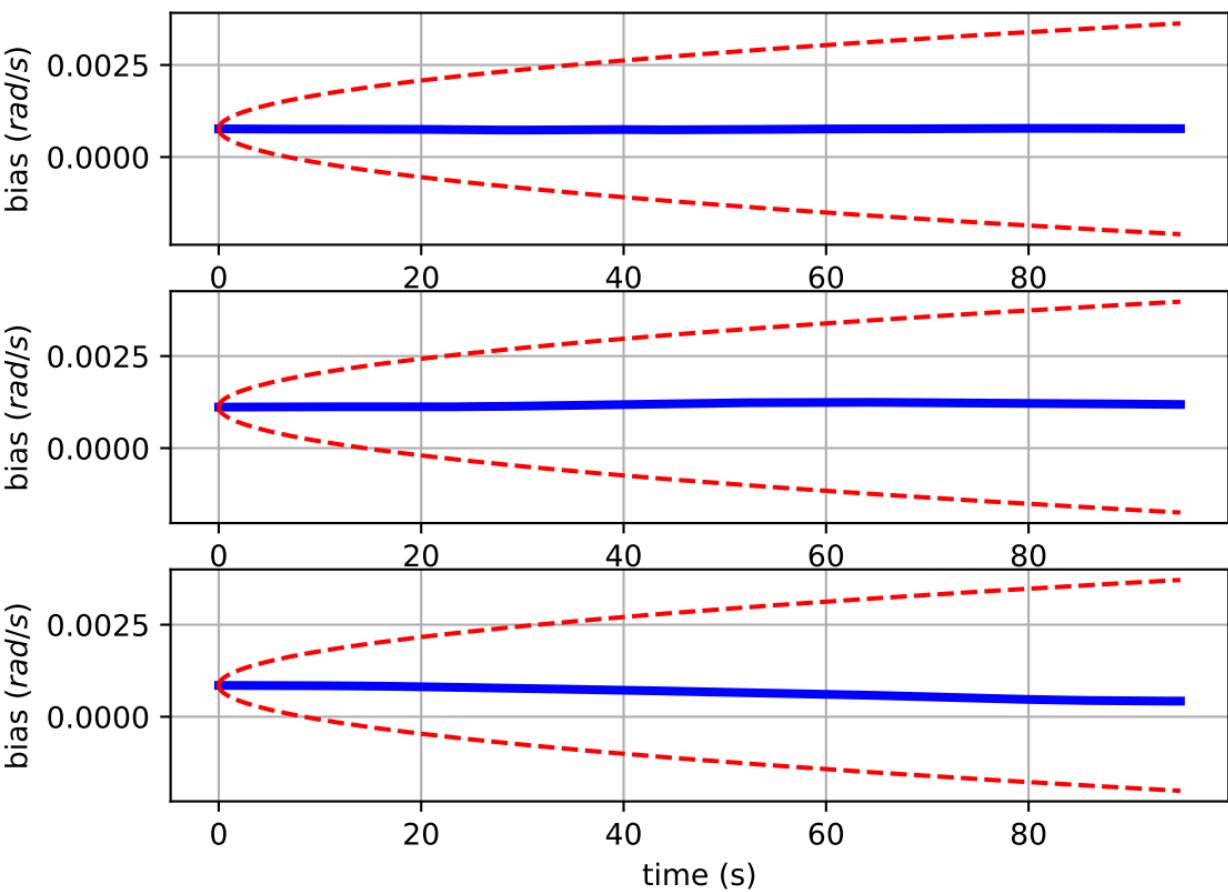
Comparison of predicted and measured angular velocities (body frame)



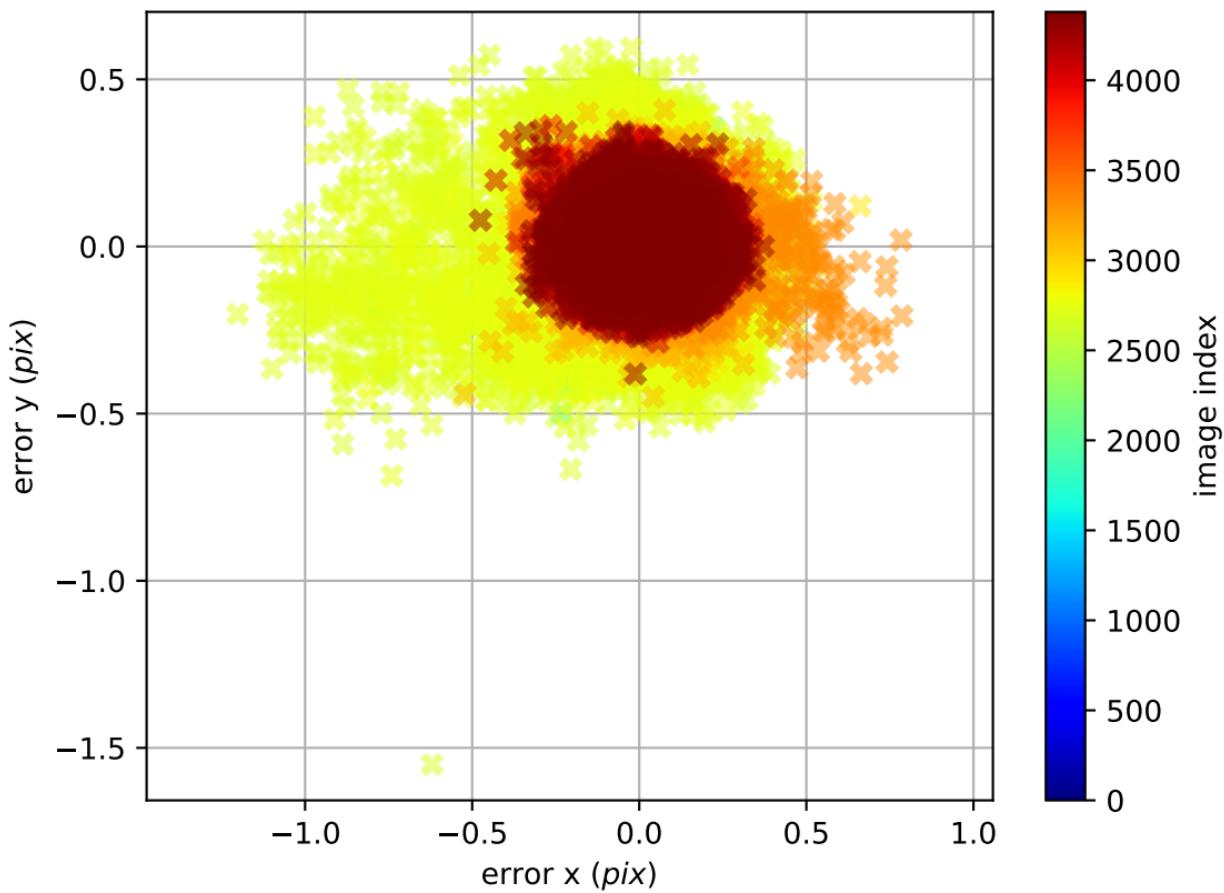
imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors



cam1: reprojection errors

