

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.22282056384570034, median 0.1757992654703525, std: 0.29874572304403346

Gyroscope error (imu0): mean 0.4287617694887986, median 0.3320653721138685, std: 0.662608514190408

Accelerometer error (imu0): mean 0.3836267350760264, median 0.25065936497100366, std: 1.099740978916369

Residuals

Reprojection error (cam0) [px]: mean 0.22282056384570034, median 0.1757992654703525, std: 0.29874572304403346

Gyroscope error (imu0) [rad/s]: mean 0.0018271457779345374, median 0.0014150791554468731, std: 0.002823671407481003

Accelerometer error (imu0) [m/s^2]: mean 0.07675117862758851, median 0.0501487512119164, std: 0.22002224714646593

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.99992889  0.0063852 -0.01007176  0.06002549]
 [-0.00999619 -0.01175799 -0.99988091 -0.03853333]
 [-0.00650286  0.99991049 -0.01169333 -0.09837282]
 [ 0.          0.          0.          1.        ]]
```

T_ic: (cam0 to imu0):

```
[[-0.99992889 -0.00999619 -0.00650286 -0.06104612]
 [ 0.0063852 -0.01175799  0.99991049  0.09752766]
 [-0.01007176 -0.99988091 -0.01169333 -0.03907448]
 [ 0.          0.          0.          1.        ]]
```

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

-0.007034674133095784

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

```
[ 0.01238823 -9.80654163 -0.00327489]
```

Calibration configuration

cam0

Camera model: pinhole

Focal length: [390.96396644777445, 390.67392021681087]

Principal point: [314.9531860050542, 246.83142317585296]

Distortion model: radtan

Distortion coefficients: [-0.3387266411322653, 0.10577531579622686, -0.0007865133327070225,
-0.0002981926316847731]

Type: aprilgrid

Tags:

Rows: 6

Cols: 6

Size: 0.088 [m]

Spacing 0.026399999999999996 [m]

IMU configuration

IMU0:

Model: calibrated

Update rate: 100

Accelerometer:

Noise density: 0.02000673352767714

Noise density (discrete): 0.2000673352767714

Random walk: 0.001224627431466927

Gyroscope:

Noise density: 0.0004261447516911305

Noise density (discrete): 0.004261447516911304

Random walk: 2.14534407581717e-05

T_ib (imu0 to imu0)

[[-1. 0. 0. 0.]

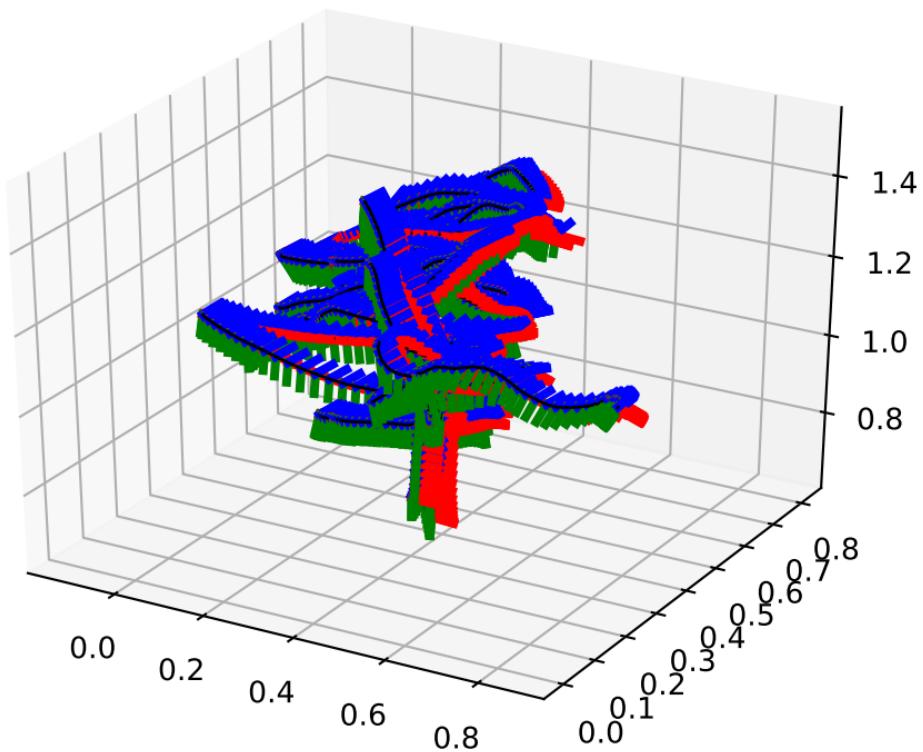
[0. 1. 0. 0.]

[0. 0. 1. 0.]

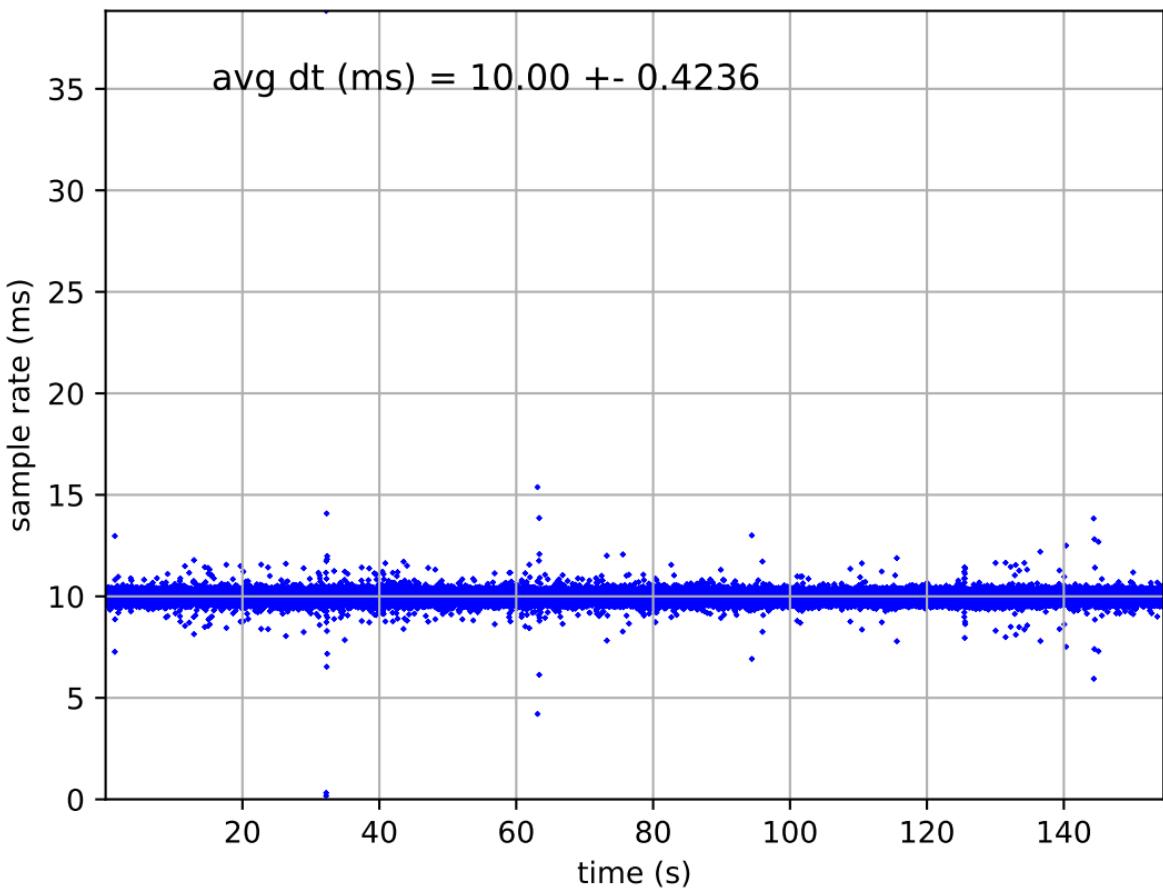
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

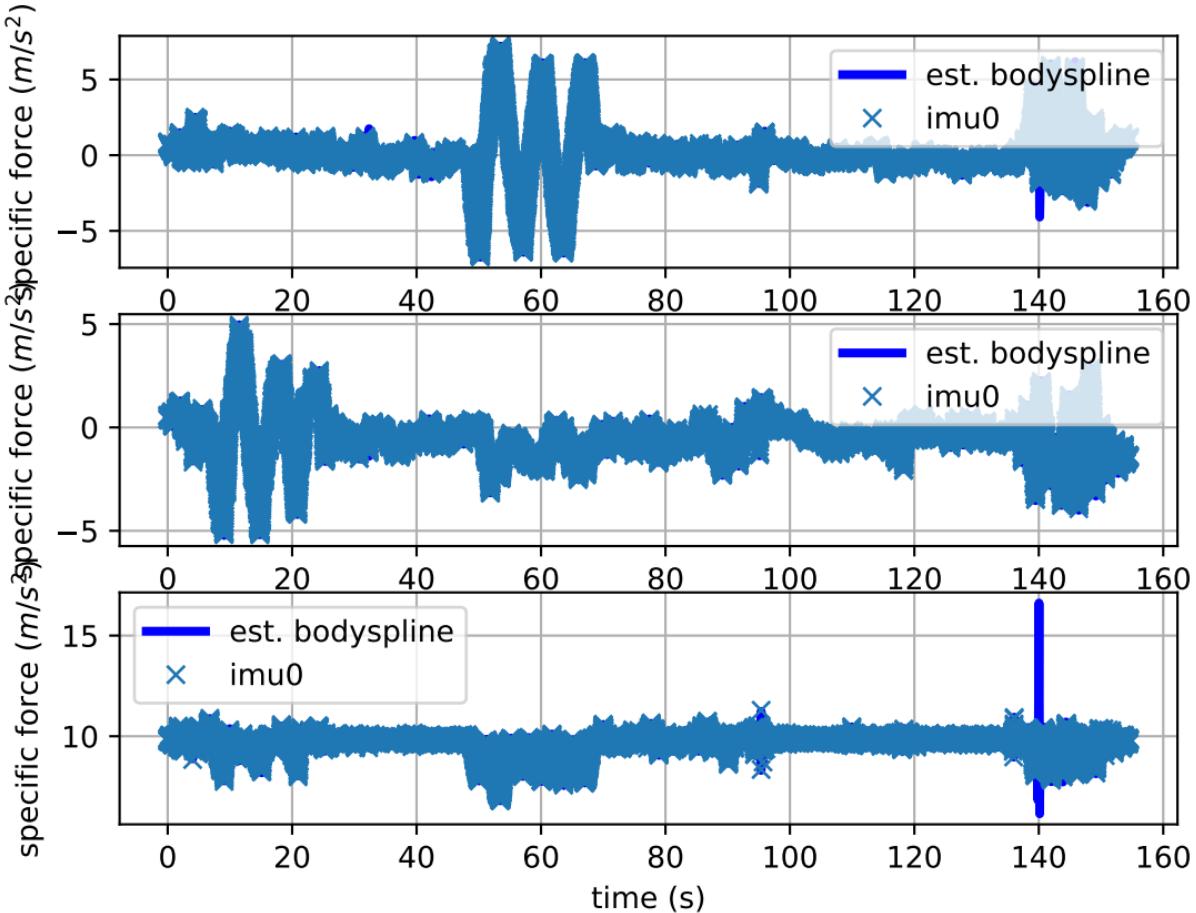
imu0: estimated poses



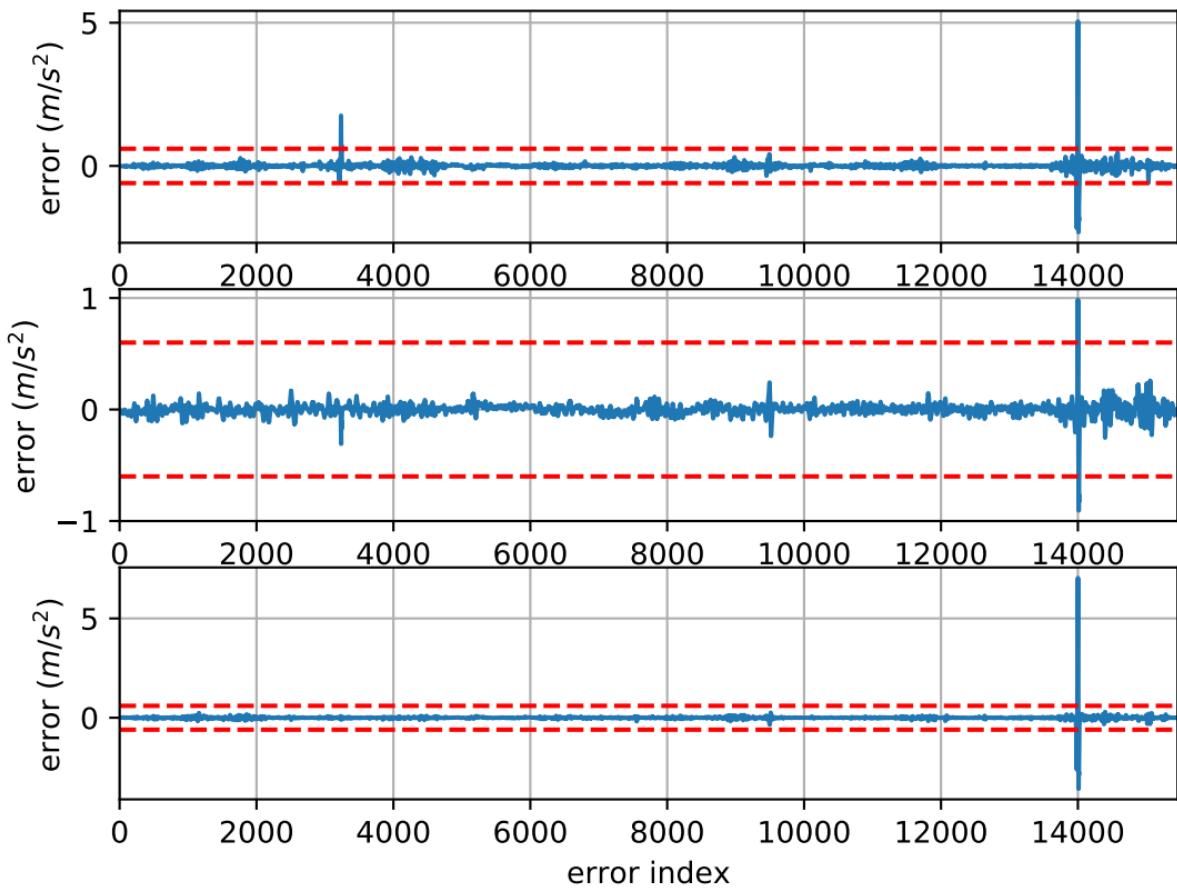
imu0: sample inertial rate



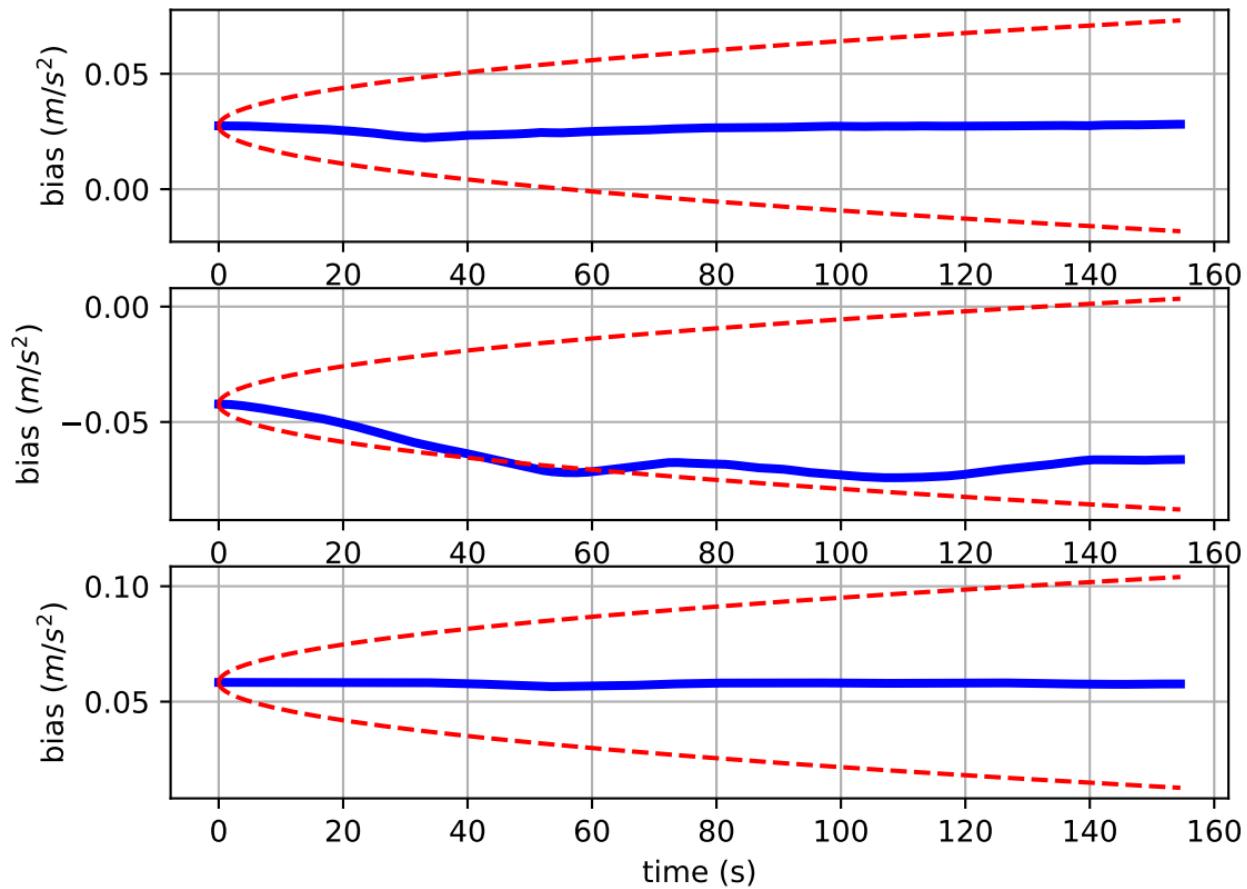
Comparison of predicted and measured specific force (imu0 frame)



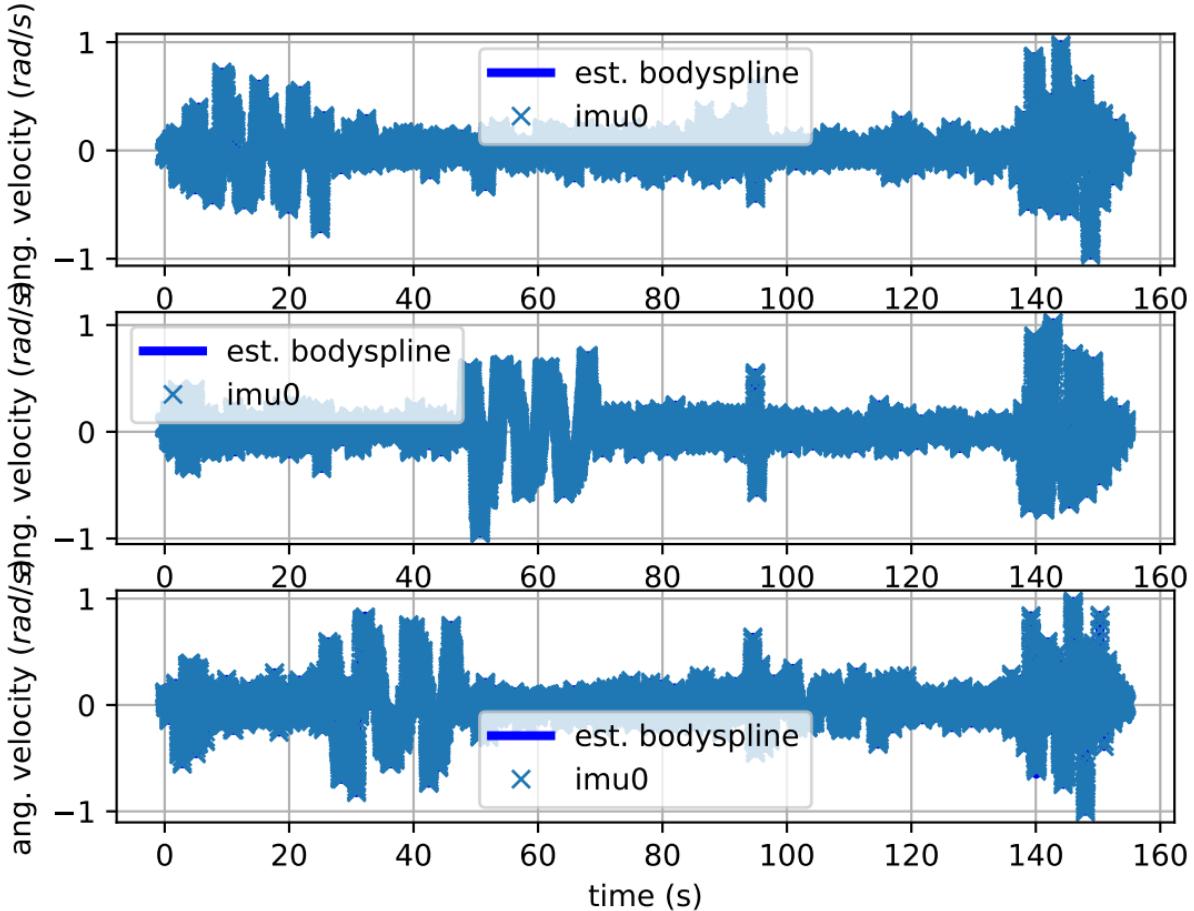
imu0: acceleration error



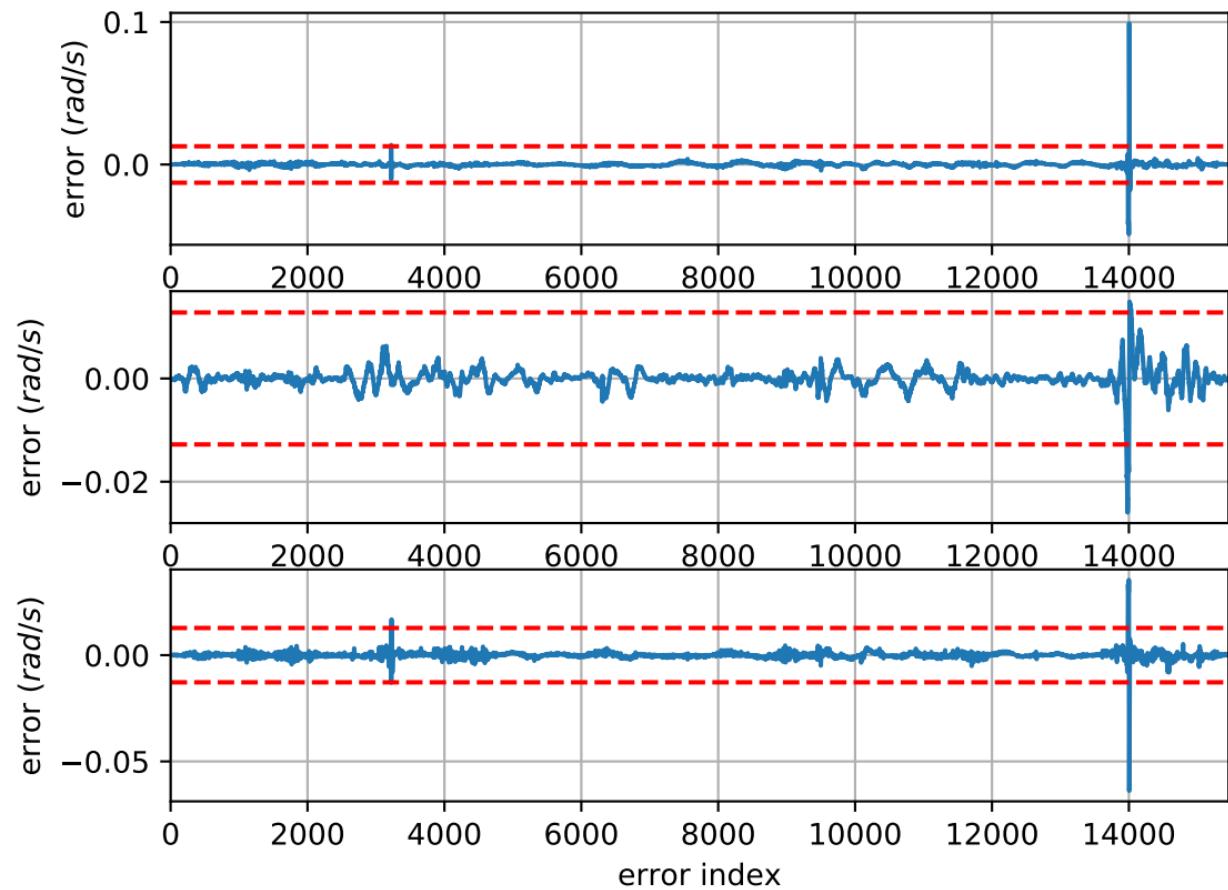
imu0: estimated accelerometer bias (imu frame)



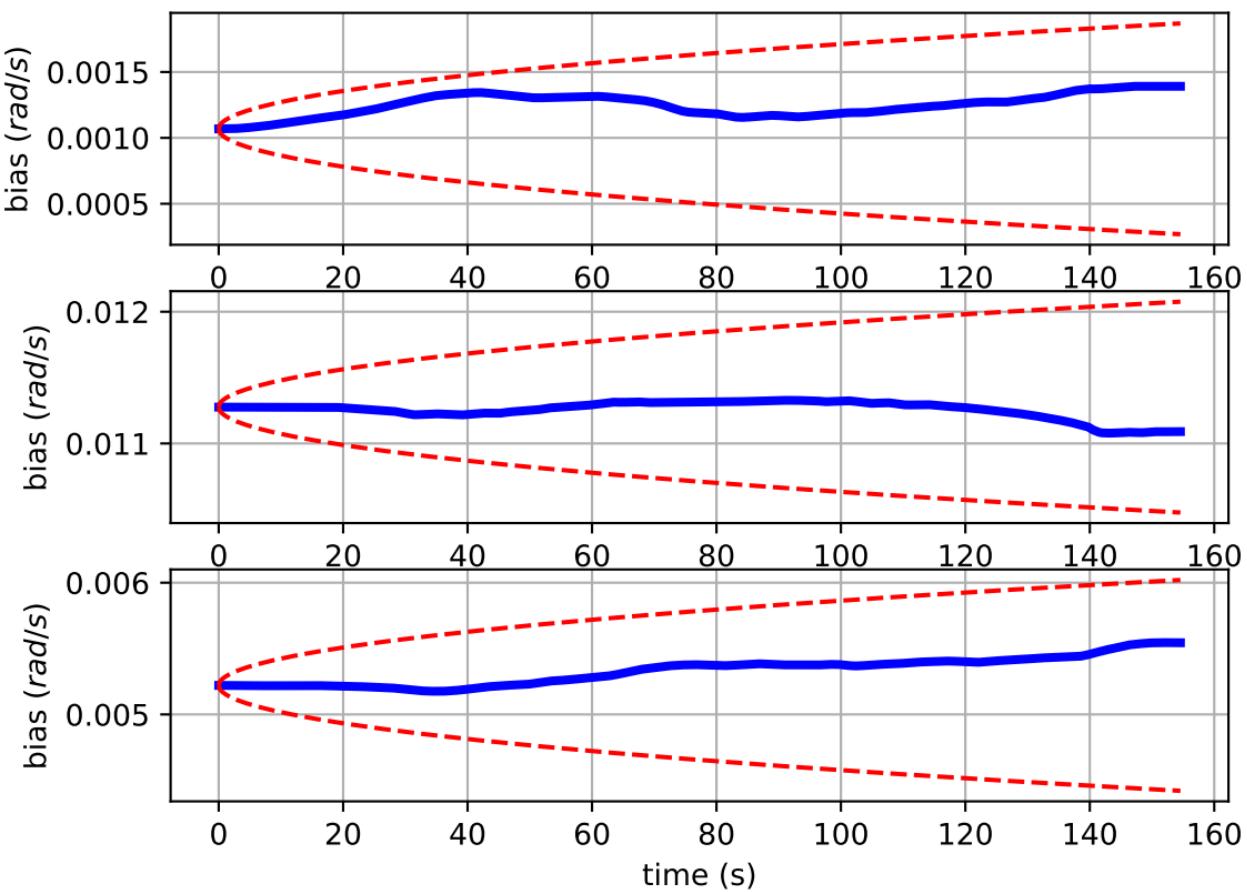
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

