

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.139914095705, median 0.131809334654, std: 0.0764574777129

Reprojection error (cam1): mean 0.13899499097, median 0.129898656503, std: 0.0748924870192

Gyroscope error (imu0): mean 0.207607170864, median 0.191652200199, std: 0.108707439141

Accelerometer error (imu0): mean 0.109789738344, median 0.10057356478, std: 0.0570359397506

Residuals

Reprojection error (cam0) [px]: mean 0.139914095705, median 0.131809334654, std: 0.0764574777129

Reprojection error (cam1) [px]: mean 0.13899499097, median 0.129898656503, std: 0.0748924870192

Gyroscope error (imu0) [rad/s]: mean 0.0092230248008, median 0.0085142193702, std: 0.00482936790215

Accelerometer error (imu0) [m/s²]: mean 0.0786692680902, median 0.0720654666804, std: 0.0408688070733

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.9998644  0.00321903  0.01615019 -0.03335716]
 [-0.00329626 -0.99998325 -0.00475756  0.00363572]
 [ 0.0161346 -0.00481015  0.99985826  0.00013316]
 [ 0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[-0.9998644 -0.00329626  0.0161346 -0.0333428 ]
 [ 0.00321903 -0.99998325 -0.00481015  0.00374367]
 [ 0.01615019 -0.00475756  0.99985826  0.00042288]
 [ 0.          0.          1.          ]]
```

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

-0.00168647396976

Transformation (cam1):

T_ci: (imu0 to cam1):
[[-0.99990693 -0.0126974 0.00499162 0.04738795]
[0.01264067 -0.99985698 -0.01123554 0.00260869]
[0.00513357 -0.0111714 0.99992442 -0.00010786]
[0. 0. 0. 1.]]

T_ic: (cam1 to imu0):
[[-0.99990693 0.01264067 0.00513357 0.04735111]
[-0.0126974 -0.99985698 -0.0111714 0.00320882]
[0.00499162 -0.01123554 0.99992442 -0.00009939]
[0. 0. 0. 1.]]

timeshift cam1 to imu0: [s] (t_imu = t_cam + shift)
-0.00167600298411

Baselines:

Baseline (cam0 to cam1):
[[0.99981108 0.01596939 -0.01108111 0.08068222]
[-0.01603899 0.99985202 -0.00622053 -0.00156068]
[0.01098013 0.00639709 0.99991925 0.000102]
[0. 0. 0. 1.]]
baseline norm: 0.0806973760936 [m]

Gravity vector in target coords: [m/s^2]
[-9.80535095 -0.13976884 0.06309026]

Calibration configuration

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cam0

Camera model: omni
Focal length: [796.1591554769963, 798.5420683457343]
Principal point: [314.2412281083559, 200.88208336494398]
Omni xi: 1.80855471779
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: [792.5655332768079, 794.394829665698]
Principal point: [313.43049624238034, 200.0907546402761]
Omni xi: 1.80247821419
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: 200.0

Accelerometer:

Noise density: 0.0506673699898

Noise density (discrete): 0.716544818093

Random walk: 0.00238846124584

Gyroscope:

Noise density: 0.003141347841

Noise density (discrete): 0.0444253672087

Random walk: 9.83708665485e-05

T_ib (imu0 to imu0)

[[1. 0. 0. 0.]

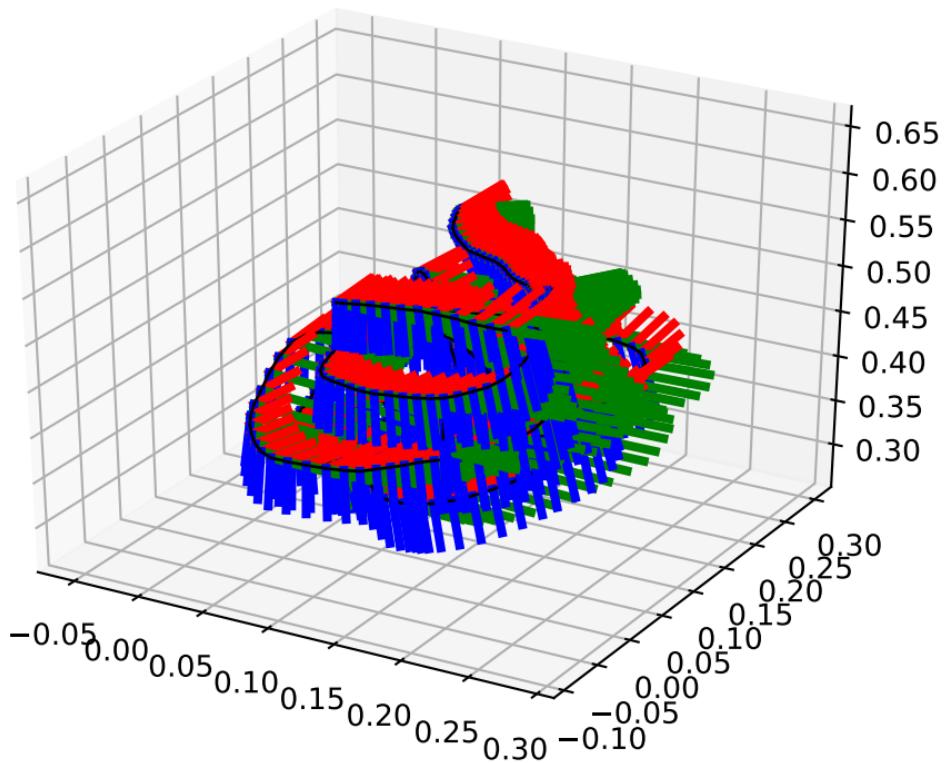
 [0. 1. 0. 0.]

 [0. 0. 1. 0.]

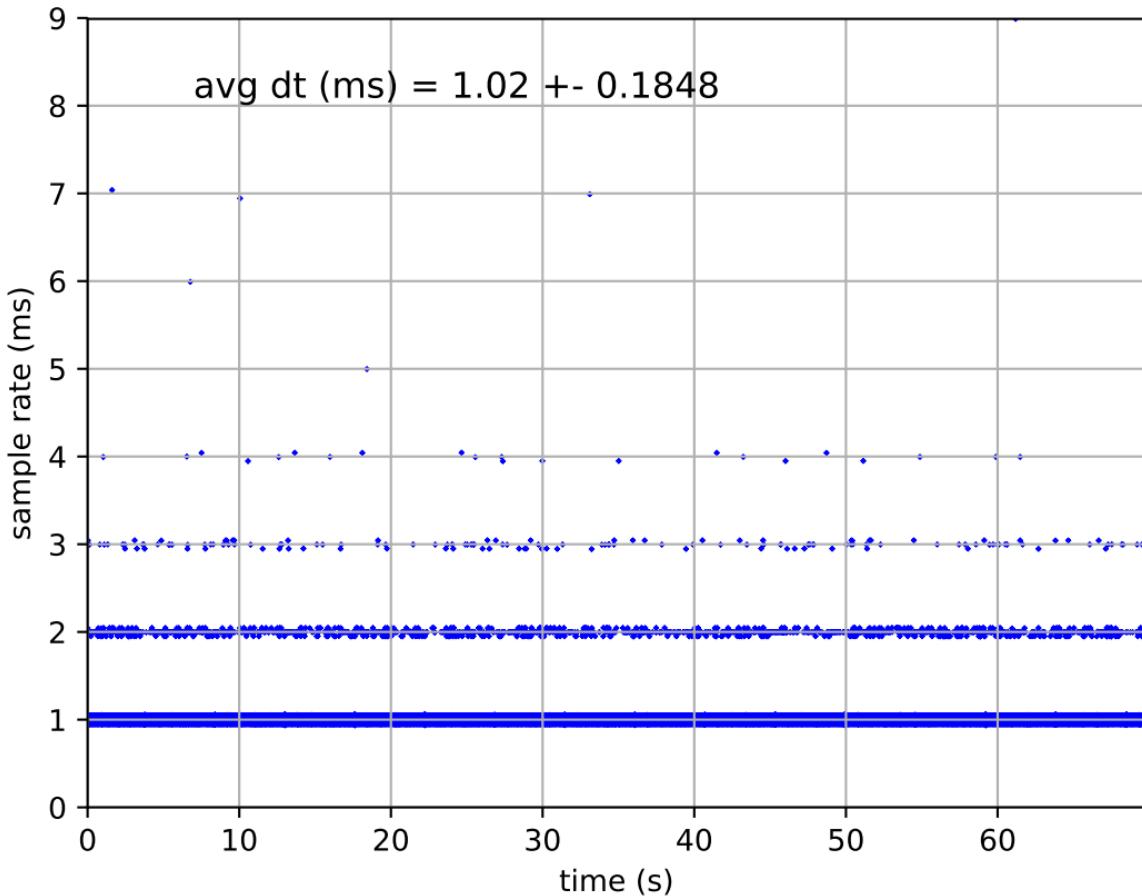
 [0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

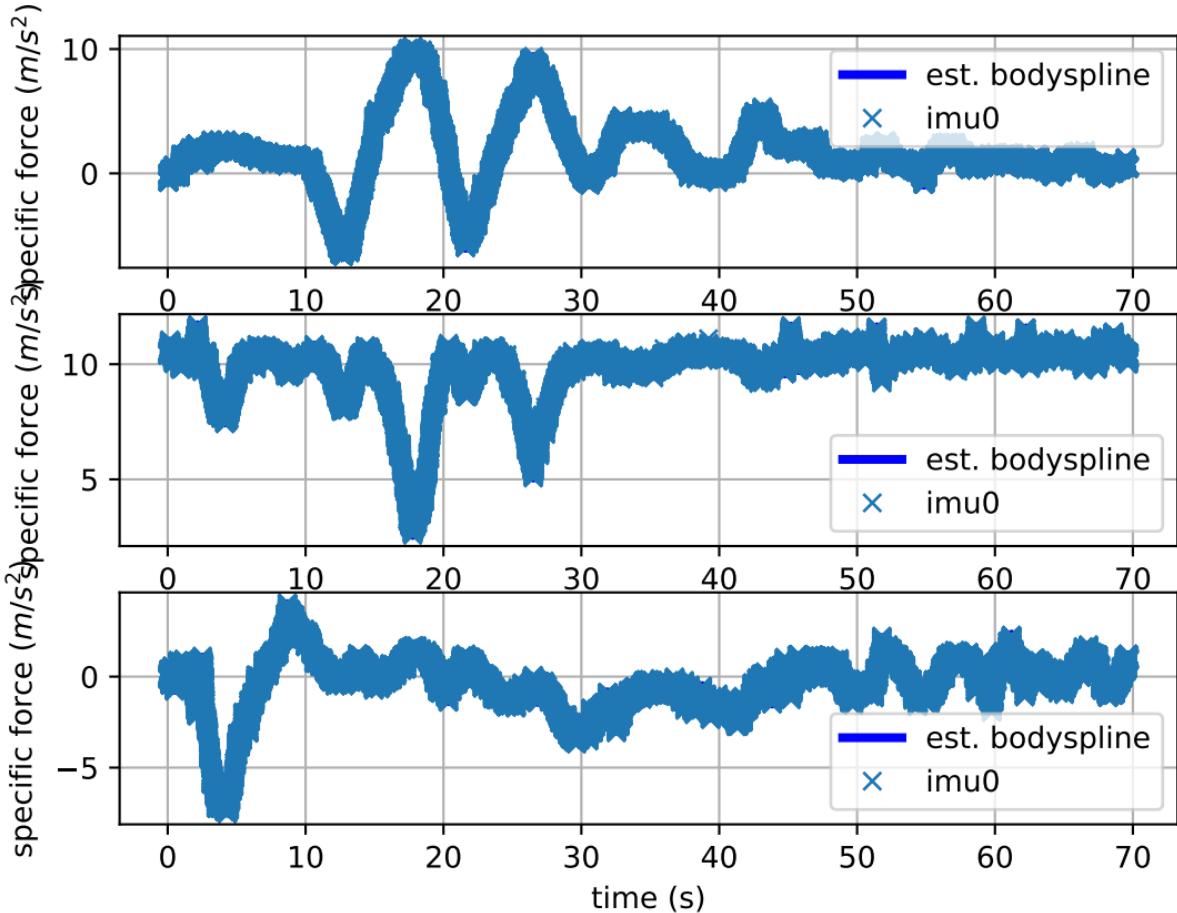
imu0: estimated poses



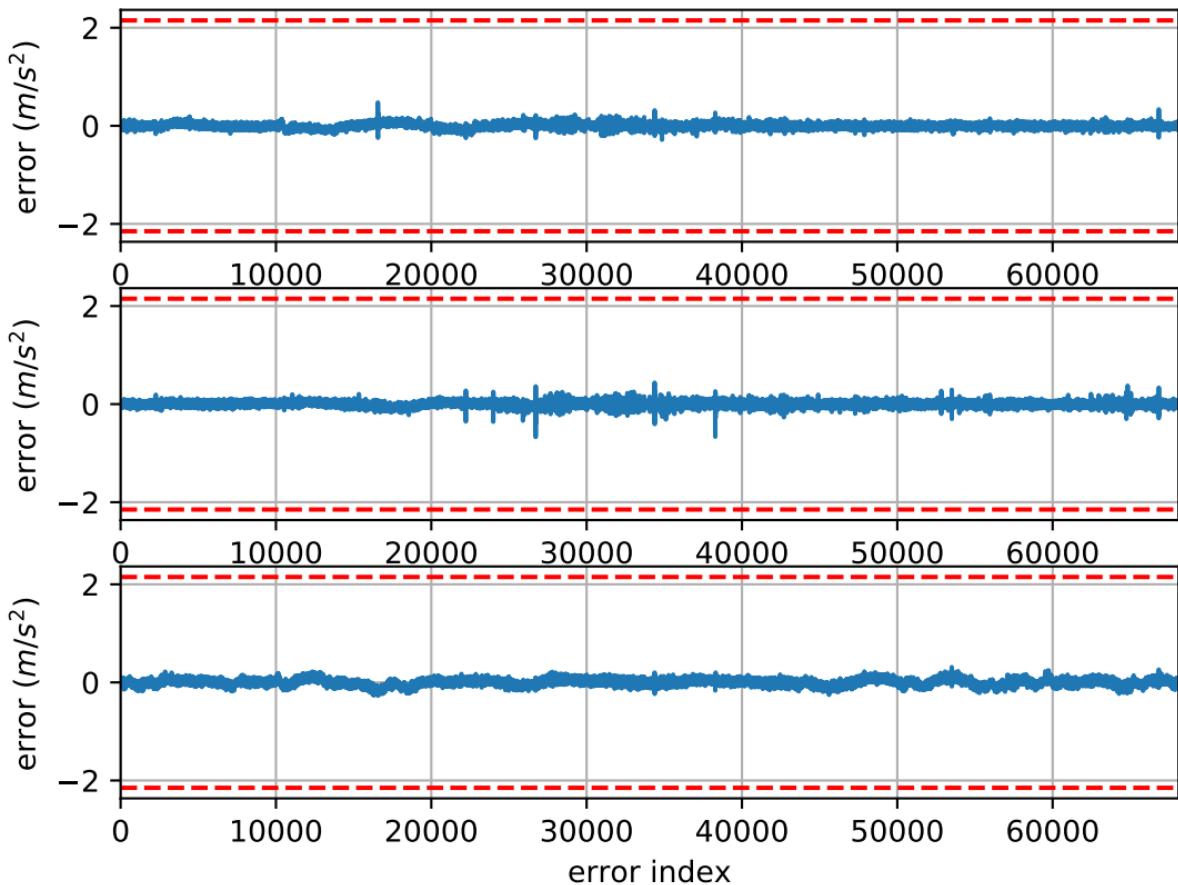
imu0: sample inertial rate



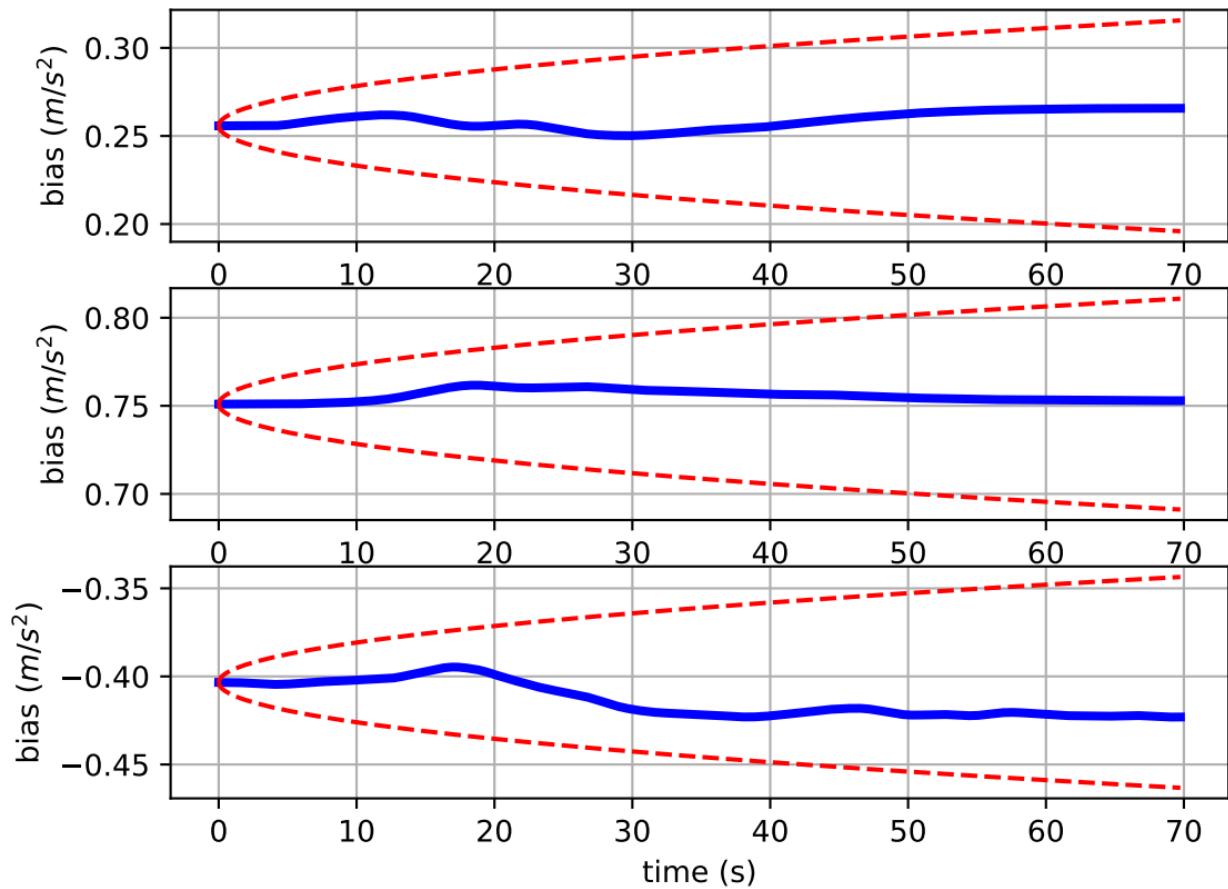
Comparison of predicted and measured specific force (imu0 frame)



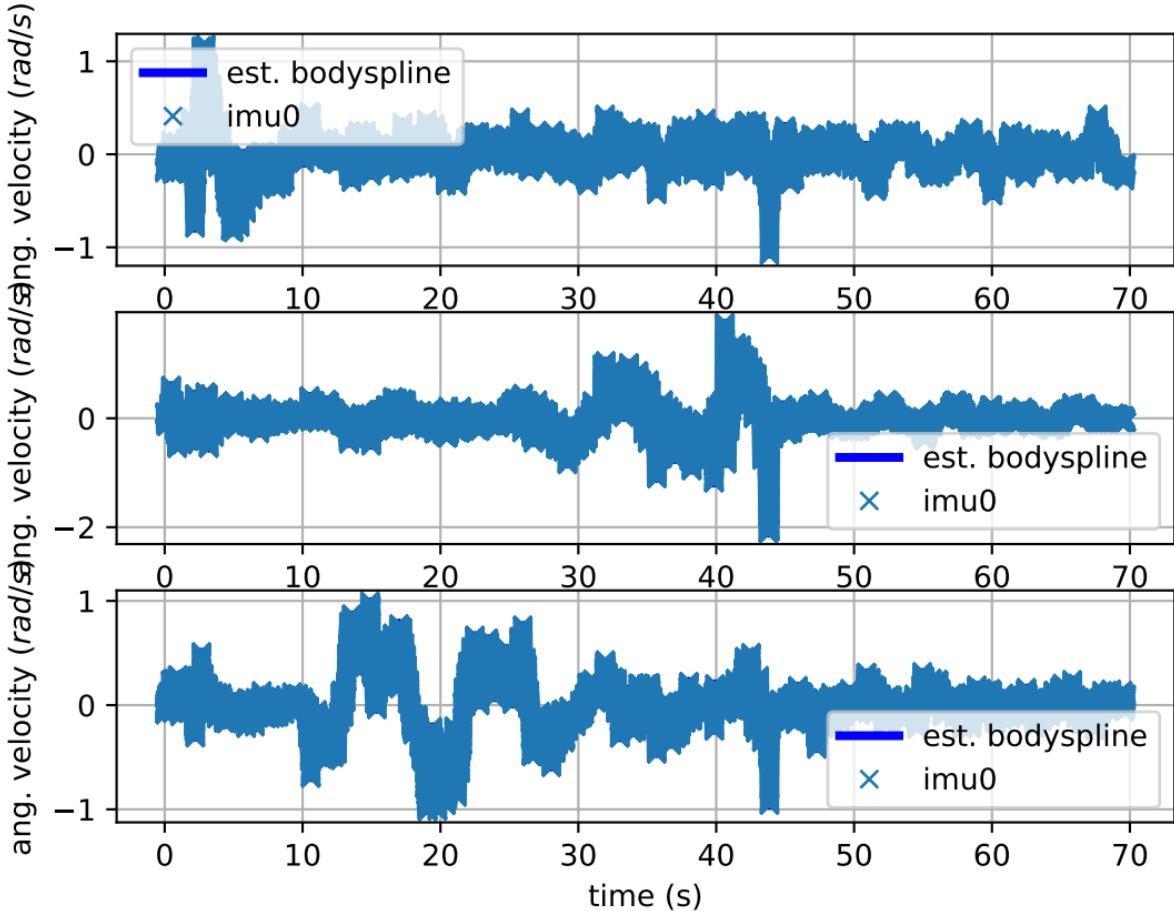
imu0: acceleration error



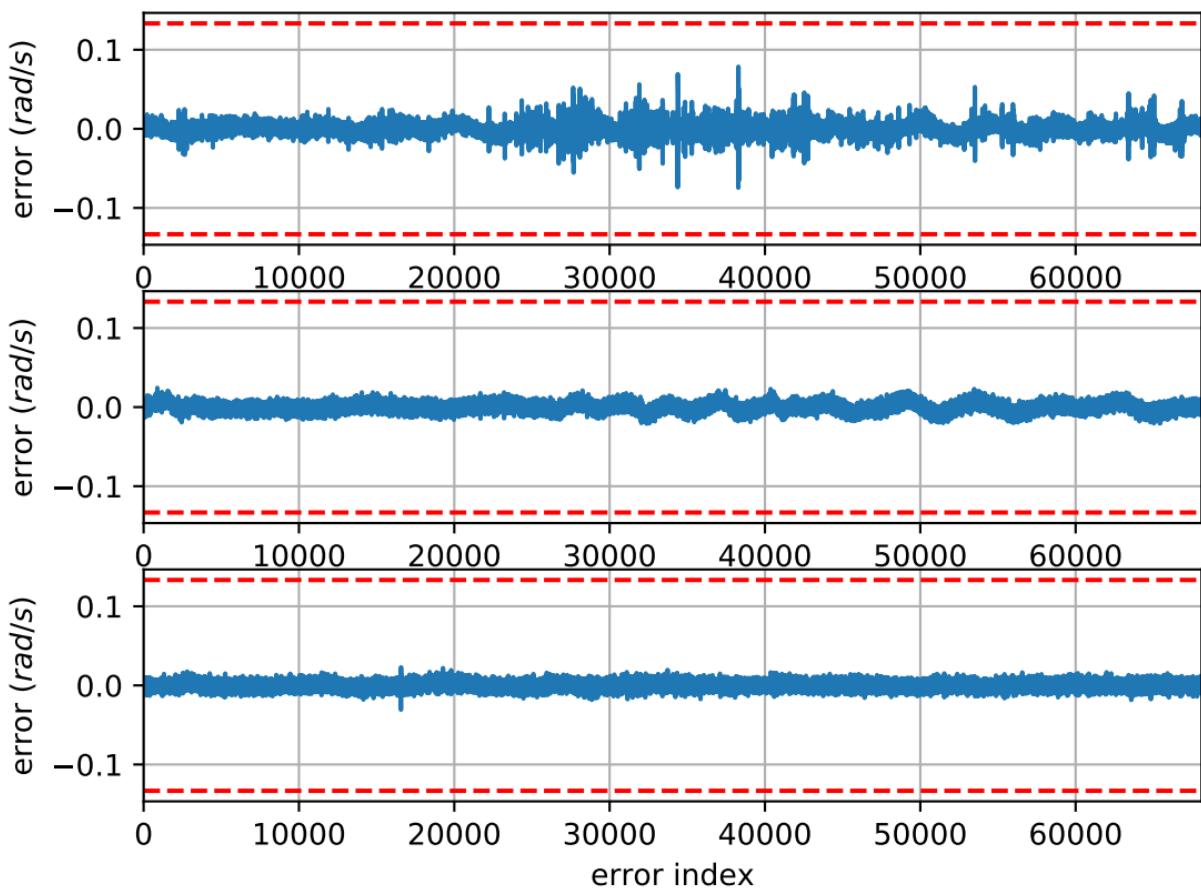
imu0: estimated accelerometer bias (imu frame)



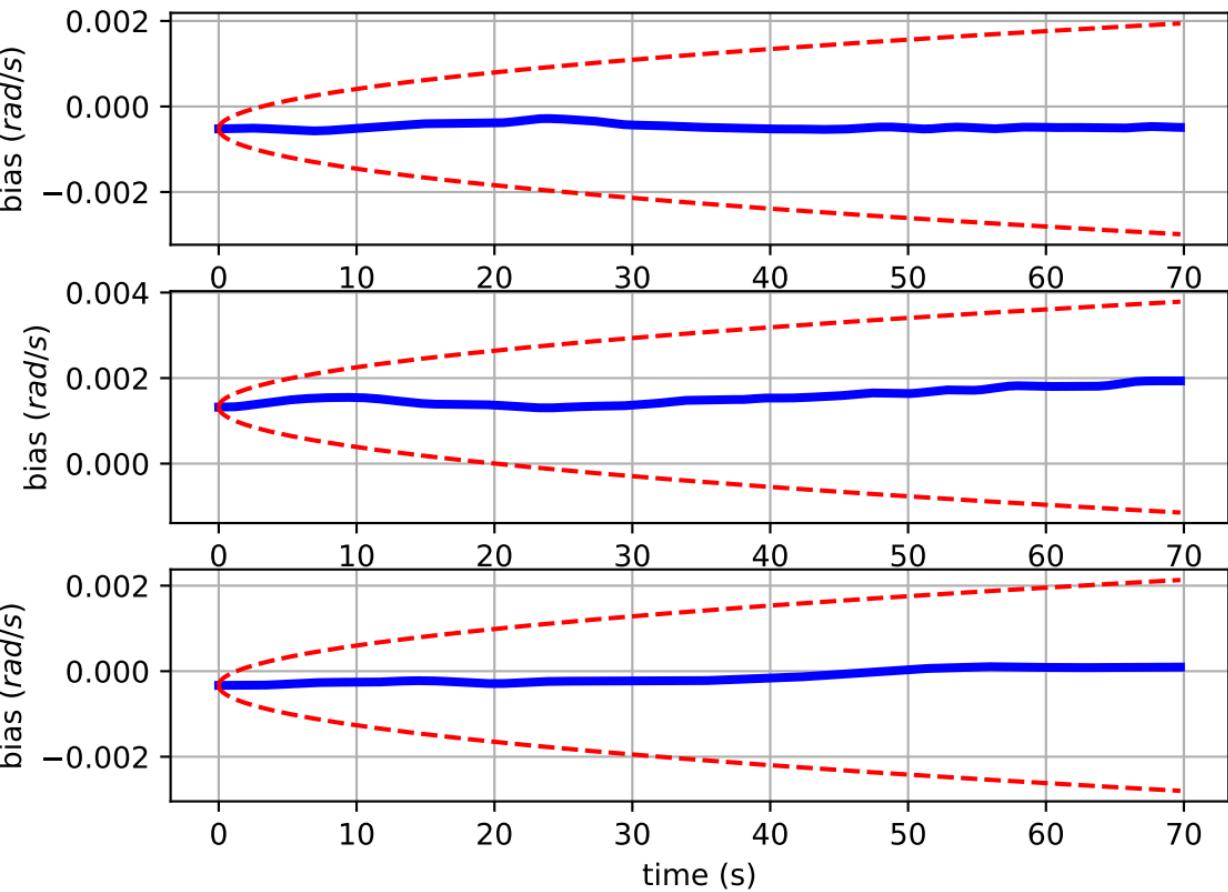
Comparison of predicted and measured angular velocities (body frame)



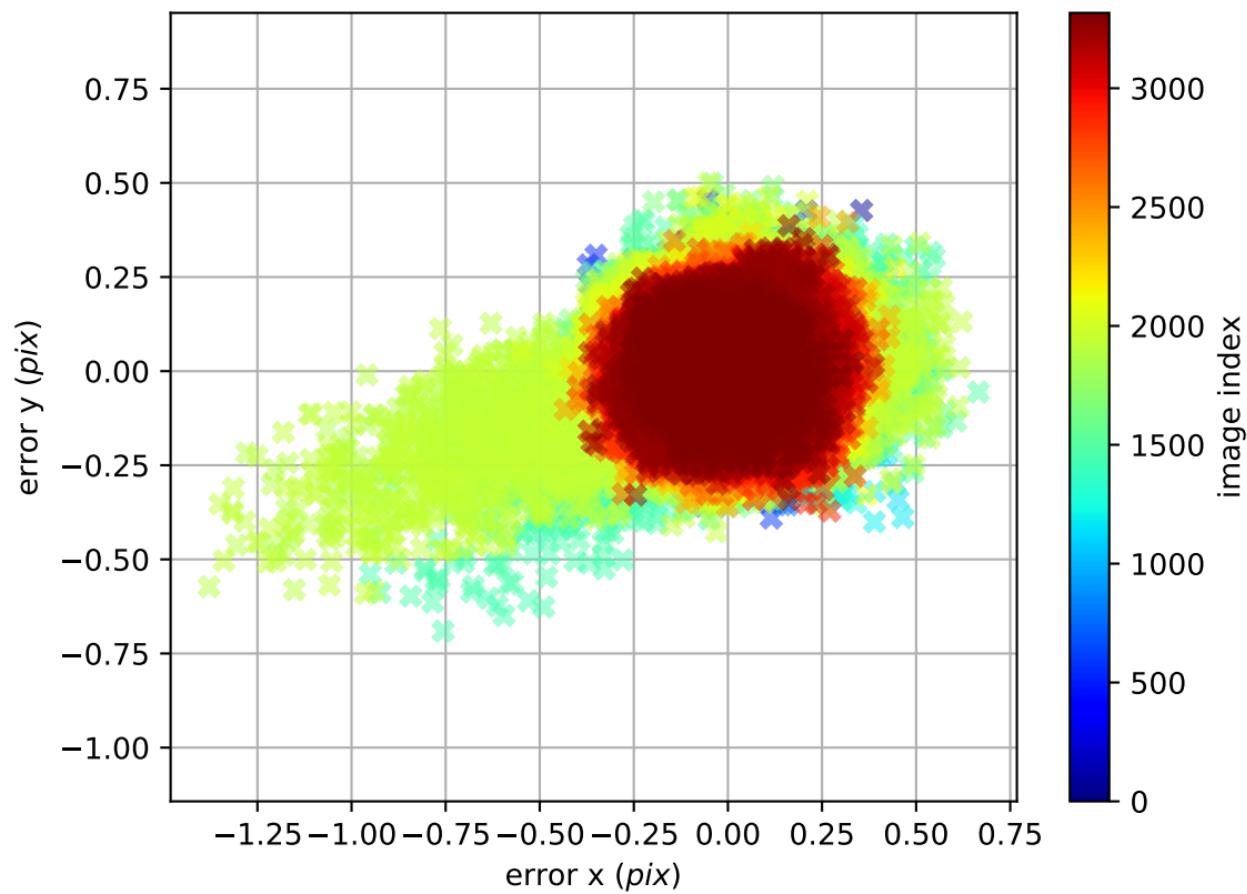
imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors



cam1: reprojection errors

