

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.25947042875, median 0.216873358239, std: 0.174700825537

Reprojection error (cam1): mean 0.258581351218, median 0.21711348174, std: 0.172765555516

Gyroscope error (imu0): mean 0.315659185724, median 0.260675923635, std: 0.247761109665

Accelerometer error (imu0): mean 0.310884258281, median 0.24910884286, std: 0.266464420266

Residuals

Reprojection error (cam0) [px]: mean 0.25947042875, median 0.216873358239, std: 0.174700825537

Reprojection error (cam1) [px]: mean 0.258581351218, median 0.21711348174, std: 0.172765555516

Gyroscope error (imu0) [rad/s]: mean 0.00169116506931, median 0.00139658858794, std: 0.00132739661365

Accelerometer error (imu0) [m/s²]: mean 0.0275856078286, median 0.0221041067946, std: 0.0236441144959

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.00983372 -0.99995165  0.00001791 -0.00194005]
 [ 0.00416563 -0.00005887 -0.99999132 -0.03518955]
 [ 0.99994297 -0.00983356  0.004166  -0.10486546]
 [ 0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[-0.00983372  0.00416563  0.99994297  0.10498699]
 [-0.99995165 -0.00005887 -0.00983356 -0.00297323]
 [ 0.00001791 -0.99999132  0.004166  -0.03475234]
 [ 0.          0.          1.          ]]
```

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

0.00287144919038

Transformation (cam1):

T_ci: (imu0 to cam1):
[[-0.00874263 -0.99996178 -0.00005588 -0.05204035]
[0.00388759 0.00002189 -0.99999244 -0.03515603]
[0.99995423 -0.00874278 0.00388725 -0.10485304]
[0. 0. 1.]]

T_ic: (cam1 to imu0):
[[-0.00874263 0.00388759 0.99995423 0.10452995]
[-0.99996178 0.00002189 -0.00874278 -0.05295429]
[-0.00005588 -0.99999244 0.00388725 -0.03475108]
[0. 0. 1.]]

timeshift cam1 to imu0: [s] (t_imu = t_cam + shift)
0.00287756152702

Baselines:

Baseline (cam0 to cam1):
[[0.999994 0.00007833 0.00109082 -0.04998315]
[-0.00007803 0.99999996 -0.00027882 0.00000413]
[-0.00109084 0.00027874 0.99999937 0.00002004]
[0. 0. 1.]]
baseline norm: 0.0499831568537 [m]

Gravity vector in target coords: [m/s^2]
[-0.06632153 -9.80630035 -0.02231049]

Calibration configuration

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cam0

Camera model: pinhole
Focal length: [420.3293424072411, 422.0938563331847]
Principal point: [427.46982182827145, 235.96662924080889]
Distortion model: radtan
Distortion coefficients: [-0.0006325857315915039, 0.0004755762420834004, -0.00036144795825349086, 0.00010234072856141909]
Type: aprilgrid
Tags:
Rows: 6
Cols: 6
Size: 0.0625 [m]
Spacing 0.01875 [m]

cam1

=====

Camera model: pinhole
Focal length: [420.3392876578212, 422.11848956997335]
Principal point: [427.5257825266123, 236.10169089242632]
Distortion model: radtan
Distortion coefficients: [-0.0001997374045288431, 0.0003001280579079632, -0.0004155930801938355, -0.0001946012297300367]
Type: aprilgrid
Tags:
Rows: 6
Cols: 6
Size: 0.0625 [m]
Spacing 0.01875 [m]

IMU configuration

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IMU0:

Model: calibrated
Update rate: 200.0

Accelerometer:

Noise density: 0.00627435125428

Noise density (discrete): 0.088732726389

Random walk: 0.00184674674513

Gyroscope:

Noise density: 0.000378837158143

Noise density (discrete): 0.00535756646977

Random walk: 0.000448877179014

T_{ib} (imu0 to imu0)

[[1. 0. 0. 0.]

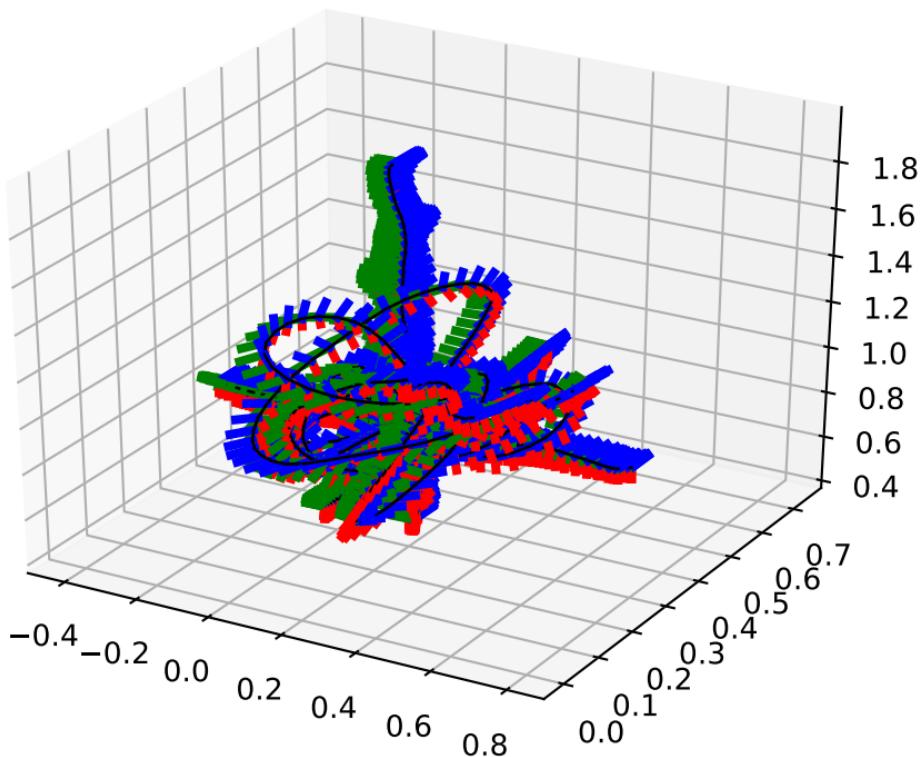
 [0. 1. 0. 0.]

 [0. 0. 1. 0.]

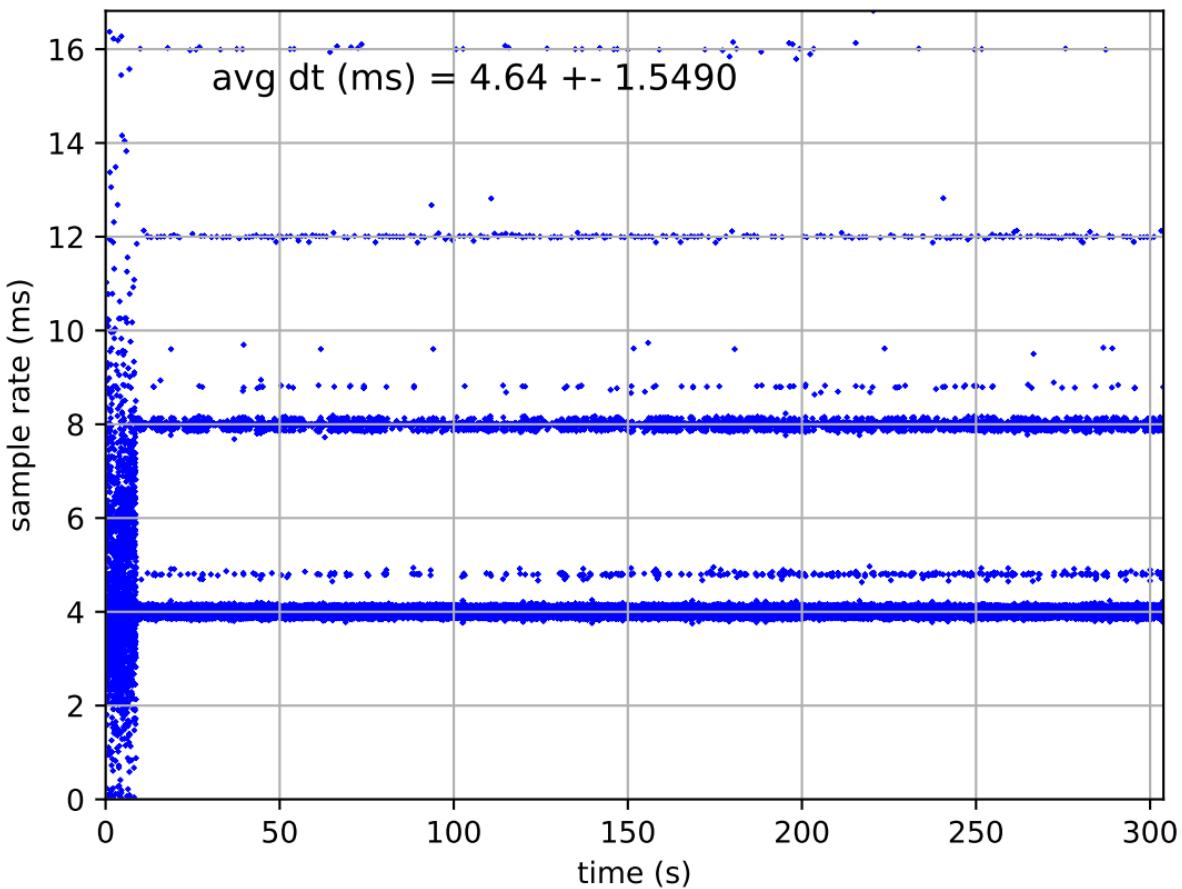
 [0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

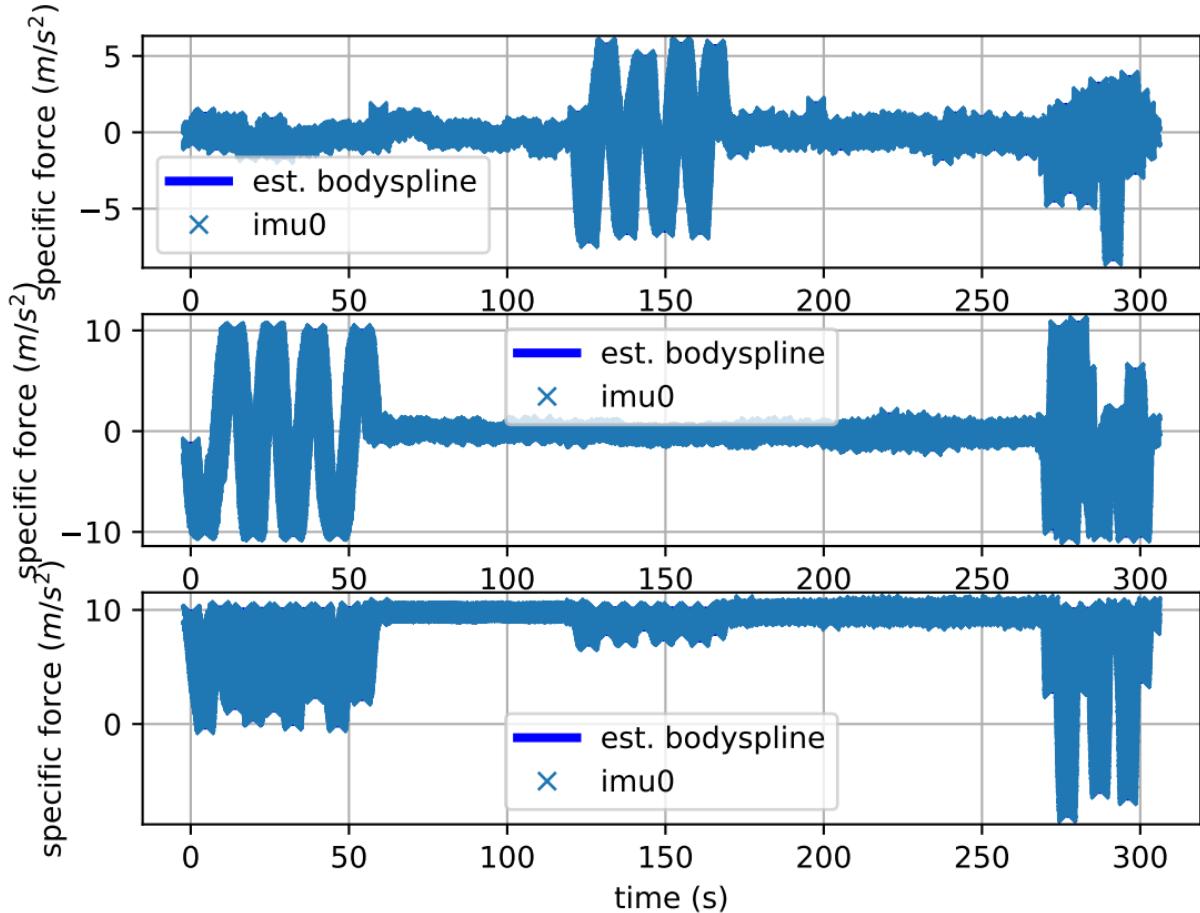
imu0: estimated poses



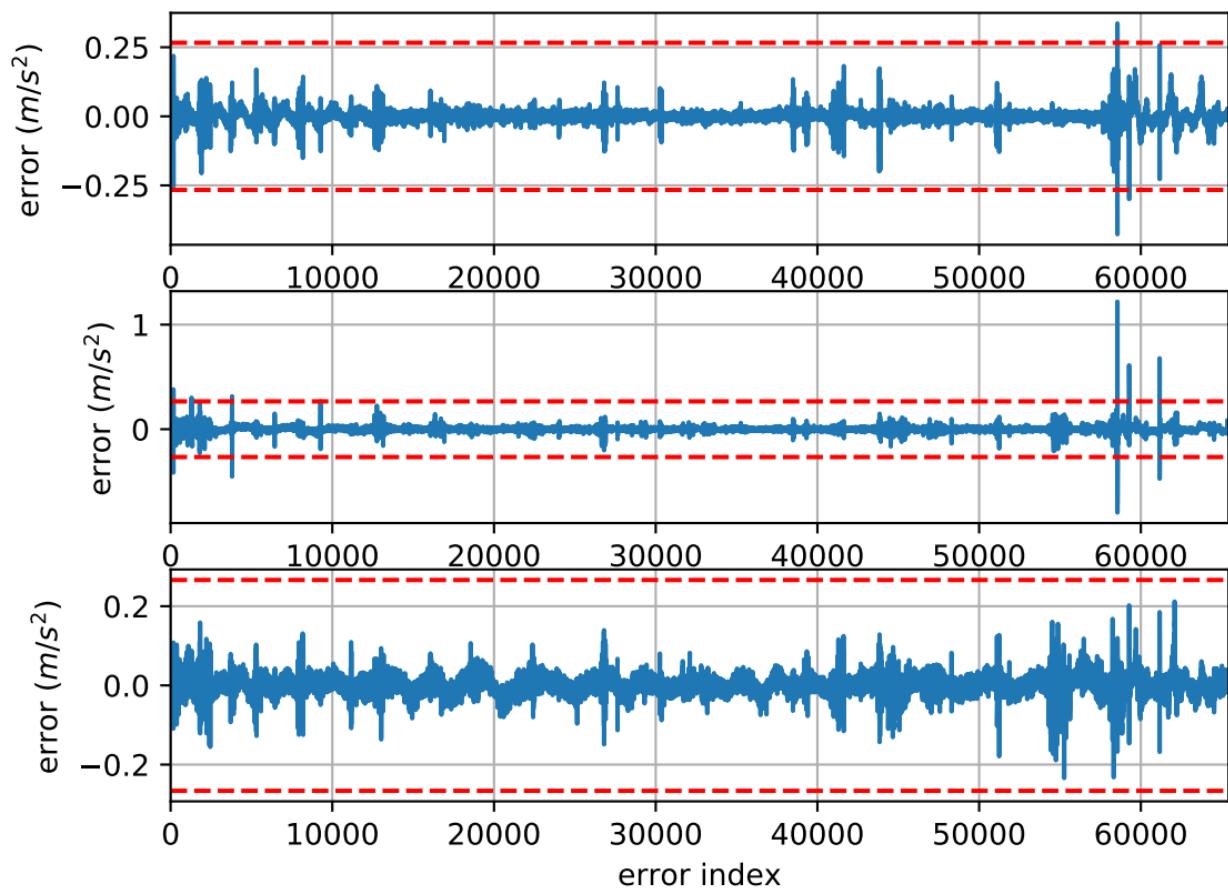
imu0: sample inertial rate



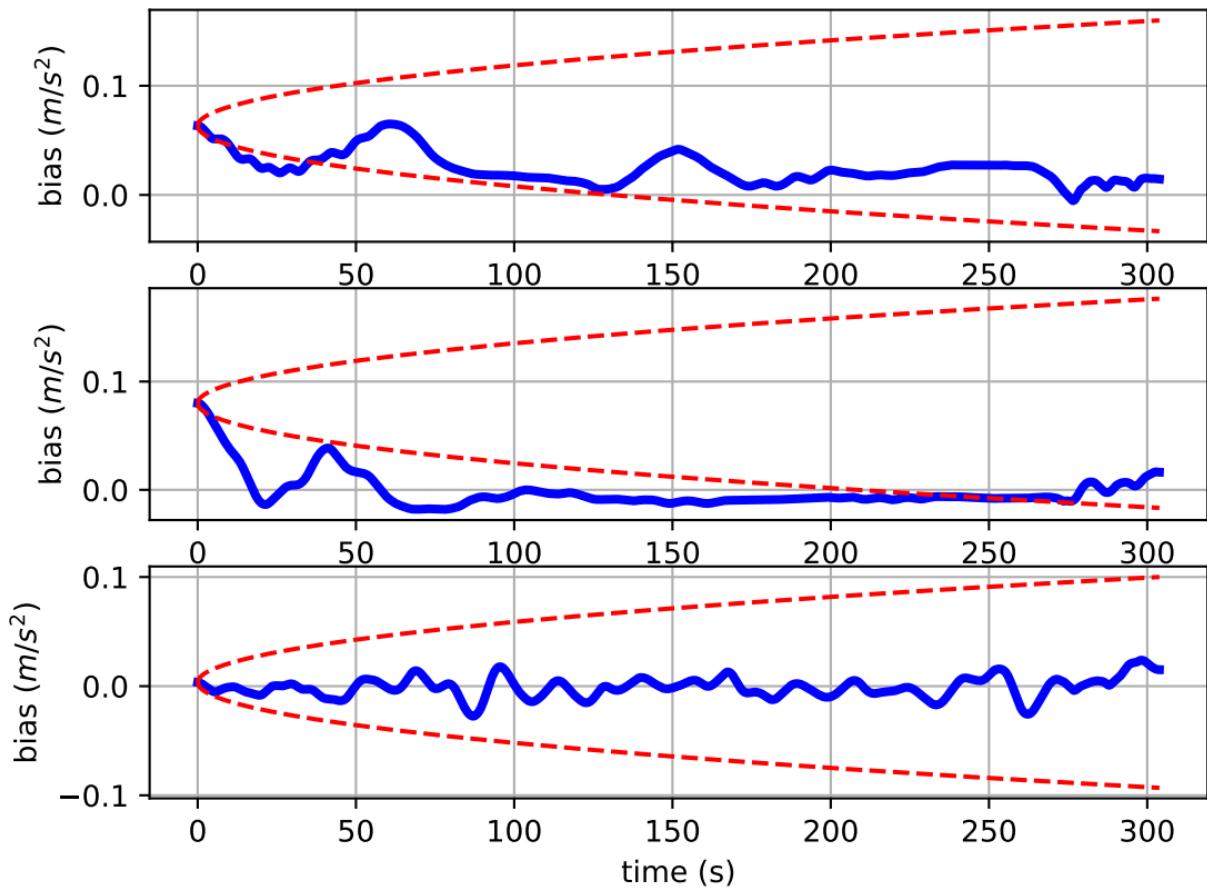
Comparison of predicted and measured specific force (imu0 frame)



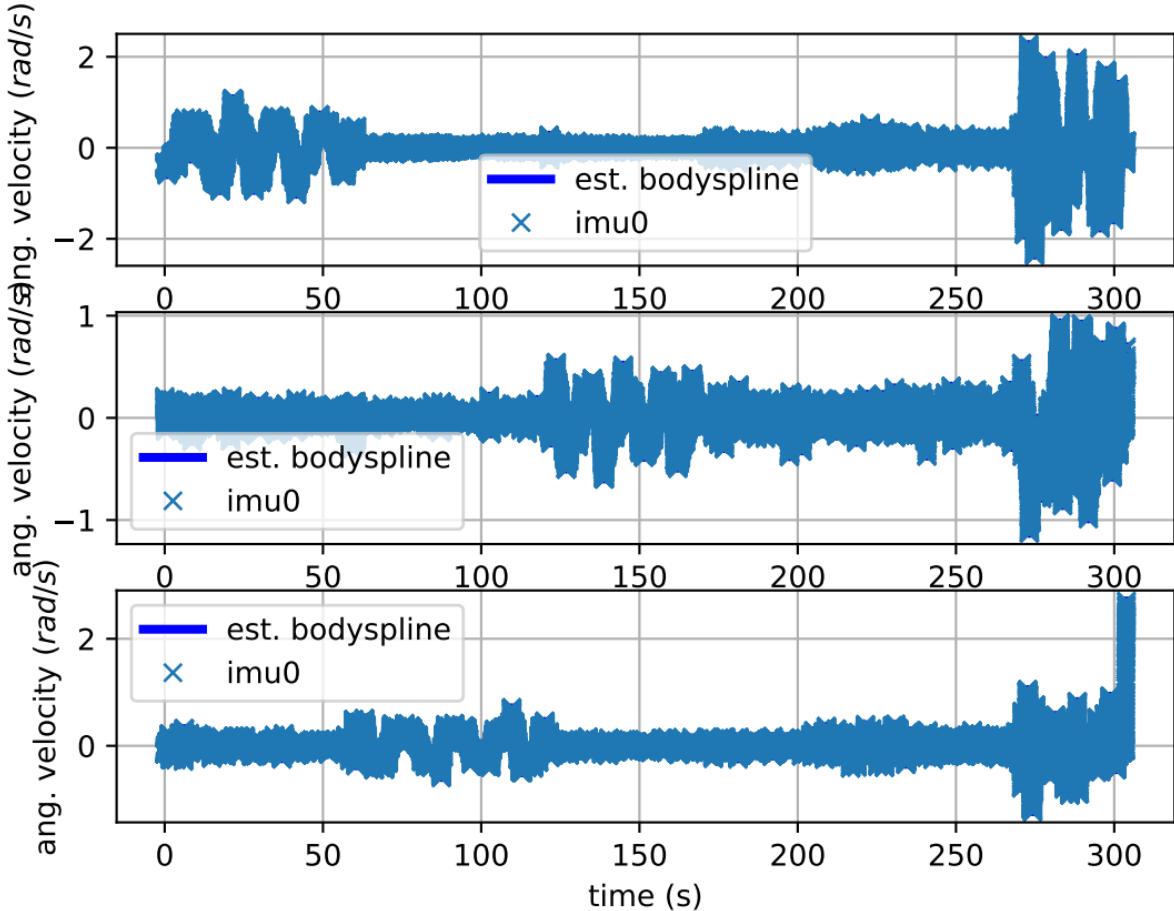
imu0: acceleration error



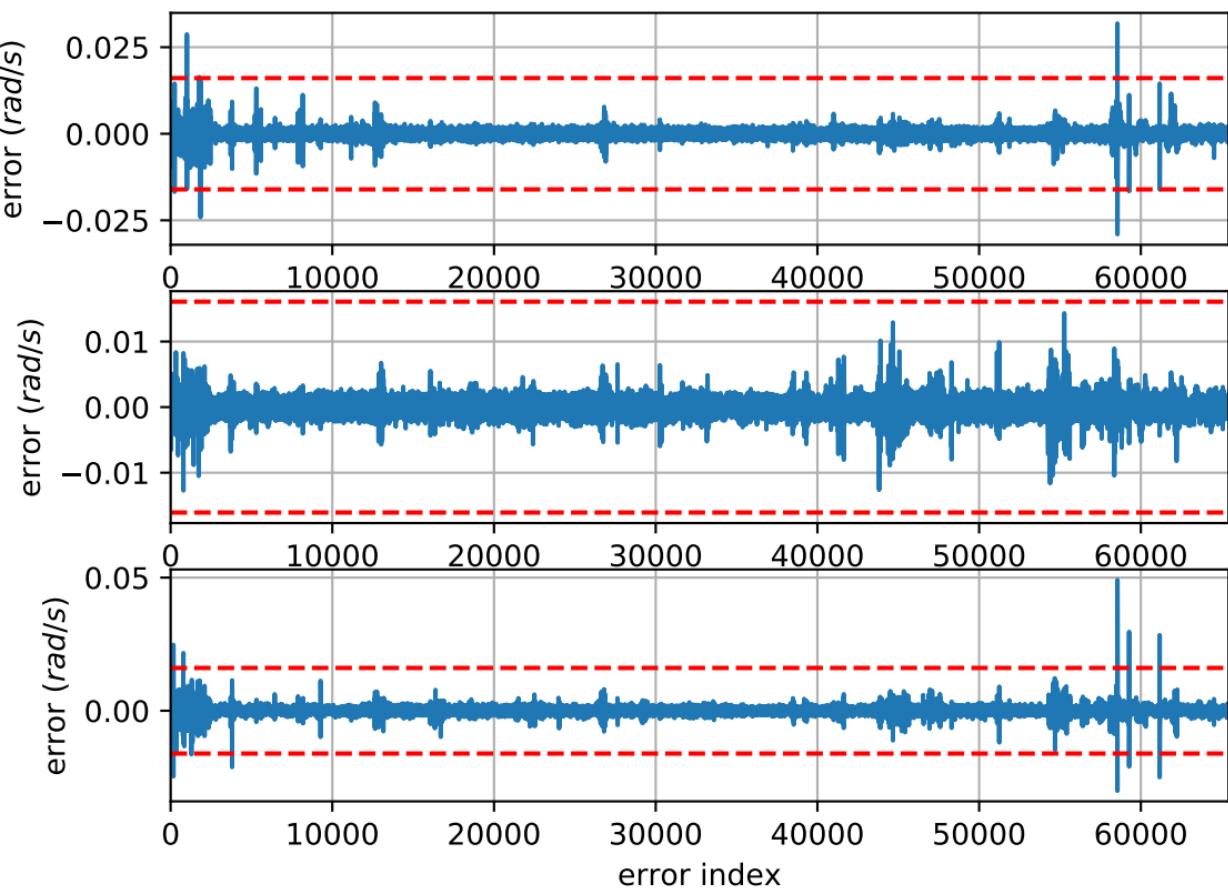
imu0: estimated accelerometer bias (imu frame)



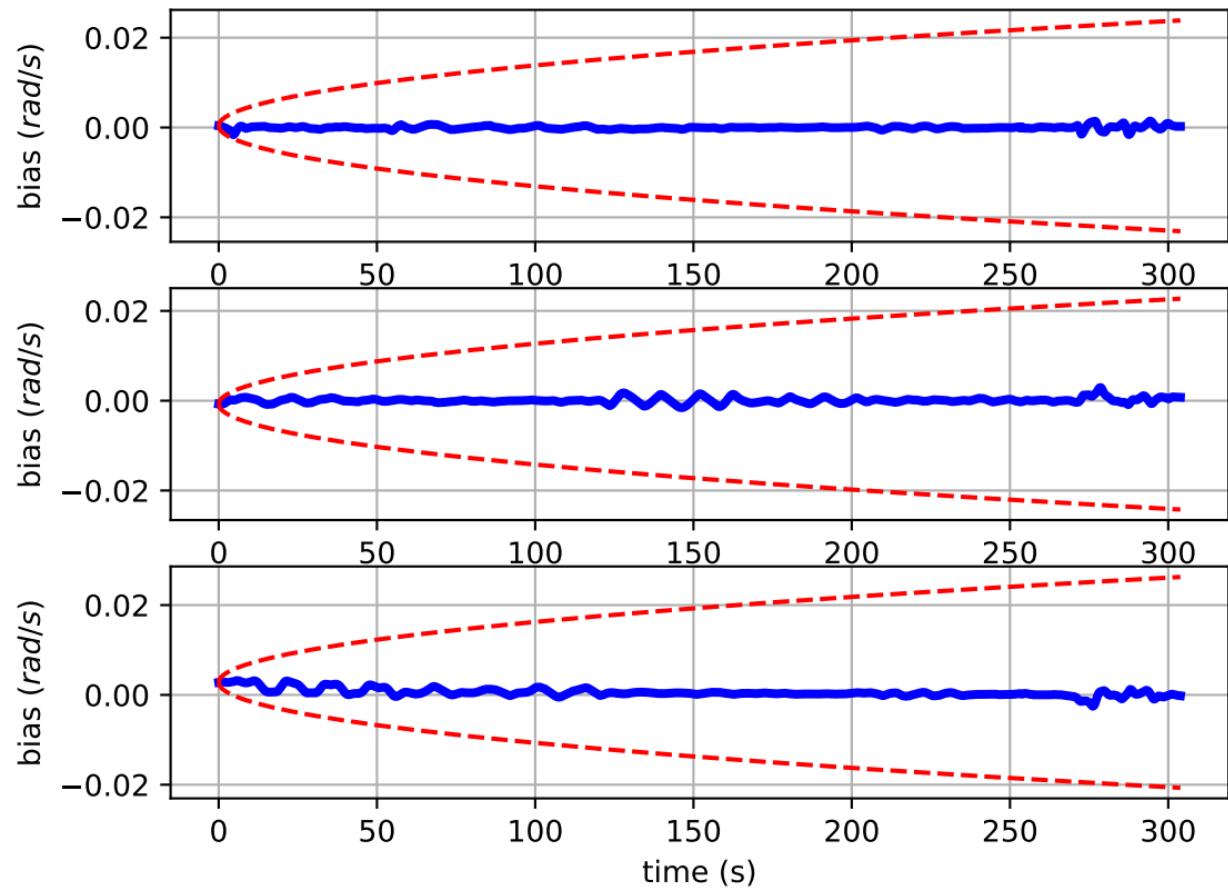
Comparison of predicted and measured angular velocities (body frame)



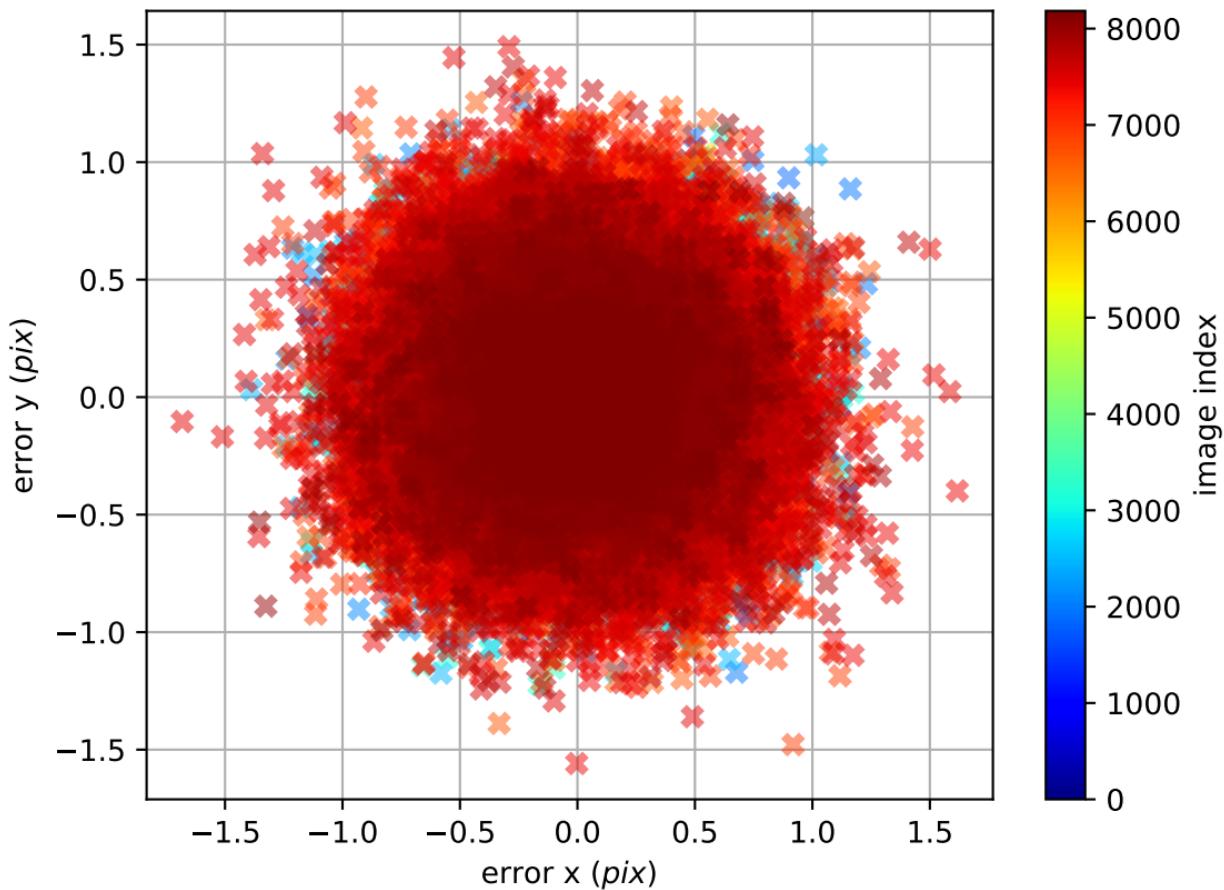
imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors



cam1: reprojection errors

