

Calibration results

Normalized Residuals

Reprojection error (cam0): mean 0.357785067775, median 0.281367969231, std: 0.291652912372

Gyroscope error (imu0): mean 39.6595169644, median 22.0297873747, std: 53.9129178008

Accelerometer error (imu0): mean 15.8725488704, median 11.940003042, std: 14.9820317949

Residuals

Reprojection error (cam0) [px]: mean 0.357785067775, median 0.281367969231, std: 0.291652912372

Gyroscope error (imu0) [rad/s]: mean 0.00537386629575, median 0.00298503715972, std: 0.0073052027

Accelerometer error (imu0) [m/s²]: mean 0.0566050383783, median 0.0425807055909, std: 0.053429256

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.99990175 -0.01169761 -0.00772341 -0.0096119 ]
 [-0.00760985 -0.00972176  0.99992379  0.01761612]
 [-0.01177118  0.99988432  0.00963179 -0.01466333]
 [ 0.        0.        0.        1.       ]]
```

T_ic: (cam0 to imu0):

```
[[-0.99990175 -0.00760985 -0.01177118 -0.00964951]
 [-0.01169761 -0.00972176  0.99988432  0.01472046]
 [-0.00772341  0.99992379  0.00963179 -0.01754778]
 [ 0.        0.        0.        1.       ]]
```

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

0.002635325919090298

Gravity vector in target coords: [m/s²]

[-0.06444567 -9.55064365 -2.22474169]

Calibration configuration

Camera model: pinhole
Focal length: [299.97820042261236, 300.1594894651094]
Principal point: [332.2986792295591, 255.7740825036964]
Distortion model: equidistant
Distortion coefficients: [-0.034695697328039746, -0.0257585371129136, 0.025759547908685492, -0.007500000000000001]
Type: aprilgrid
Tags:
Rows: 6
Cols: 6
Size: 0.0293 [m]
Spacing 0.00879 [m]

IMU configuration

=====

IMU0:

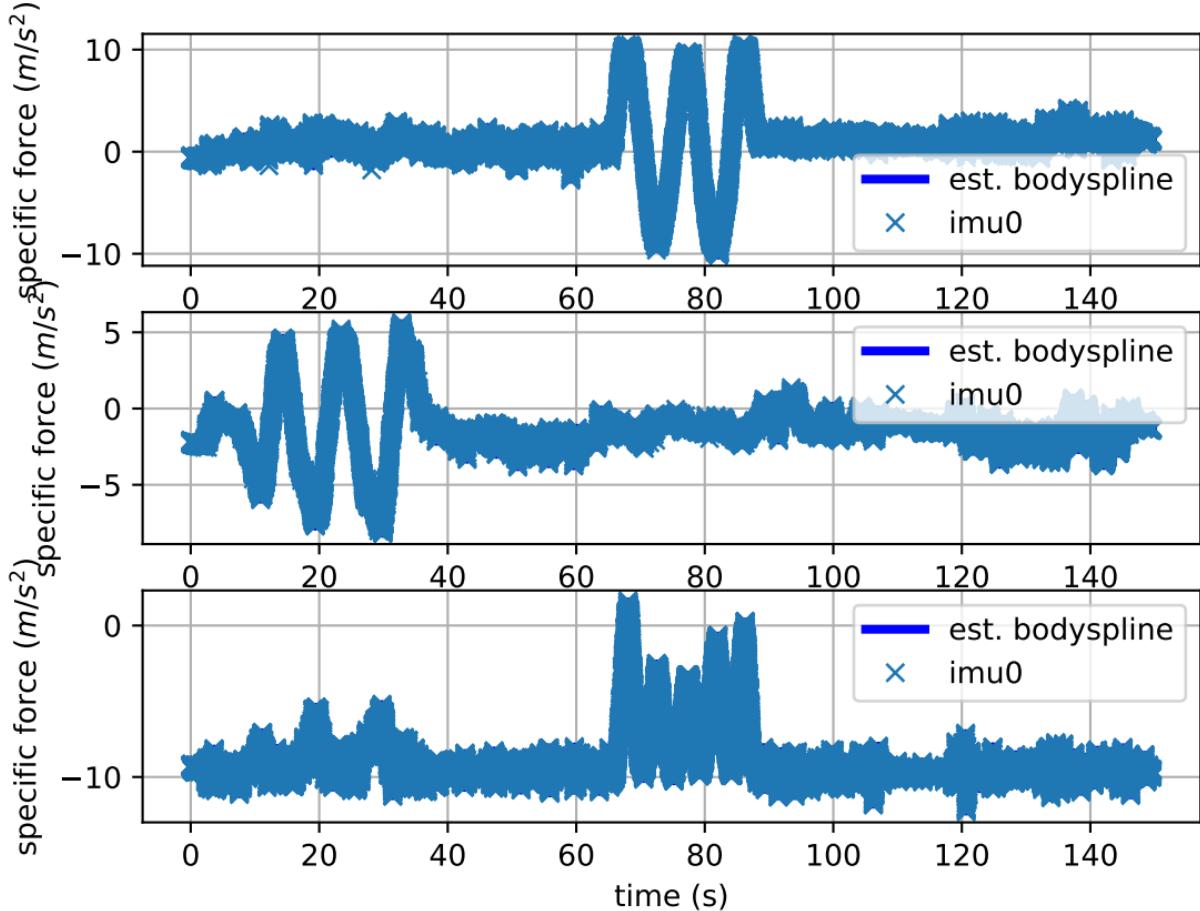
Model: calibrated
Update rate: 200.0
Accelerometer:
Noise density: 0.00025217
Noise density (discrete): 0.00356622234024
Random walk: 0.000147

Gyroscope:
Noise density: 9.5813e-06
Noise density (discrete): 0.000135500044052
Random walk: 0.000108400035241

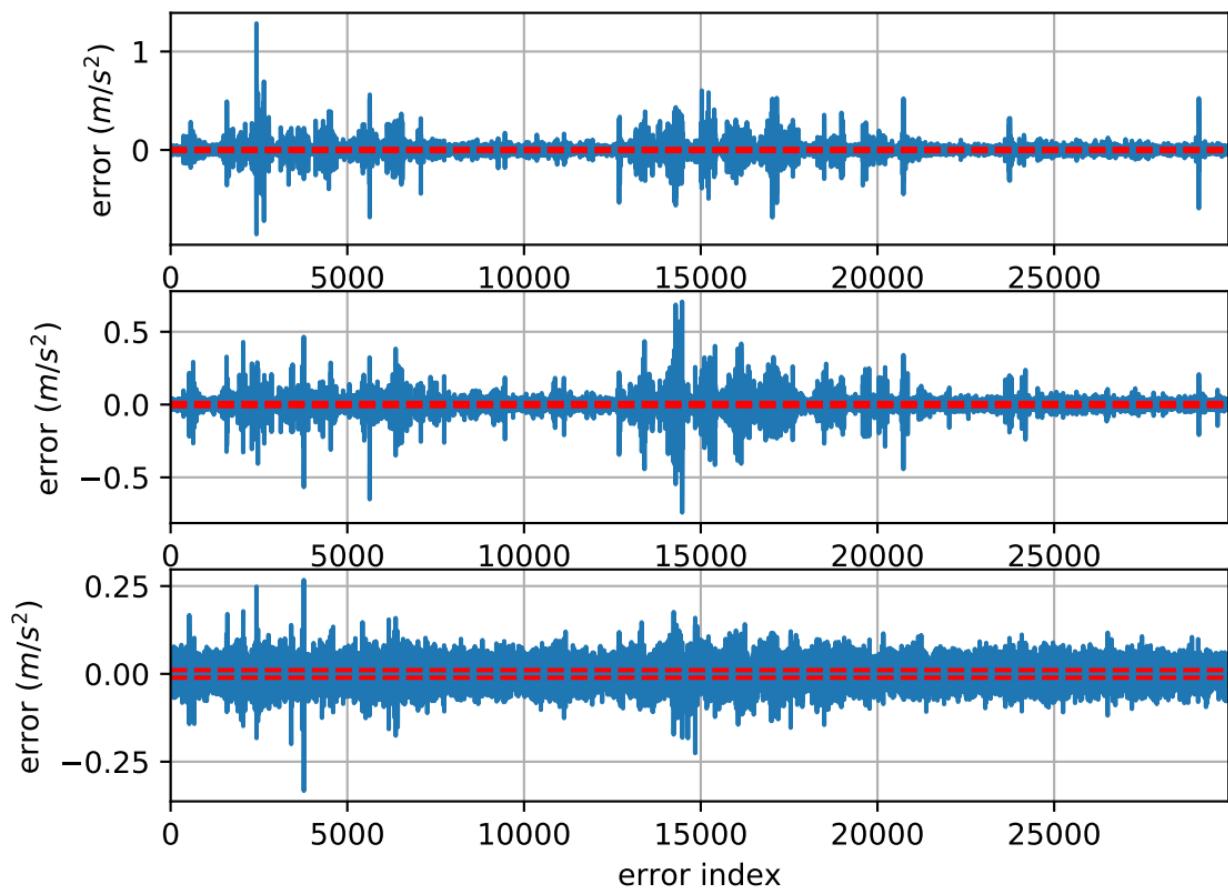
T_i_b
[[1. 0. 0. 0.]
[0. 1. 0. 0.]
[0. 0. 1. 0.]
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

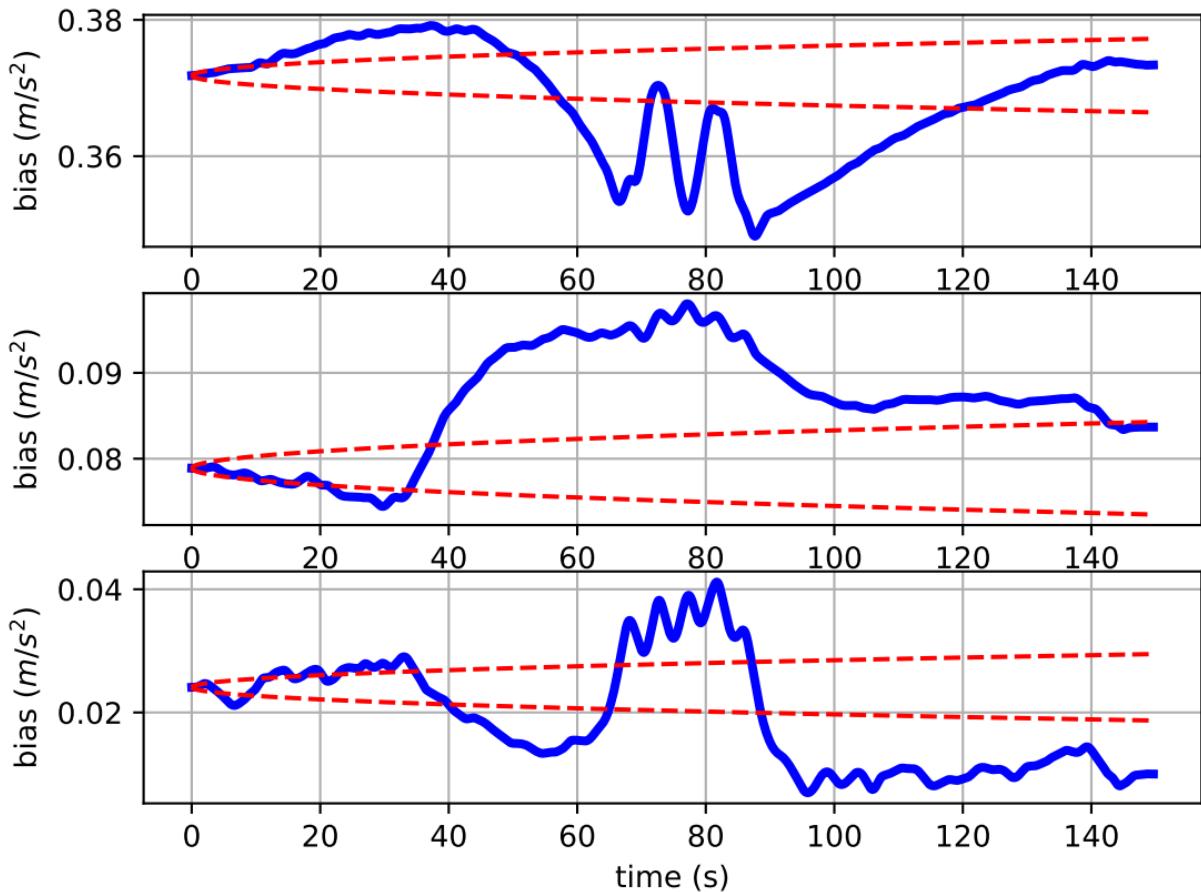
Comparison of predicted and measured specific force (imu0 frame)



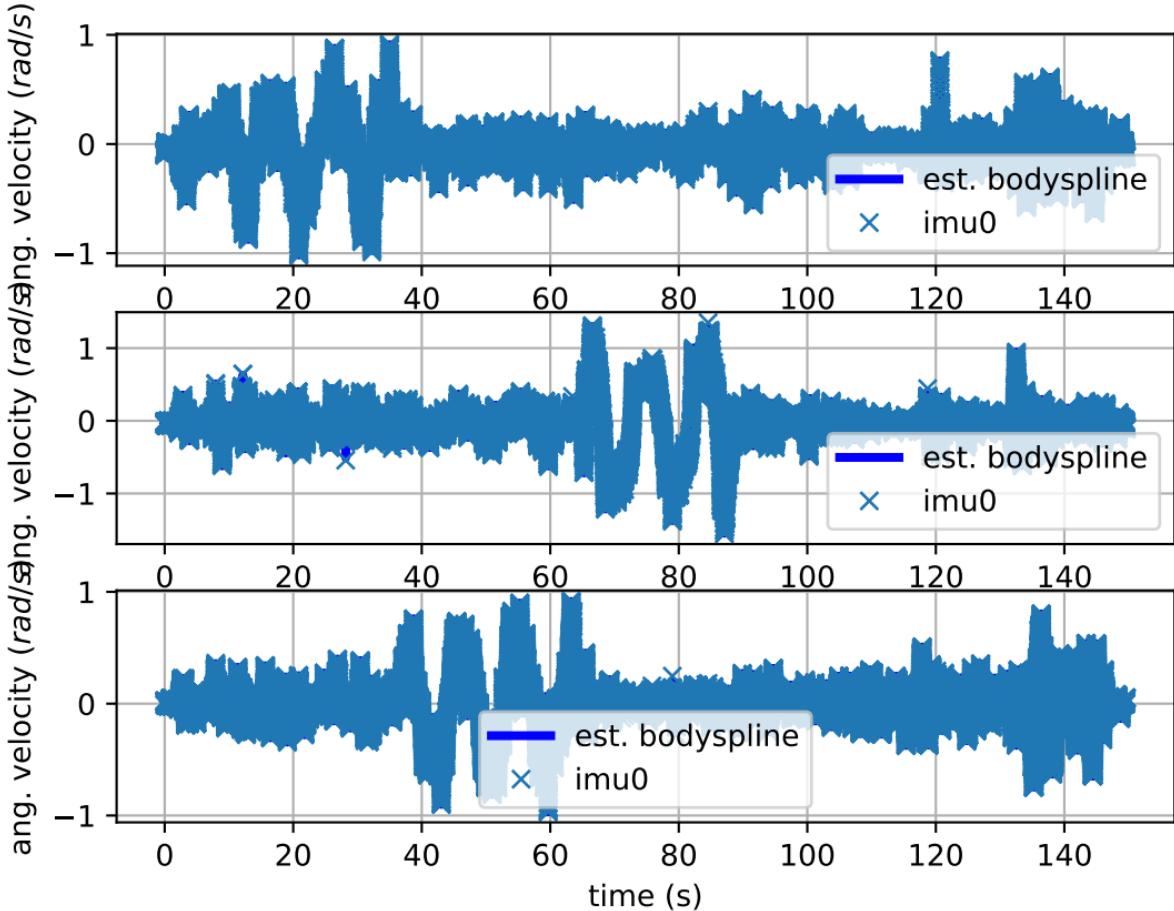
imu0: acceleration error



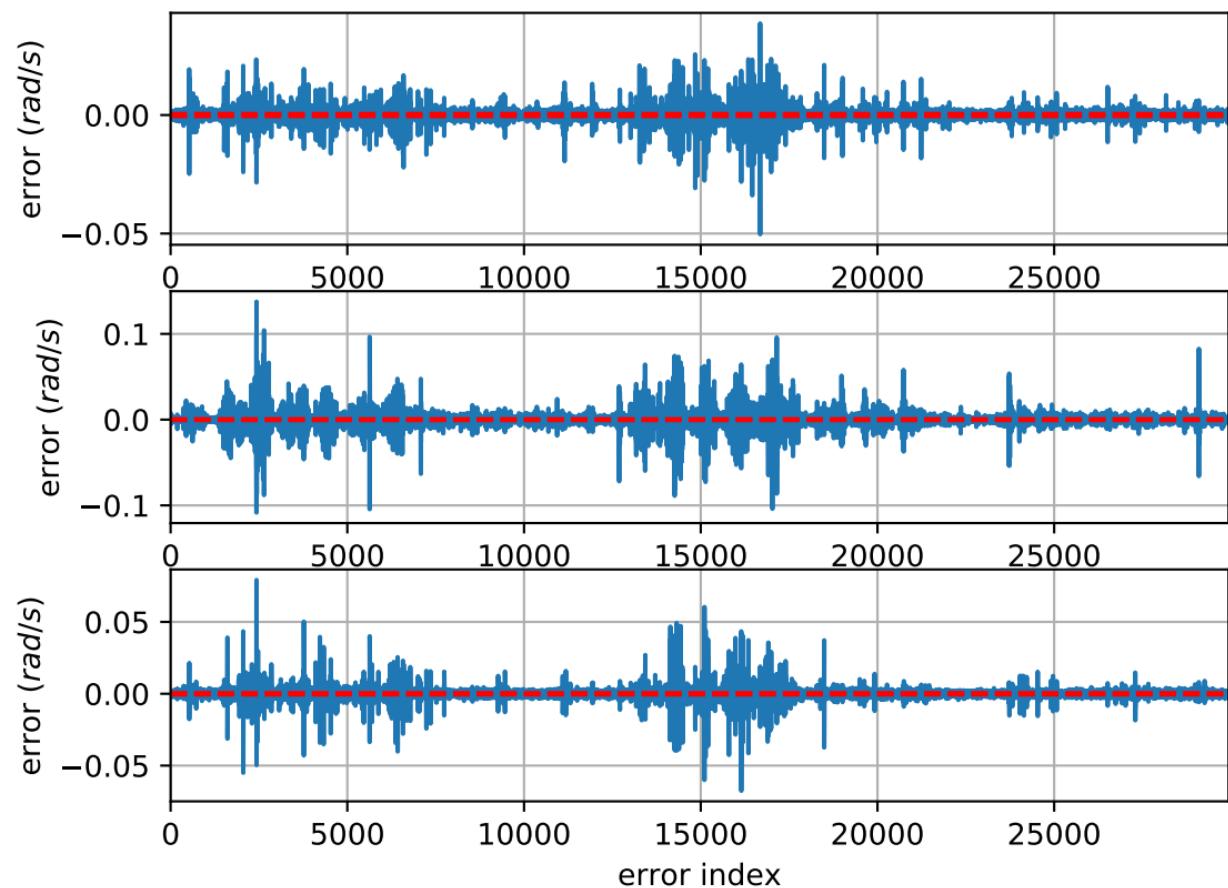
imu0: estimated accelerometer bias (imu frame)



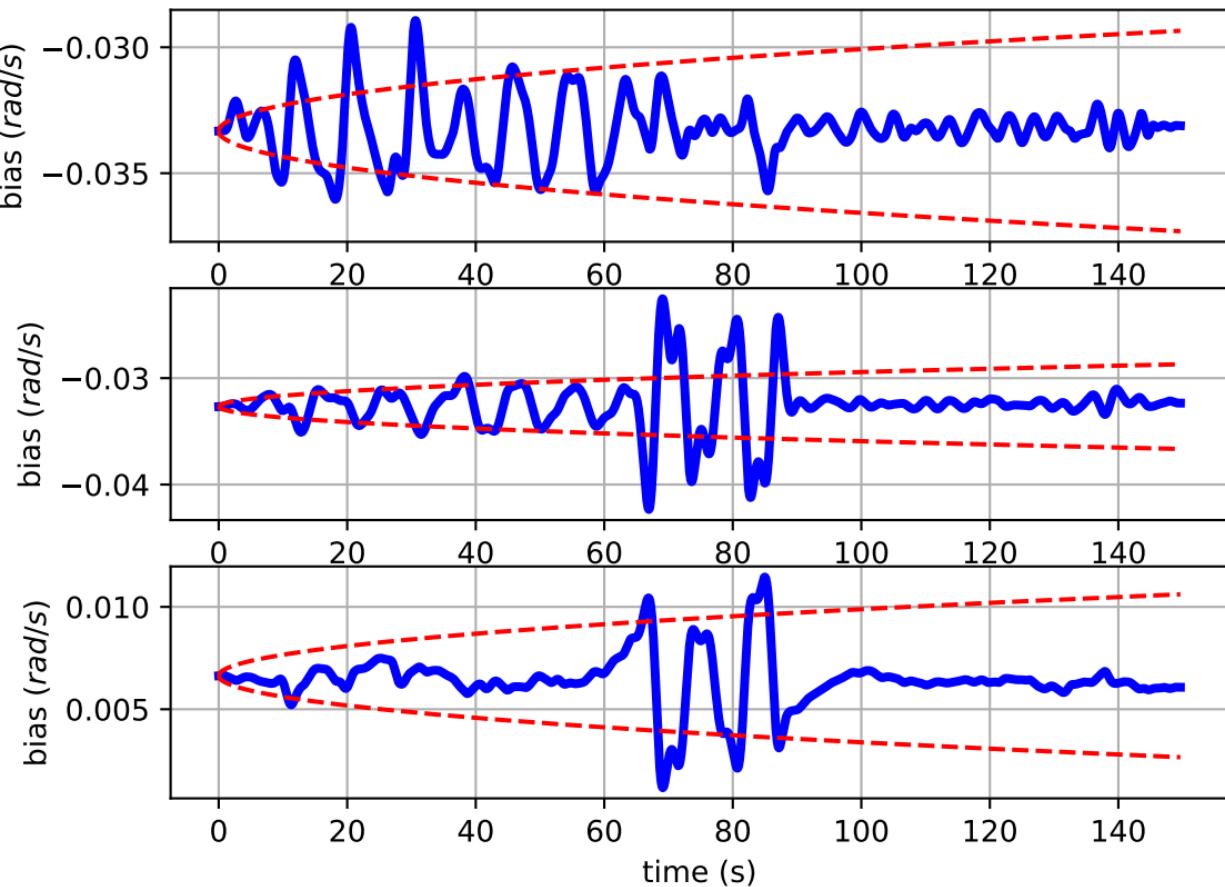
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

