

Calibration results

=====

Normalized Residuals

Reprojection error (cam0): mean 0.4352310722282379, median 0.39362804837612264, std: 0.25600847937710425
Gyroscope error (imu0): mean 0.21946713037725646, median 0.14868455818390697, std: 0.2046273107029712
Accelerometer error (imu0): mean 1.1020395825564564, median 0.7397461654663853, std: 1.038022423790252

Residuals

Reprojection error (cam0) [px]: mean 0.4352310722282379, median 0.39362804837612264, std: 0.25600847937710425
Gyroscope error (imu0) [rad/s]: mean 5.047743998676899e-05, median 3.41974483822986e-05, std: 4.706428146168336e-05
Accelerometer error (imu0) [m/s^2]: mean 0.011020395825564565, median 0.007397461654663852, std: 0.01038022423790252

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.00351994 -0.00002138 -0.9999938 0.11999466]
 [-0.99914598 0.04116969 0.00351608 0.06679601]
 [ 0.04116936 0.99915217 -0.00016627 0.03259523]
 [ 0.          0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[-0.00351994 -0.99914598 0.04116936 0.06581941]
 [-0.00002138 0.04116969 0.99915217 -0.035315 ]
 [-0.9999938 0.00351608 -0.00016627 0.11976448]
 [ 0.          0.          0.          1.          ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.0072446105843431375

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

[-0.2186237 -9.48139033 -2.49476731]

Calibration configuration

=====

cam0

Camera model: pinhole

Focal length: [1589.4525236092466, 1569.6226583767548]

Principal point: [769.3731045582546, 476.53124250298214]

Distortion model: radtan

Distortion coefficients: [-0.1796161469730297, 0.06234031597330985, 0.010815332916716283,
0.001231958107871975]

Type: aprilgrid

Tags:

Rows: 6

Cols: 6

Size: 0.044 [m]

Spacing 0.013199999999999998 [m]

IMU configuration

=====

IMU0:

Model: calibrated

Update rate: 100.0

Accelerometer:

Noise density: 0.001

Noise density (discrete): 0.01

Random walk: 6.67e-06

Gyroscope:

Noise density: 2.3e-05

Noise density (discrete): 0.00022999999999999998

Random walk: 1.5e-08

T_ib (imu0 to imu0)

[[1. 0. 0. 0.]

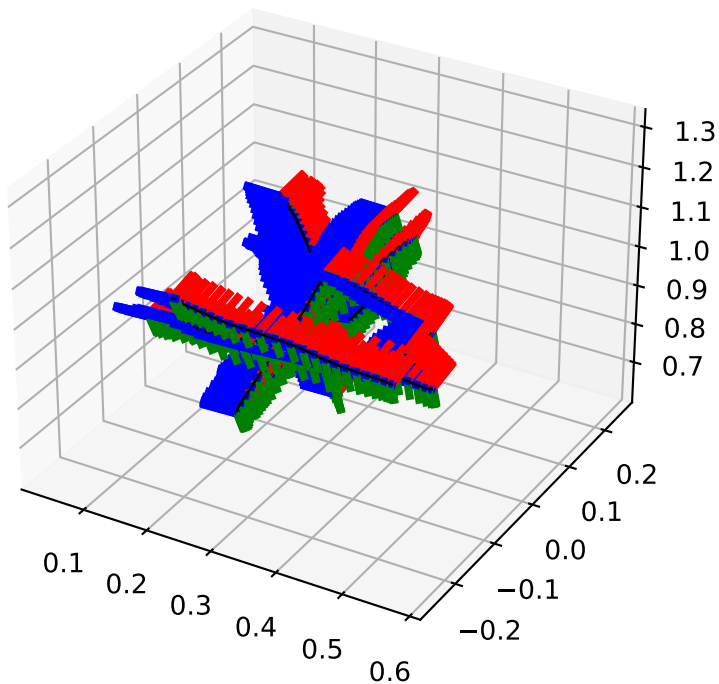
[0. 1. 0. 0.]

[0. 0. 1. 0.]

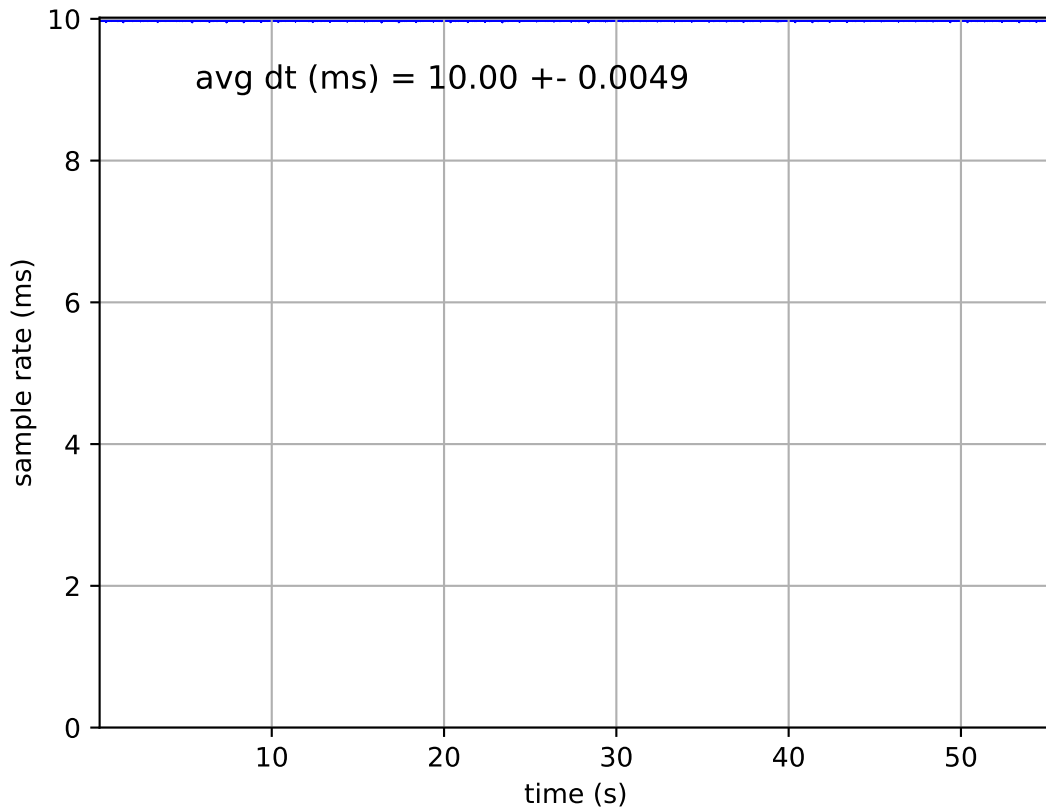
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

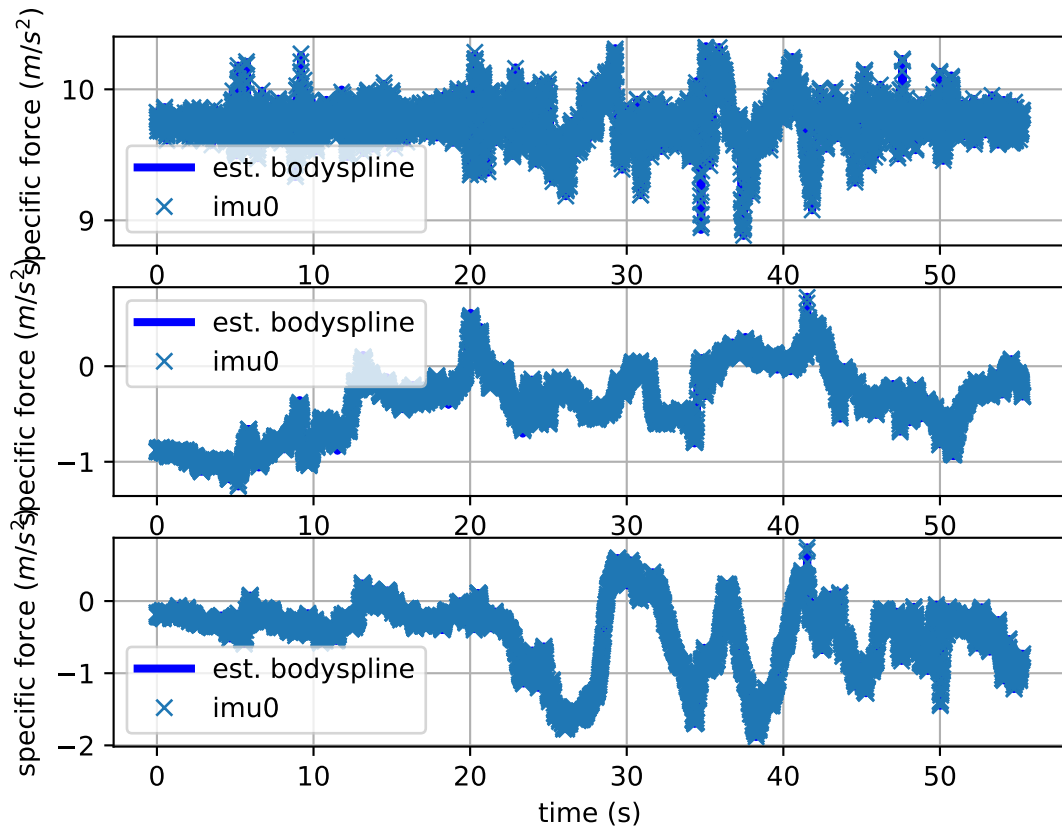
imu0: estimated poses



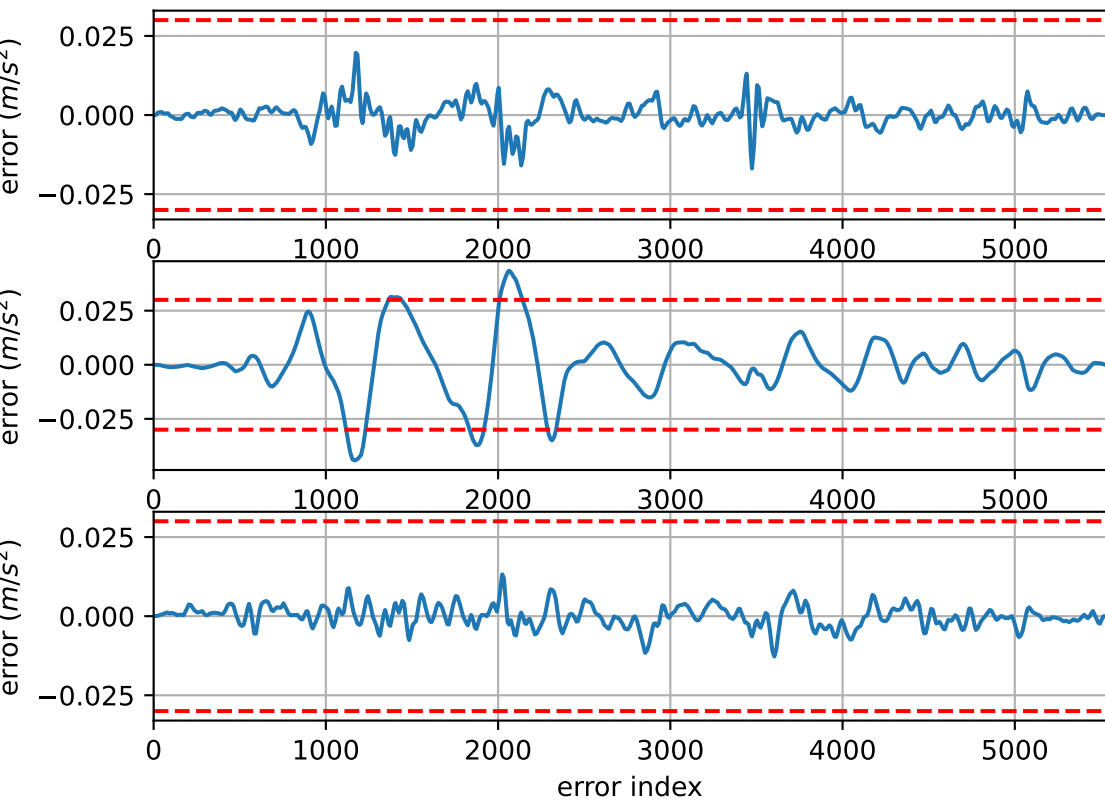
imu0: sample inertial rate



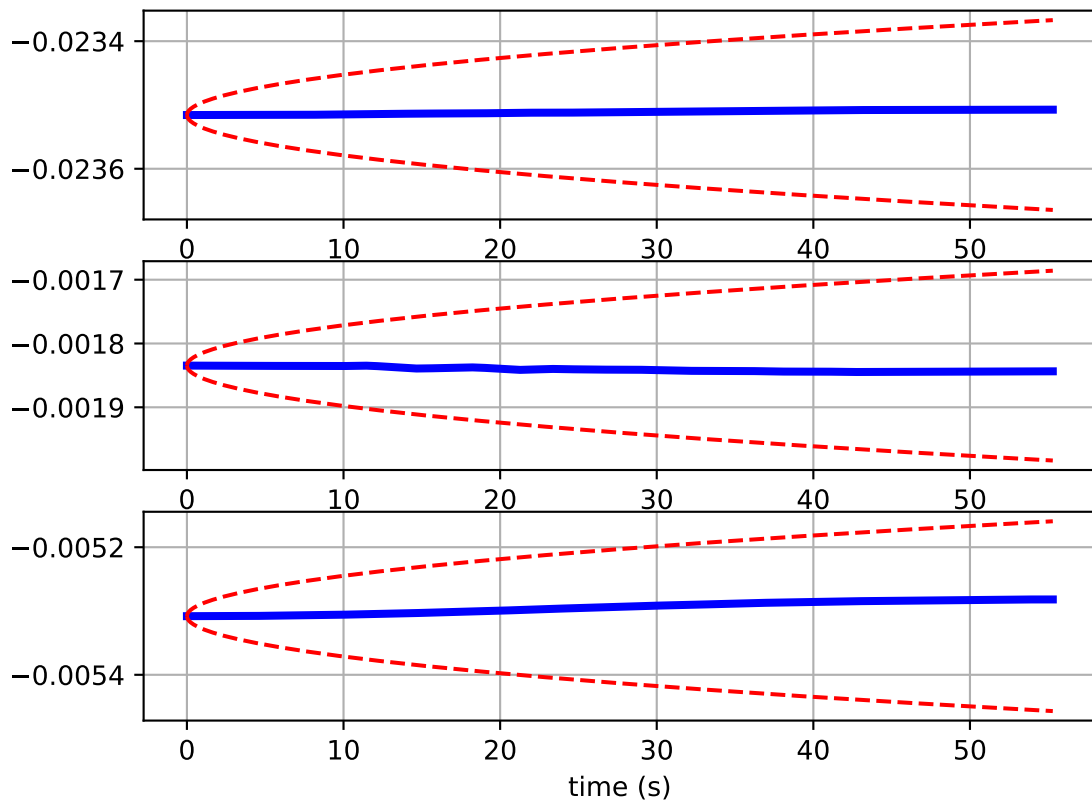
Comparison of predicted and measured specific force (imu0 frame)



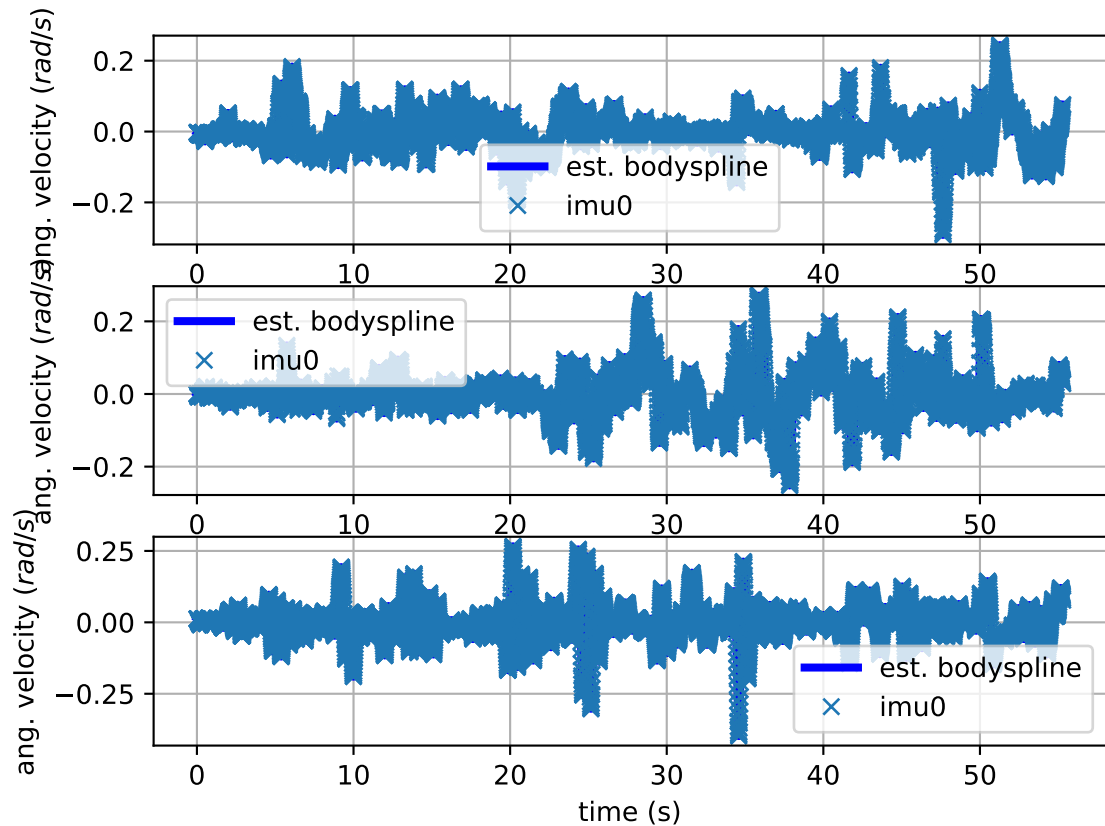
imu0: acceleration error



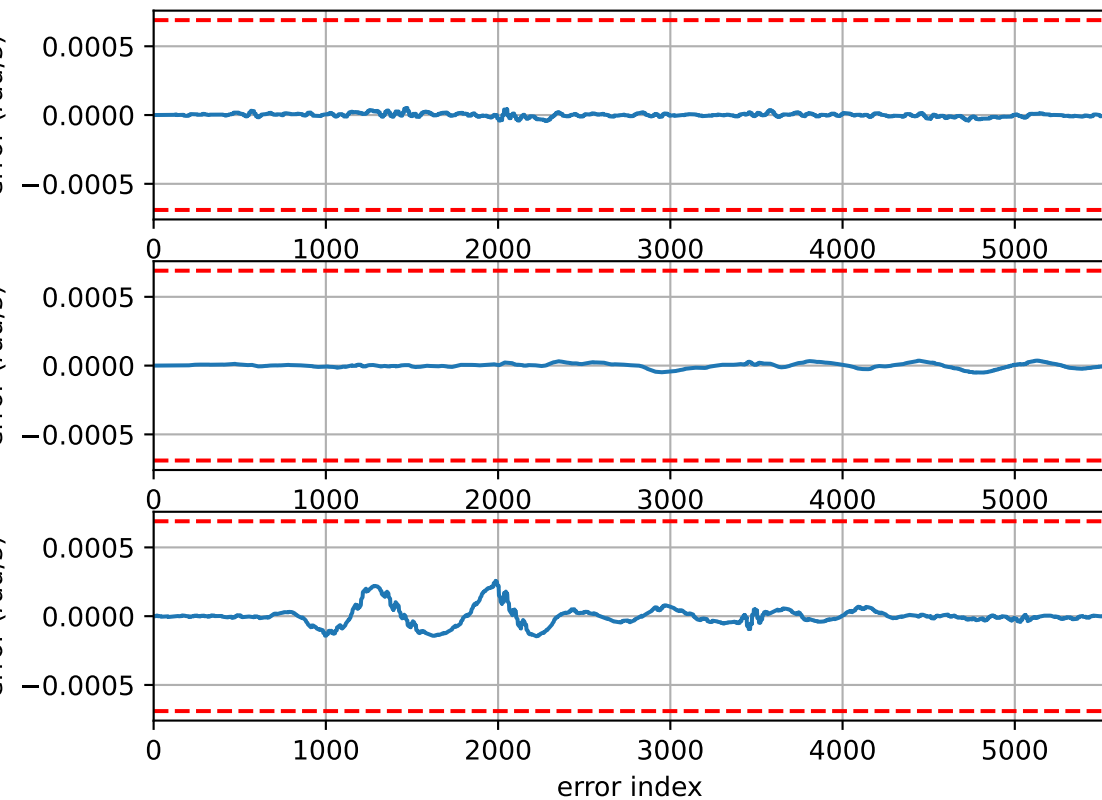
imu0: estimated accelerometer bias (imu frame)



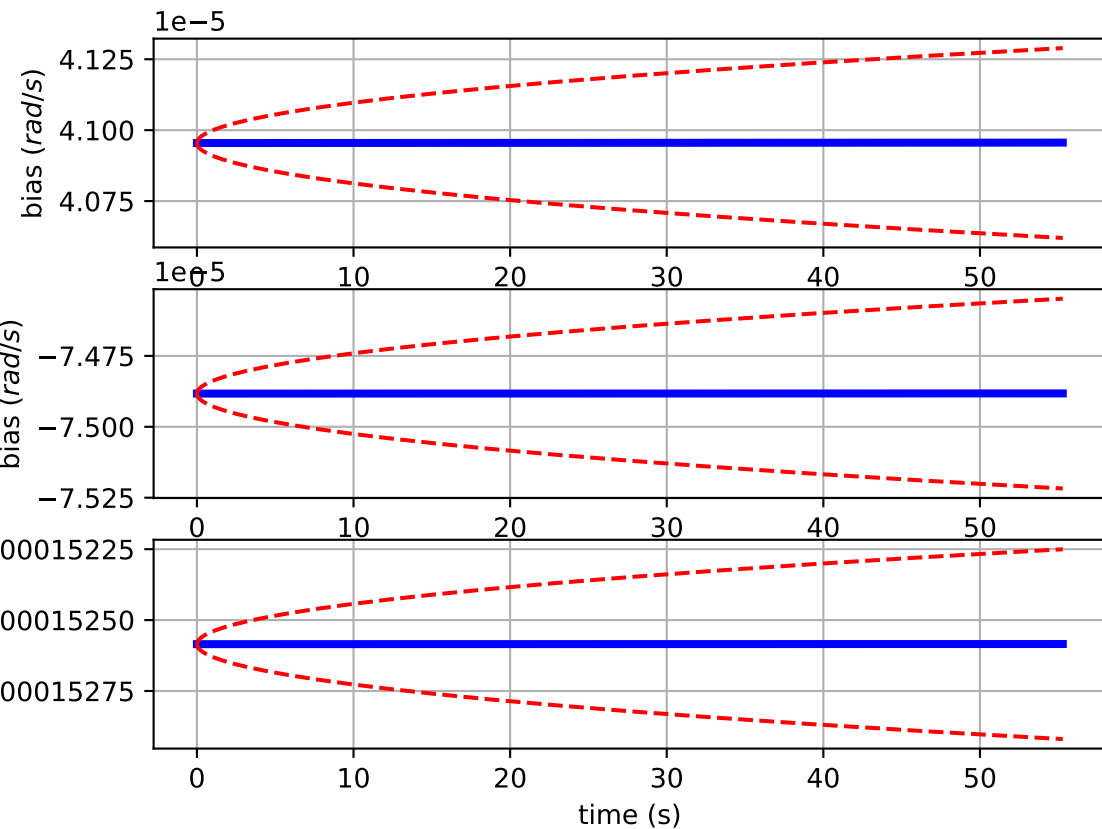
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

