

Calibration results

=====

Normalized Residuals

Reprojection error (cam0): mean 0.137256186331, median 0.126902830096, std: 0.0758390762403
Gyroscope error (imu0): mean 0.0111687229017, median 0.00910320624562, std: 0.0164541469162
Accelerometer error (imu0): mean 0.0173759810307, median 0.0154896671801, std: 0.00994568512846

Residuals

Reprojection error (cam0) [px]: mean 0.137256186331, median 0.126902830096, std: 0.0758390762403
Gyroscope error (imu0) [rad/s]: mean 0.0176593014623, median 0.0143934328732, std: 0.026016290605
Accelerometer error (imu0) [m/s²]: mean 0.054947676637, median 0.0489826284872, std: 0.0314510178

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.99999814  0.00191478  0.000219  0.00176626]
 [-0.00191461  0.99999787 -0.00077493 -0.0026482 ]
 [-0.00022048  0.00077451  0.99999968 -0.02775038]
 [ 0.          0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.99999814 -0.00191461 -0.00022048 -0.00177744]
 [ 0.00191478  0.99999787  0.00077451  0.00266631]
 [ 0.000219   -0.00077493  0.99999968  0.02774794]
 [ 0.          0.          0.          1.          ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.00573184848361

Gravity vector in target coords: [m/s²]
[-0.04263084 1.46524814 -9.69637321]

Calibration configuration

Camera model: pinhole

Focal length: [171.3189331749973, 171.16692506281044]

Principal point: [163.16606072570642, 134.5434626825864]

Distortion model: equidistant

Distortion coefficients: [-0.029972792860434635, 0.0006320907049280105, -0.0031606524316315924, 0.

Type: aprilgrid

Tags:

Rows: 4

Cols: 5

Size: 0.075 [m]

Spacing 0.015 [m]

IMU configuration

=====

IMU0:

Model: calibrated

Update rate: 1000.0

Accelerometer:

Noise density: 0.1

Noise density (discrete): 3.16227766017

Random walk: 0.002

Gyroscope:

Noise density: 0.05

Noise density (discrete): 1.58113883008

Random walk: 4e-05

T_i_b

[[1. 0. 0. 0.]

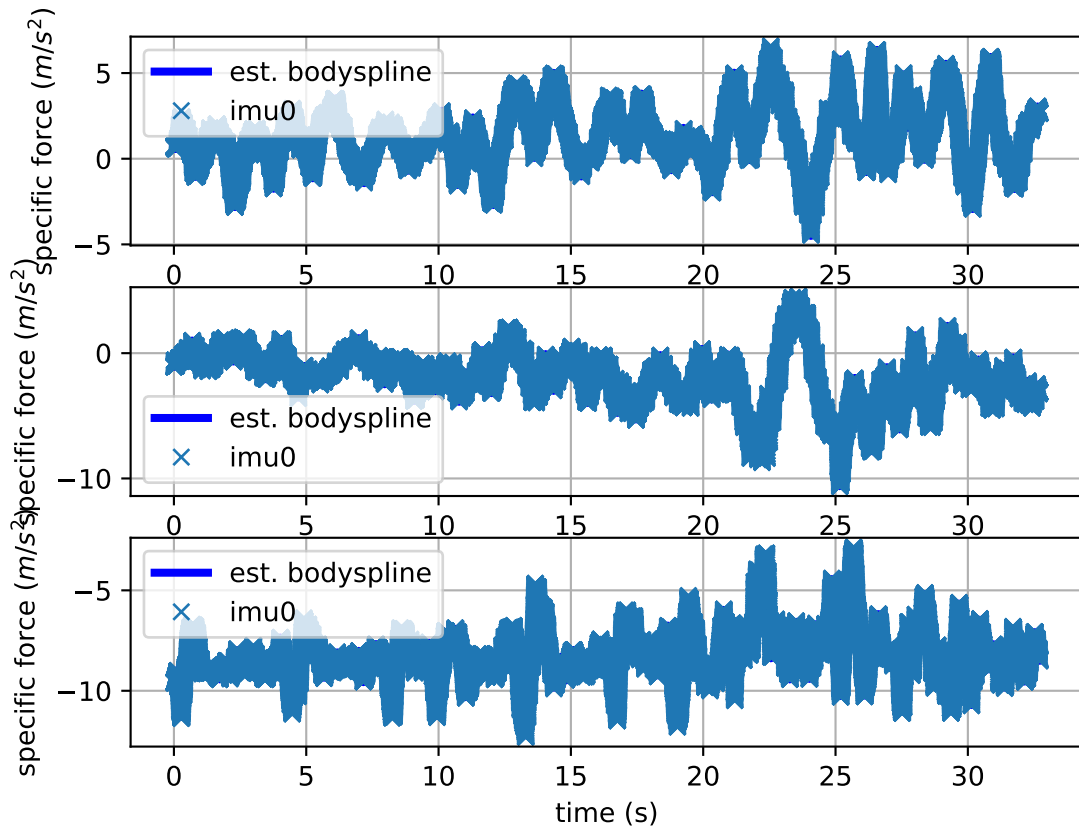
[0. 1. 0. 0.]

[0. 0. 1. 0.]

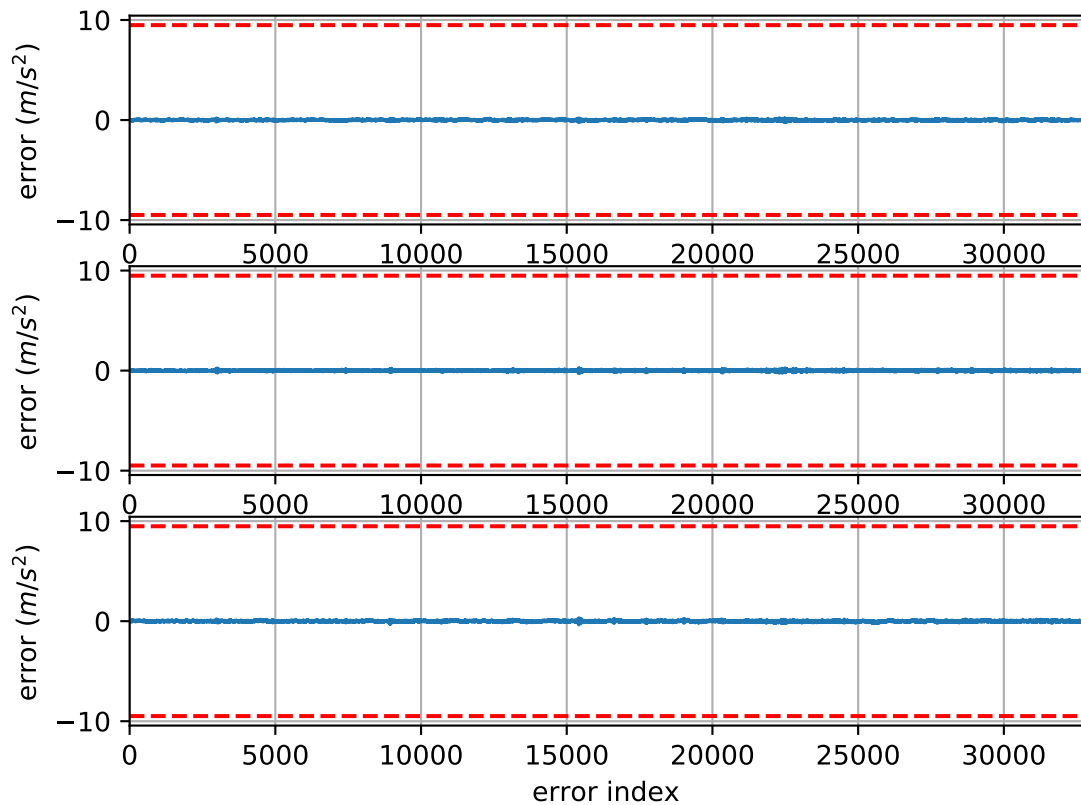
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

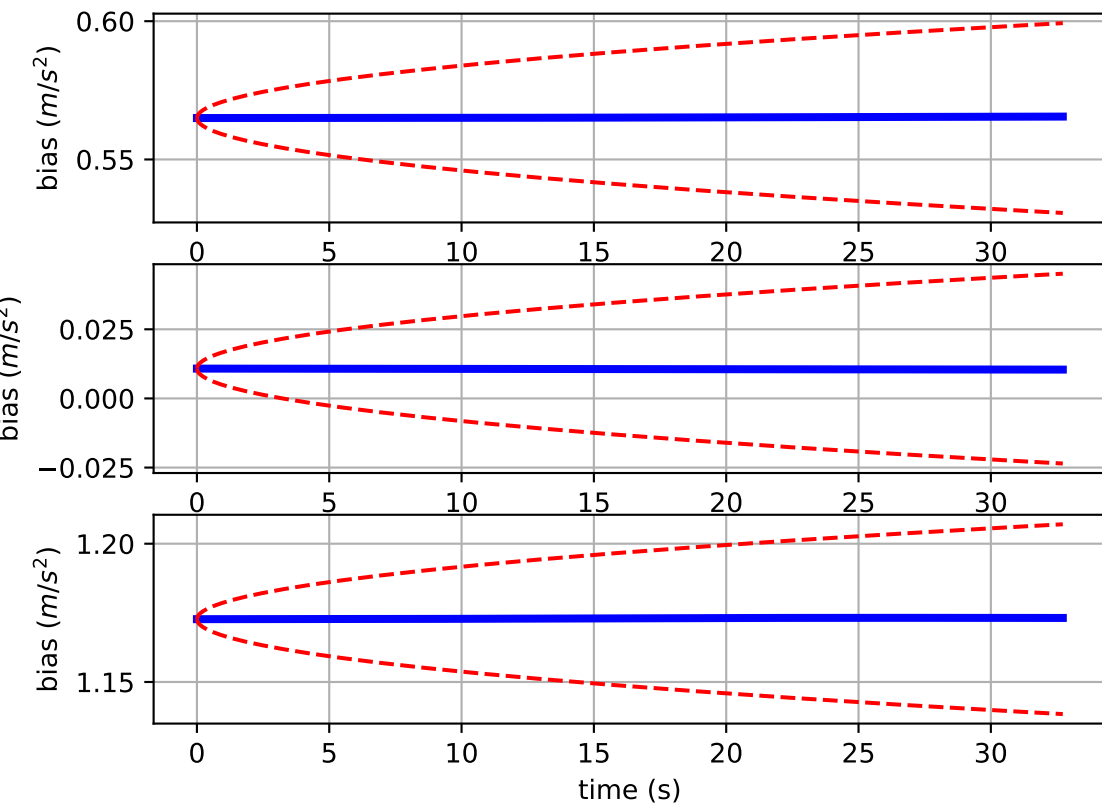
Comparison of predicted and measured specific force (imu0 frame)



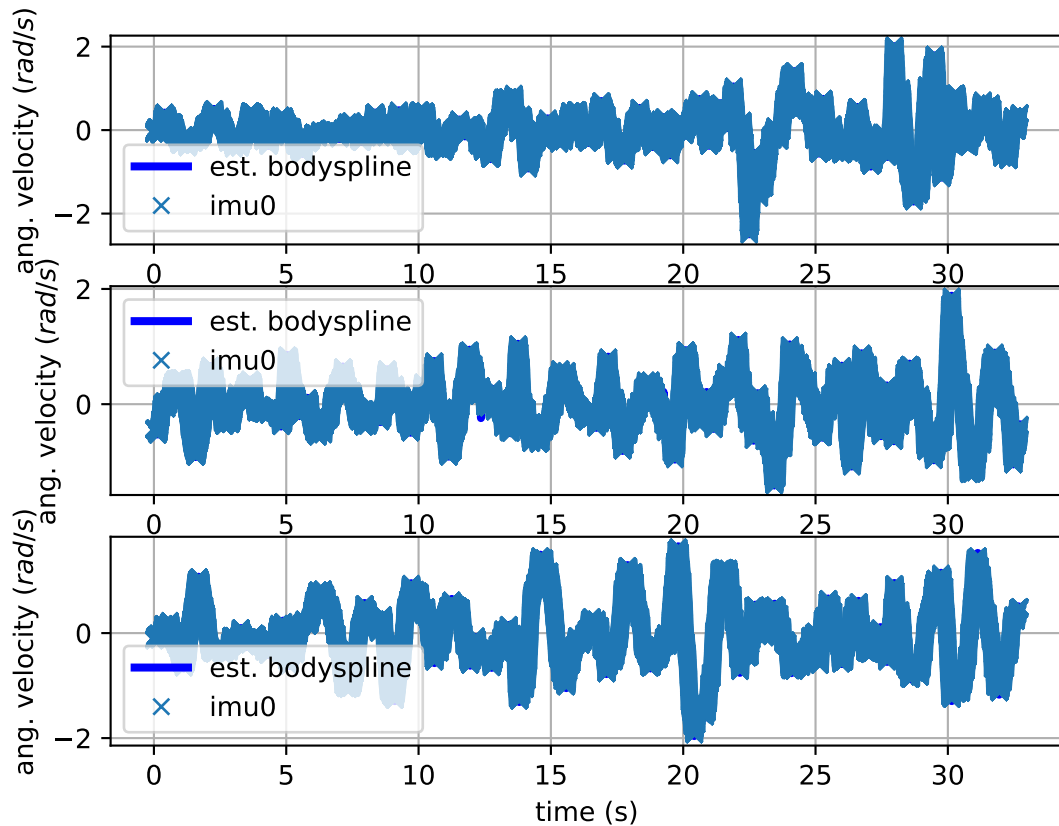
imu0: acceleration error



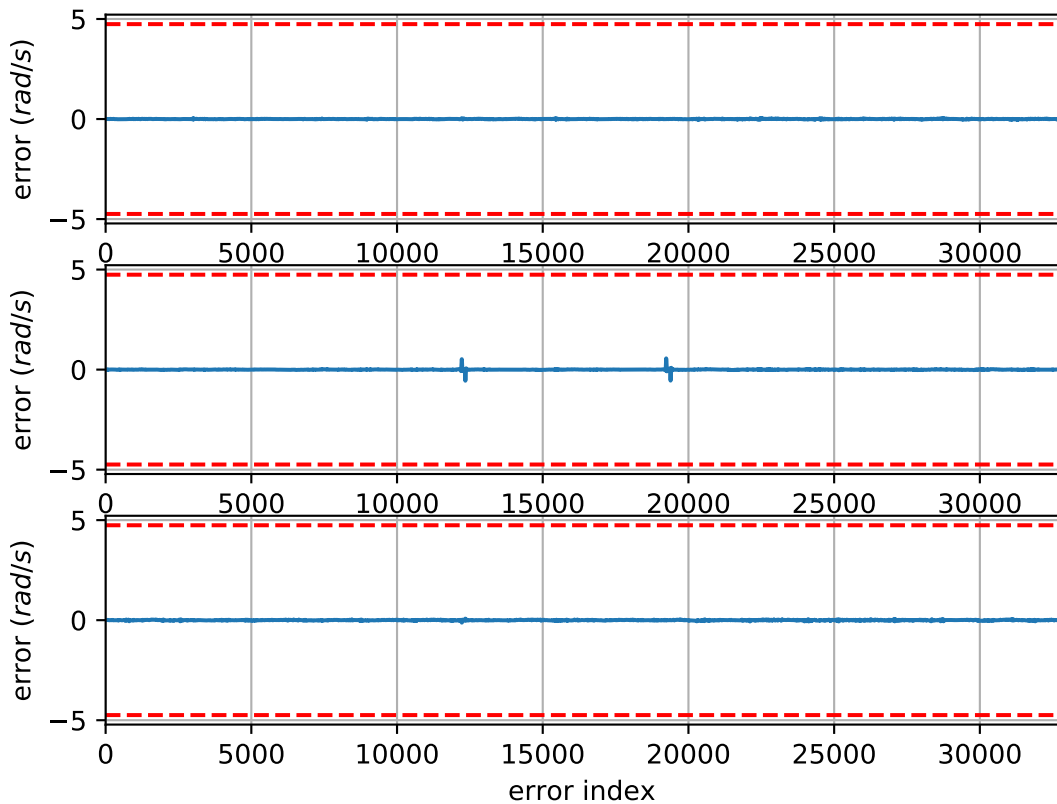
imu0: estimated accelerometer bias (imu frame)



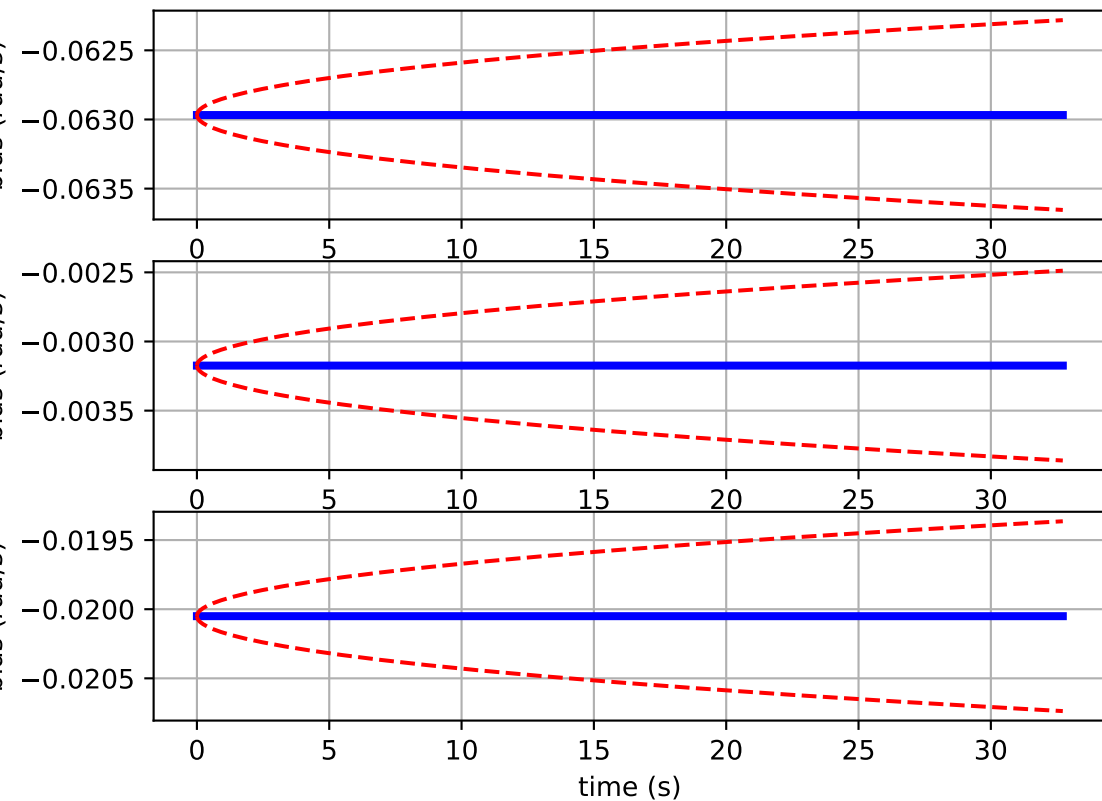
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

