

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 4.48718159315, median 3.53420212367, std: 3.60980942328
Gyroscope error (imu0): mean 2.03955401538, median 1.91782848555, std: 0.962610412044
Accelerometer error (imu0): mean 3.06686098718, median 2.63034104545, std: 1.90601725104

Residuals

Reprojection error (cam0) [px]: mean 4.48718159315, median 3.53420212367, std: 3.60980942328
Gyroscope error (imu0) [rad/s]: mean 0.000889923299752, median 0.000836810519039, std: 0.00042001
Accelerometer error (imu0) [m/s²]: mean 0.0306686063506, median 0.0263034074344, std: 0.019060170

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.01453636  0.99904543  0.04119367  0.0792154 ]  
 [ 0.99972062 -0.01375358 -0.0192227 -0.25223496]  
 [-0.01863779  0.04146159 -0.99896625 -0.17686628]  
 [ 0.         0.         0.         1.        ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.01453636  0.99972062 -0.01863779  0.24771659]  
 [ 0.99904543 -0.01375358  0.04146159 -0.07527576]  
 [ 0.04119367 -0.0192227 -0.99896625 -0.18479526]  
 [ 0.         0.         0.         1.        ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.005866979812060195

Gravity vector in target coords: [m/s²]
[-0.14927334 -9.20284851 -3.38433445]

Calibration configuration

Camera model: pinhole
Focal length: [768.4095, 767.4821]
Principal point: [669.1224, 494.5446]
Distortion model: equidistant
Distortion coefficients: [-0.3342, 0.1273, -0.00013971, -4.3644e-06]
Type: aprilgrid
Tags:
 Rows: 6
 Cols: 6
 Size: 0.055 [m]
 Spacing 0.0165 [m]

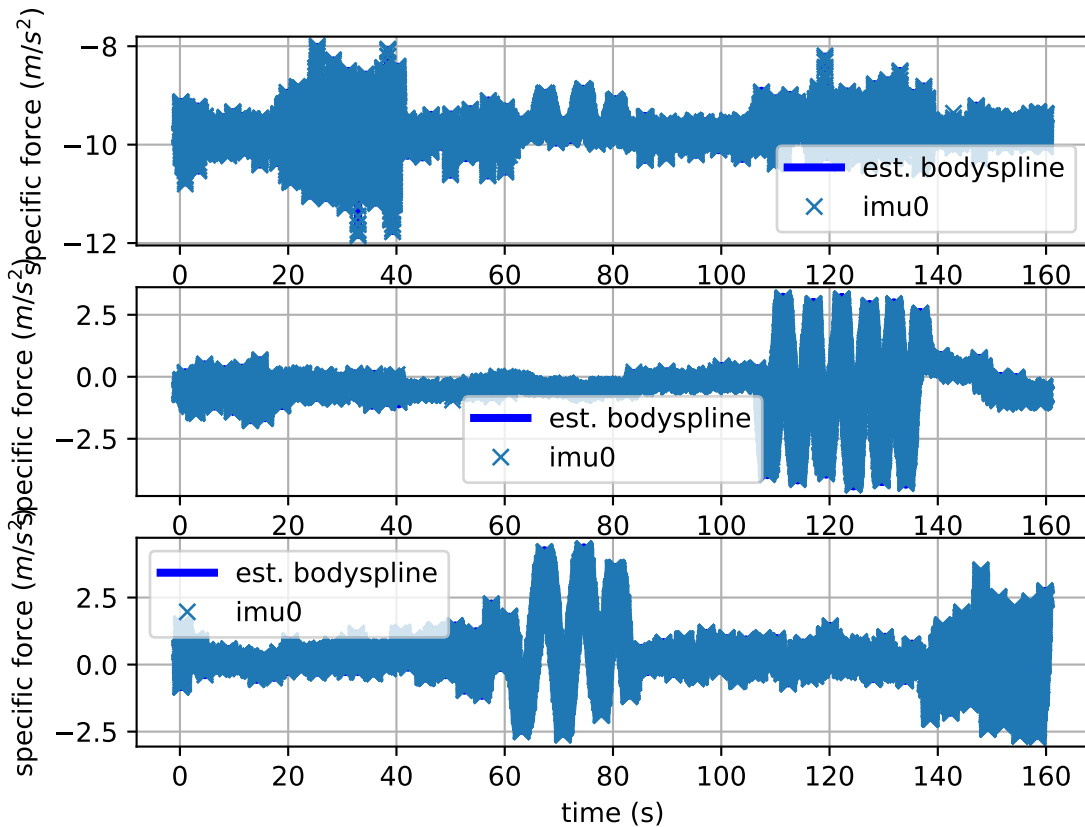
IMU configuration

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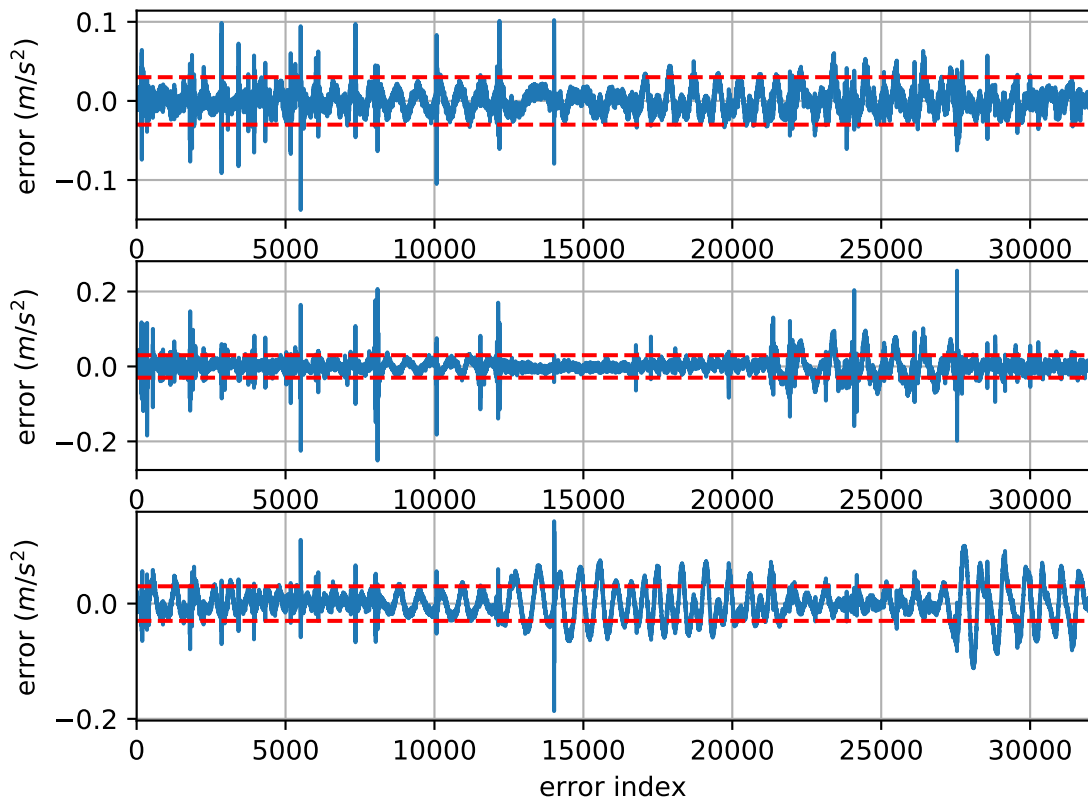
IMU0:

Model: calibrated
Update rate: 200.0
Accelerometer:
 Noise density: 0.0007071067
 Noise density (discrete): 0.00999999885185
 Random walk: 9e-05
Gyroscope:
 Noise density: 3.0853353e-05
 Noise density (discrete): 0.000436332302573
 Random walk: 1.02695871319e-07
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]

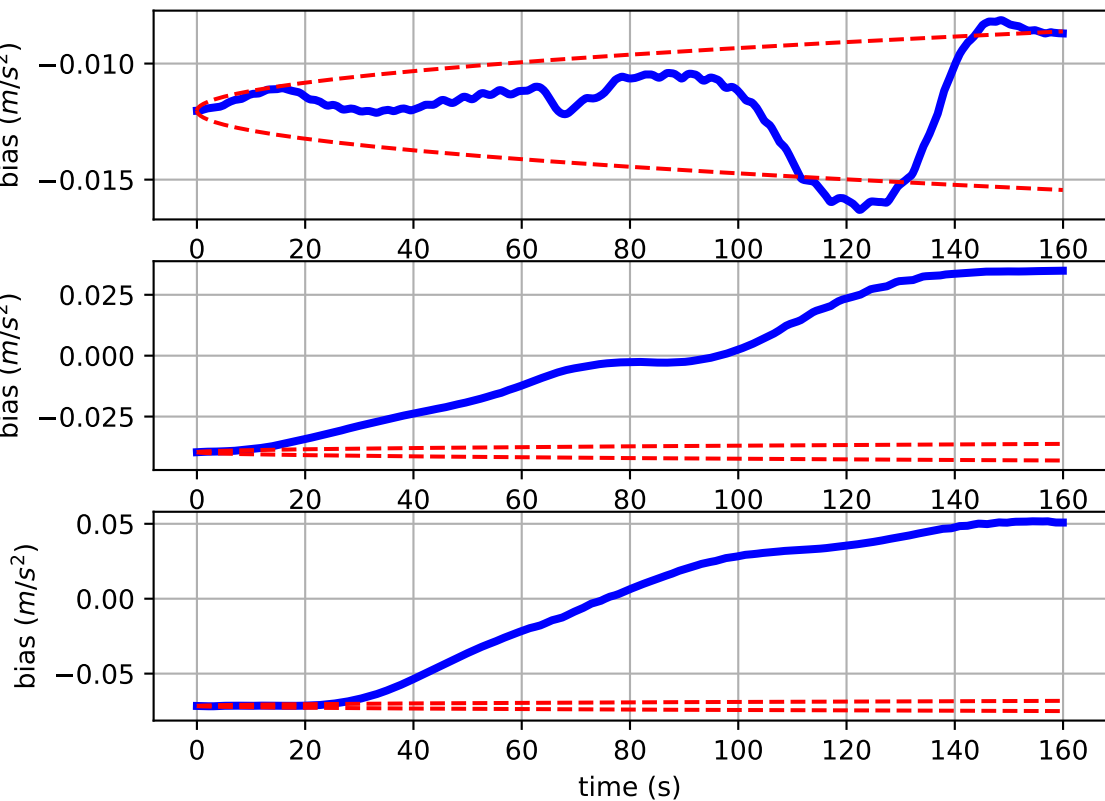
Comparison of predicted and measured specific force (imu0 frame)



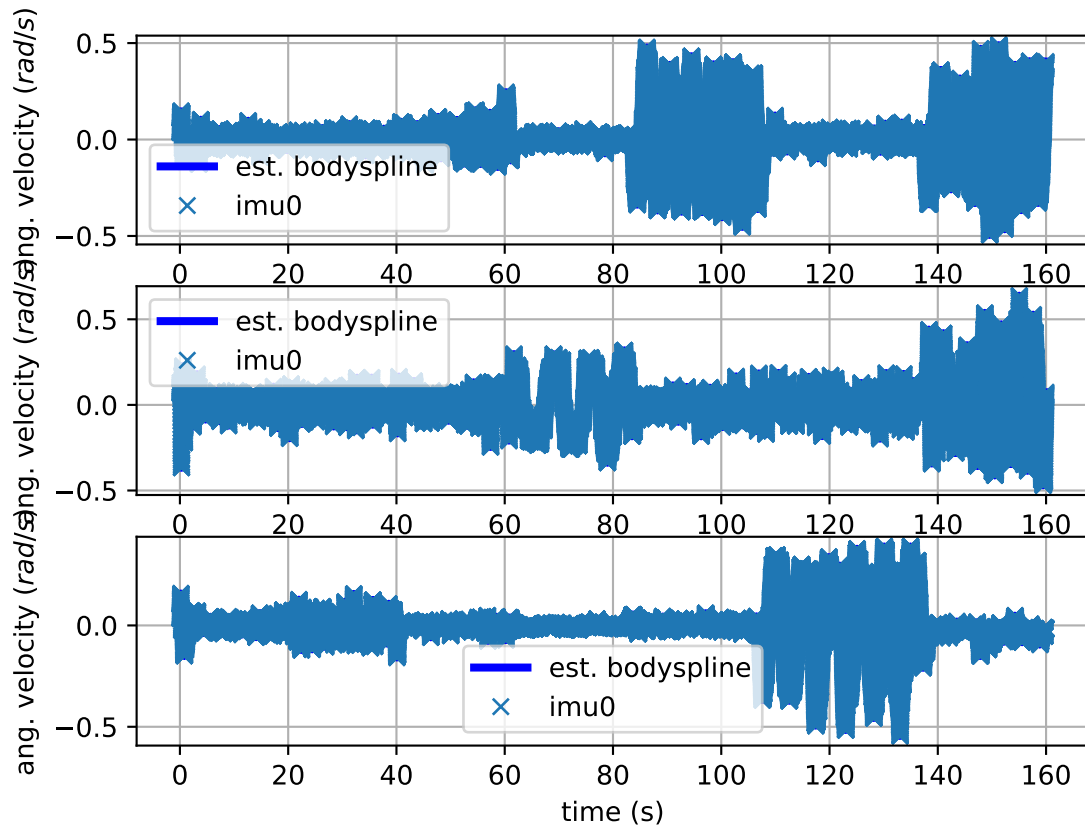
imu0: acceleration error



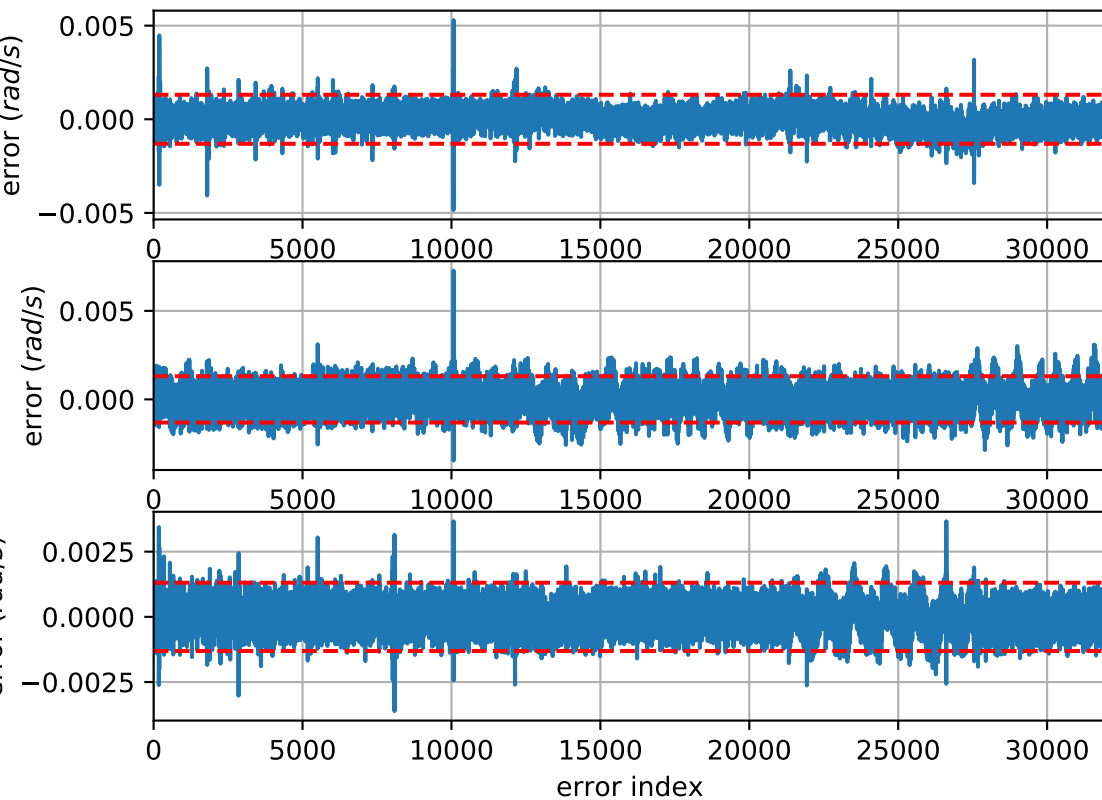
imu0: estimated accelerometer bias (imu frame)



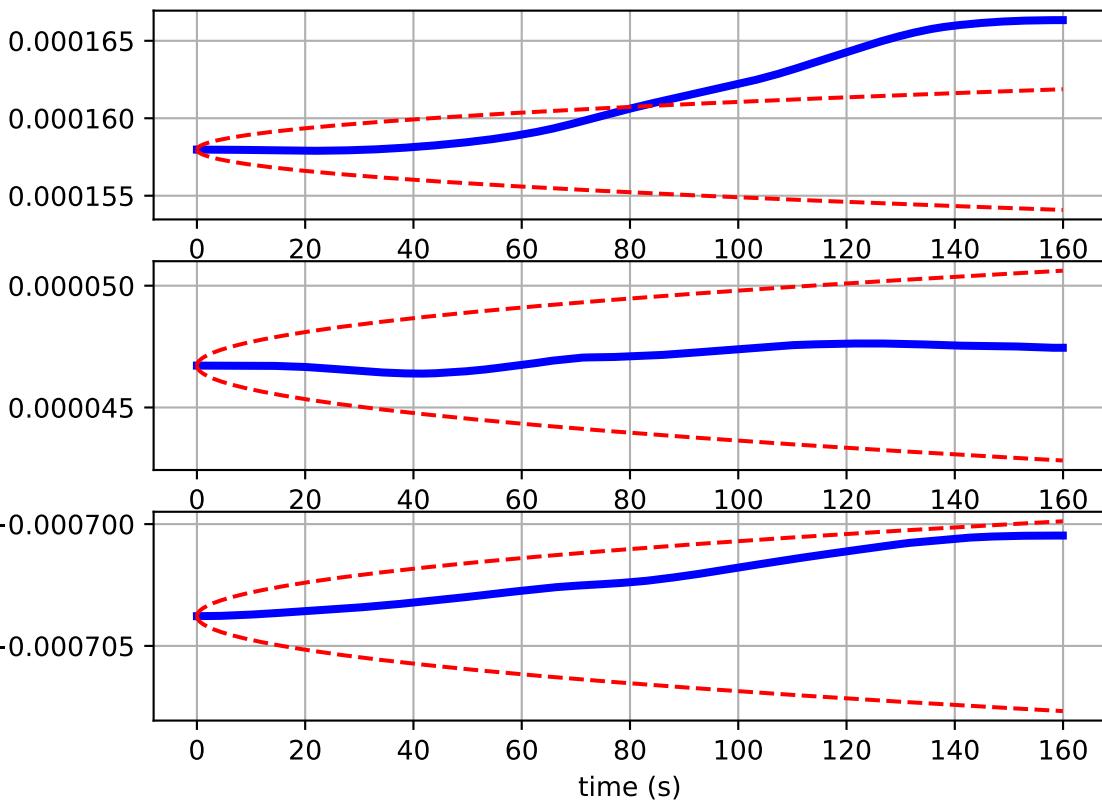
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

