

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.0393727158145, median 0.0358870931785, std: 0.0222868835427

Gyroscope error (imu0): mean 0.058292371172, median 0.0367326765225, std: 0.0874572800518

Accelerometer error (imu0): mean 0.713023655561, median 0.215389393084, std: 1.72107183497

Residuals

Reprojection error (cam0) [px]: mean 0.0393727158145, median 0.0358870931785, std: 0.0222868835427

Gyroscope error (imu0) [rad/s]: mean 0.00412189309472, median 0.00259739246602, std: 0.0061841635

Accelerometer error (imu0) [m/s²]: mean 0.100836772399, median 0.0304606600891, std: 0.2433963130

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.9999711  0.00543453  0.00531711 -0.03976059]
 [-0.00539558  0.9999587 -0.00731358 -0.00006141]
 [-0.00535664  0.00728468  0.99995912  0.0007653 ]
 [ 0.          0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.9999711 -0.00539558 -0.00535664  0.03976321]
 [ 0.00543453  0.9999587  0.00728468  0.00027191]
 [ 0.00531711 -0.00731358  0.99995912 -0.0005543 ]
 [ 0.          0.          0.          1.          ]]
```

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

0.0011477960645347185

Gravity vector in target coords: [m/s²]

[9.80591868 -0.09774038 0.05318371]

Calibration configuration

Camera model: pinhole

Focal length: [469.2305248779219, 469.277613993305]

Principal point: [364.8969722428159, 215.0564195894714]

Distortion model: equidistant

Distortion coefficients: [0.017082889217014646, -0.11632879437546424, 0.4211489773748253, -0.53904

Type: checkerboard

Rows

Count: 7

Distance: 0.07 [m]

Cols

Count: 6

Distance: 0.07 [m]

IMU configuration

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IMU0:

Model: calibrated

Update rate: 200.0

Accelerometer:

Noise density: 0.01

Noise density (discrete): 0.141421356237

Random walk: 0.0002

Gyroscope:

Noise density: 0.005

Noise density (discrete): 0.0707106781187

Random walk: 4e-06

T_i b

[[1. 0. 0. 0.]

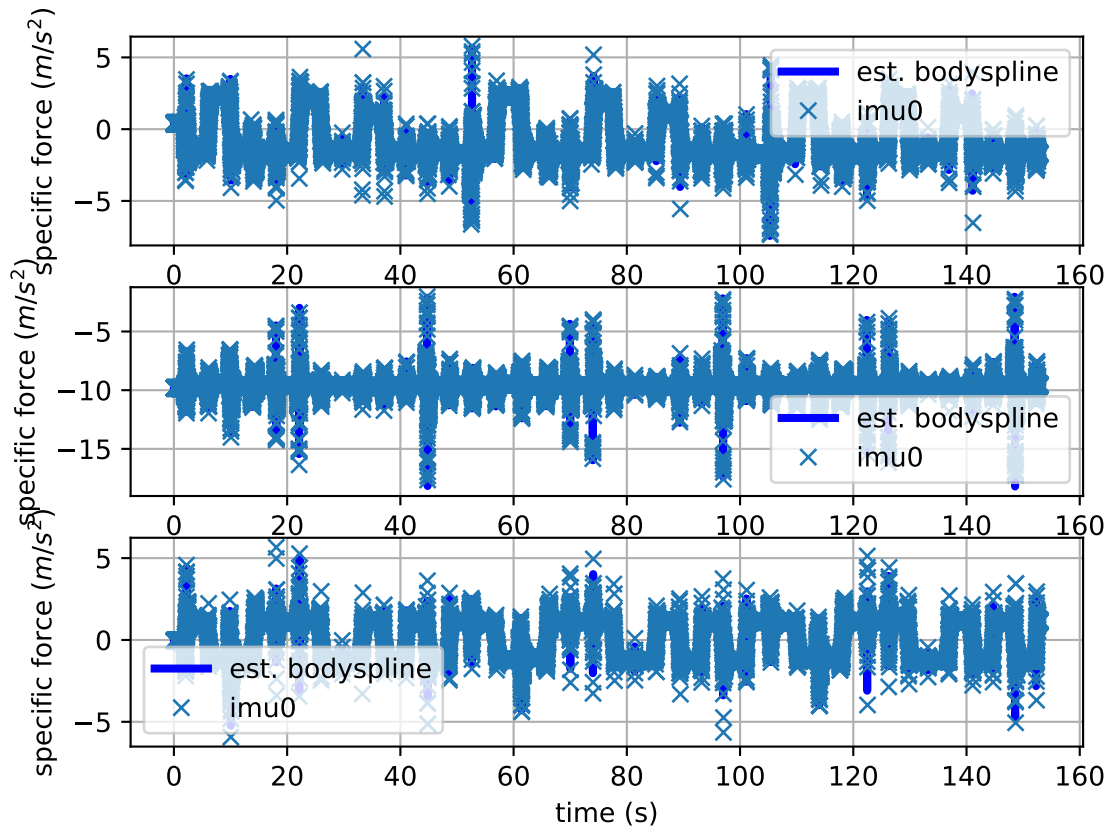
[0. 1. 0. 0.]

[0. 0. 1. 0.]

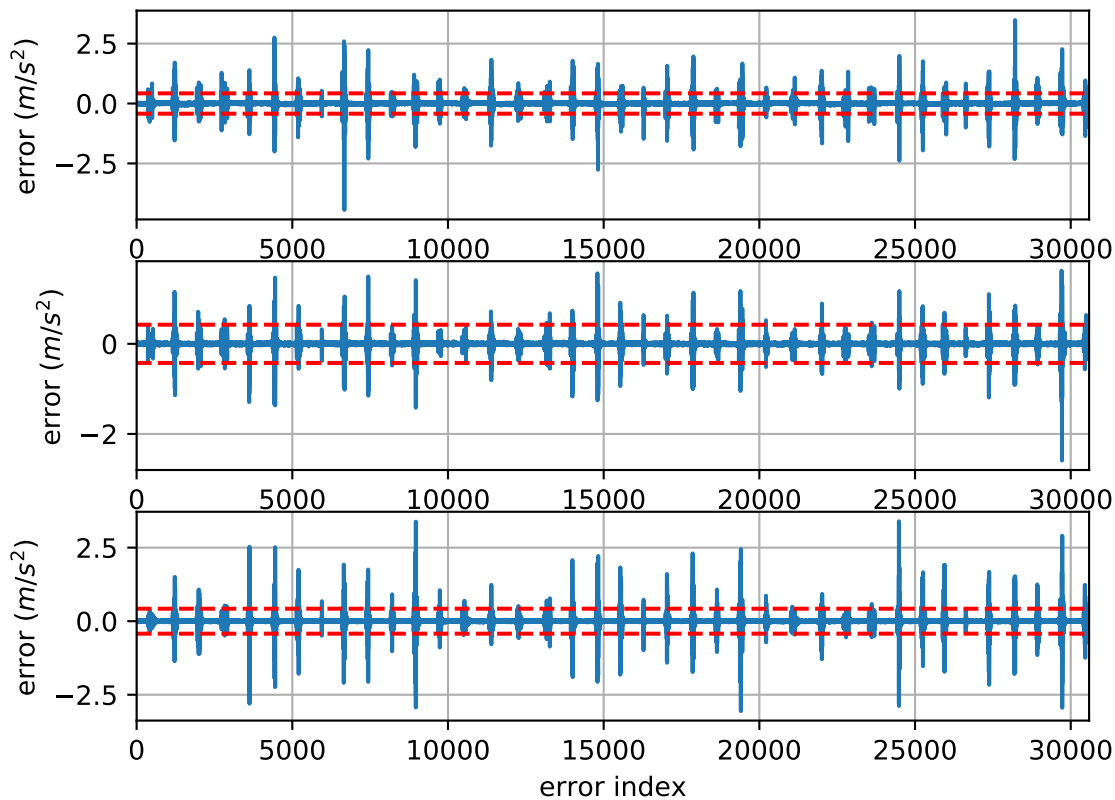
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

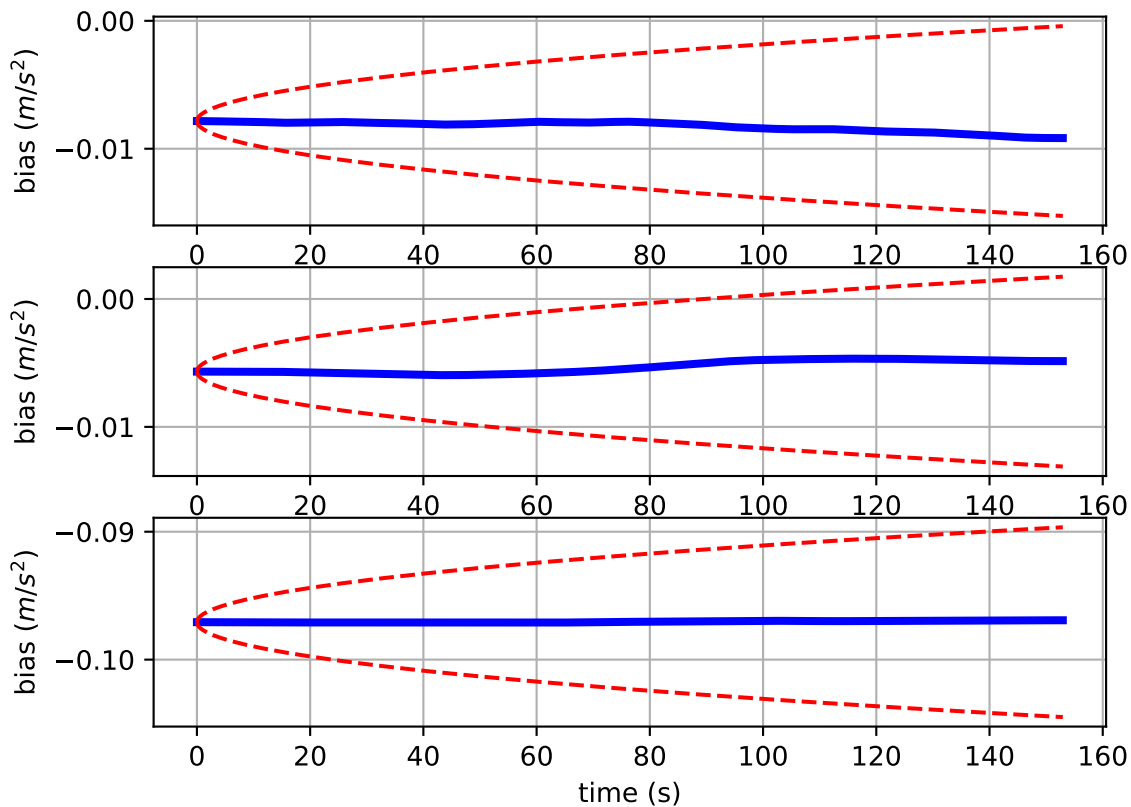
Comparison of predicted and measured specific force (imu0 frame)



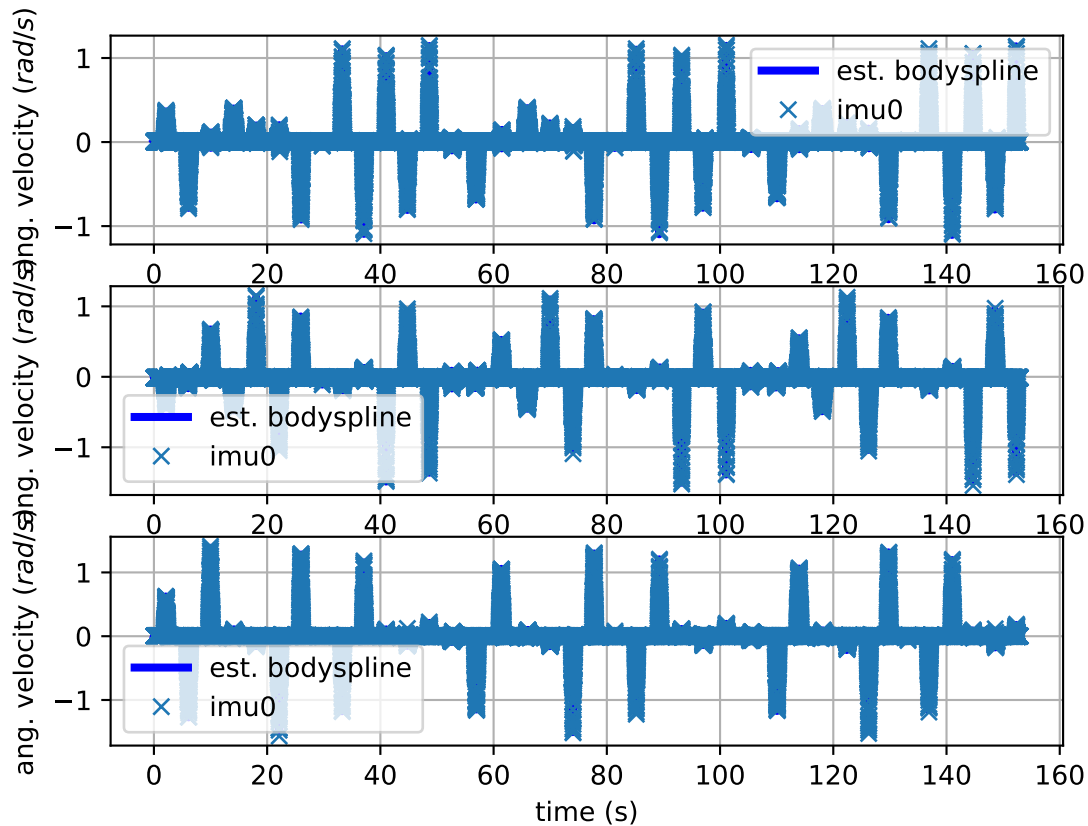
imu0: acceleration error



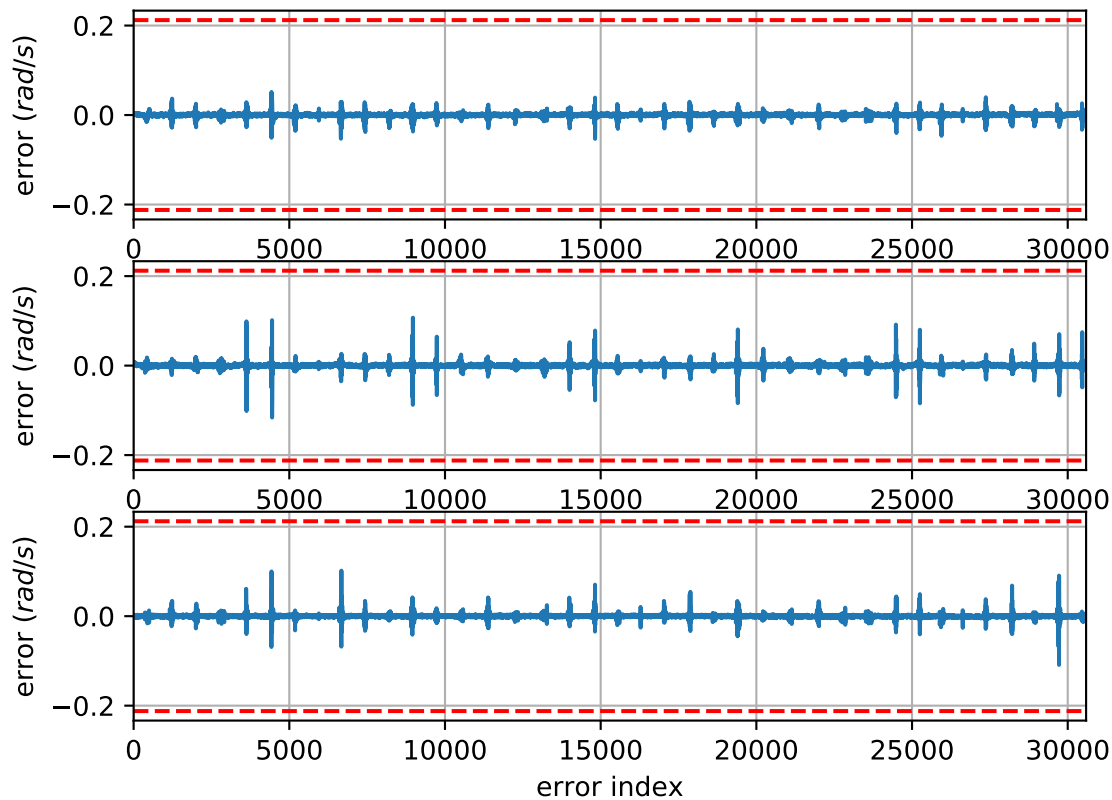
imu0: estimated accelerometer bias (imu frame)



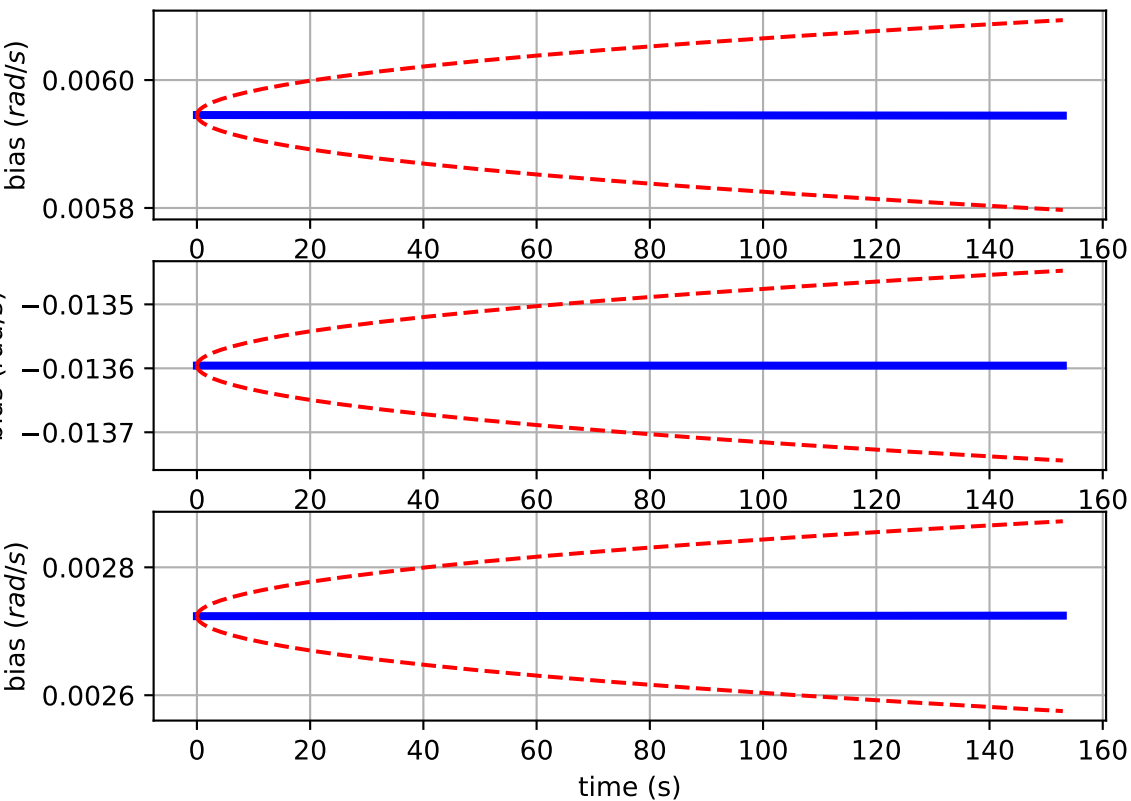
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

