

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.100308339757, median 0.0938802067645, std: 0.0522681486779
Gyroscope error (imu0): mean 1.2979734187, median 1.22020279036, std: 0.594077086962
Accelerometer error (imu0): mean 26.5126216224, median 26.2355418614, std: 1.58444638481

Residuals

Reprojection error (cam0) [px]: mean 0.100308339757, median 0.0938802067645, std: 0.0522681486779
Gyroscope error (imu0) [rad/s]: mean 0.000421190545902, median 0.000395954086561, std: 0.00019277
Accelerometer error (imu0) [m/s²]: mean 0.887282028403, median 0.878009165997, std: 0.05302571817

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[-0.00644273 -0.99997876 -0.00098997 0.05975859]
 [ 0.99997866 -0.0064438 0.00107617 0.00053212]
 [-0.00108252 -0.00098302 0.99999893 -0.09445954]
 [ 0.         0.         0.         1.        ]]
```

T_ic: (cam0 to imu0):

```
[[-0.00644273 0.99997866 -0.00108252 -0.00024935]
 [ -0.99997876 -0.0064438 -0.00098302 0.05966789]
 [-0.00098997 0.00107617 0.99999893 0.09451803]
 [ 0.         0.         0.         1.        ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.003667396693502635

Gravity vector in target coords: [m/s²]
[0.06804666 9.80629711 -0.0181539]

Calibration configuration

Camera model: pinhole
Focal length: [585.7561, 585.7561]
Principal point: [320.5, 240.5]
Distortion model: radtan
Distortion coefficients: [0.0, 0.0, 0.0, 0.0]
Type: checkerboard
Rows
 Count: 6
 Distance: 0.01 [m]
Cols
 Count: 7
 Distance: 0.01 [m]

IMU configuration

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IMU0:

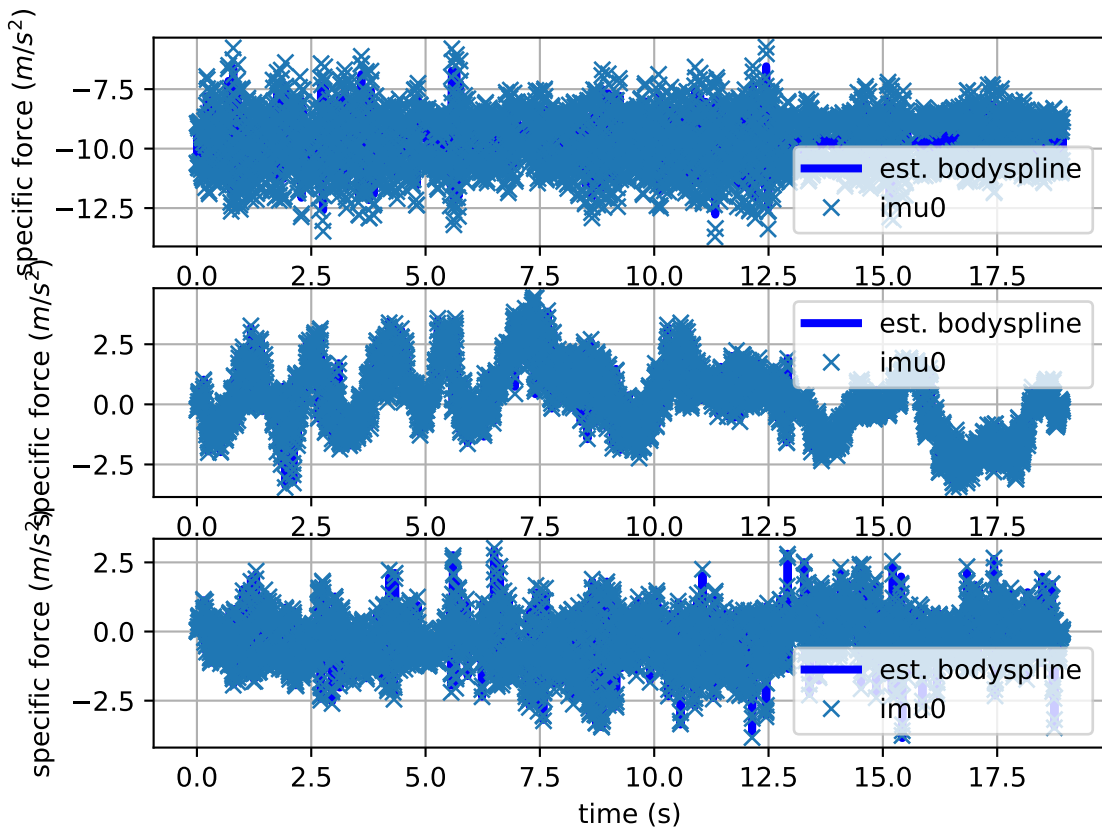
Model: calibrated
Update rate: 70.0
Accelerometer:
 Noise density: 0.004
 Noise density (discrete): 0.0334664010614
 Random walk: 0.006
Gyroscope:
 Noise density: 3.8785e-05
 Noise density (discrete): 0.000324498591291
 Random walk: 0.0003394

T_i_b

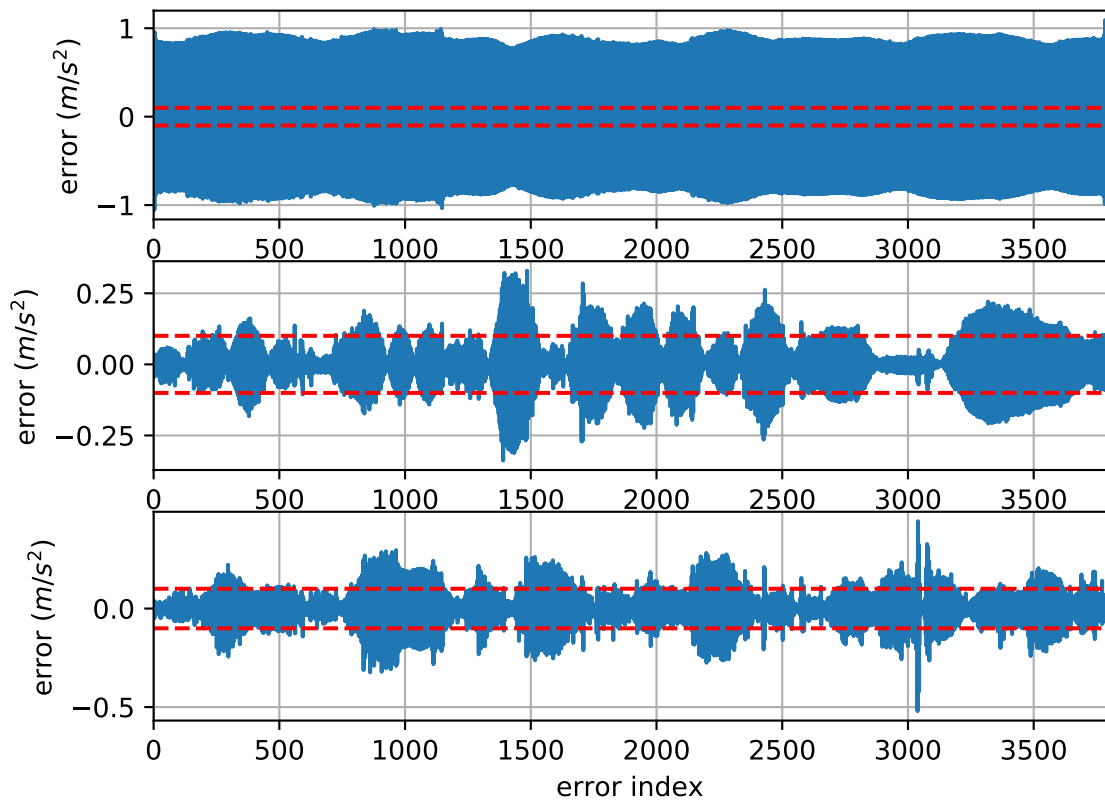
[[1. 0. 0. 0.]
[0. 1. 0. 0.]
[0. 0. 1. 0.]
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

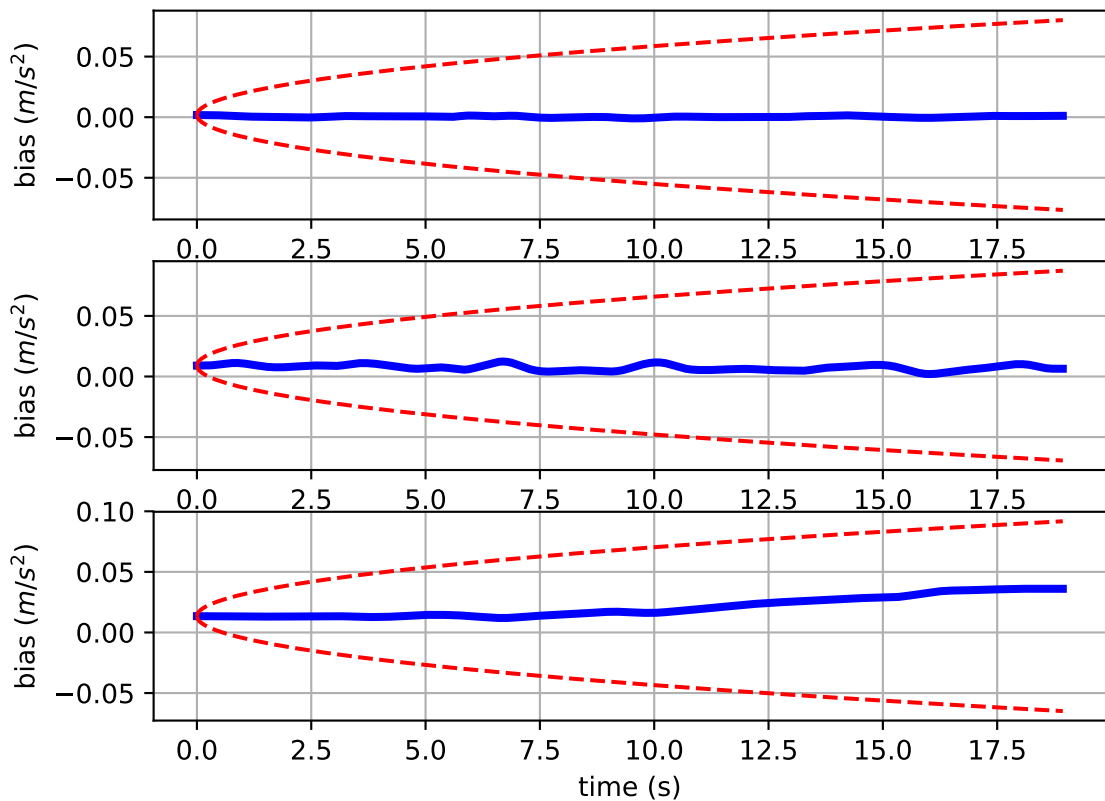
Comparison of predicted and measured specific force (imu0 frame)



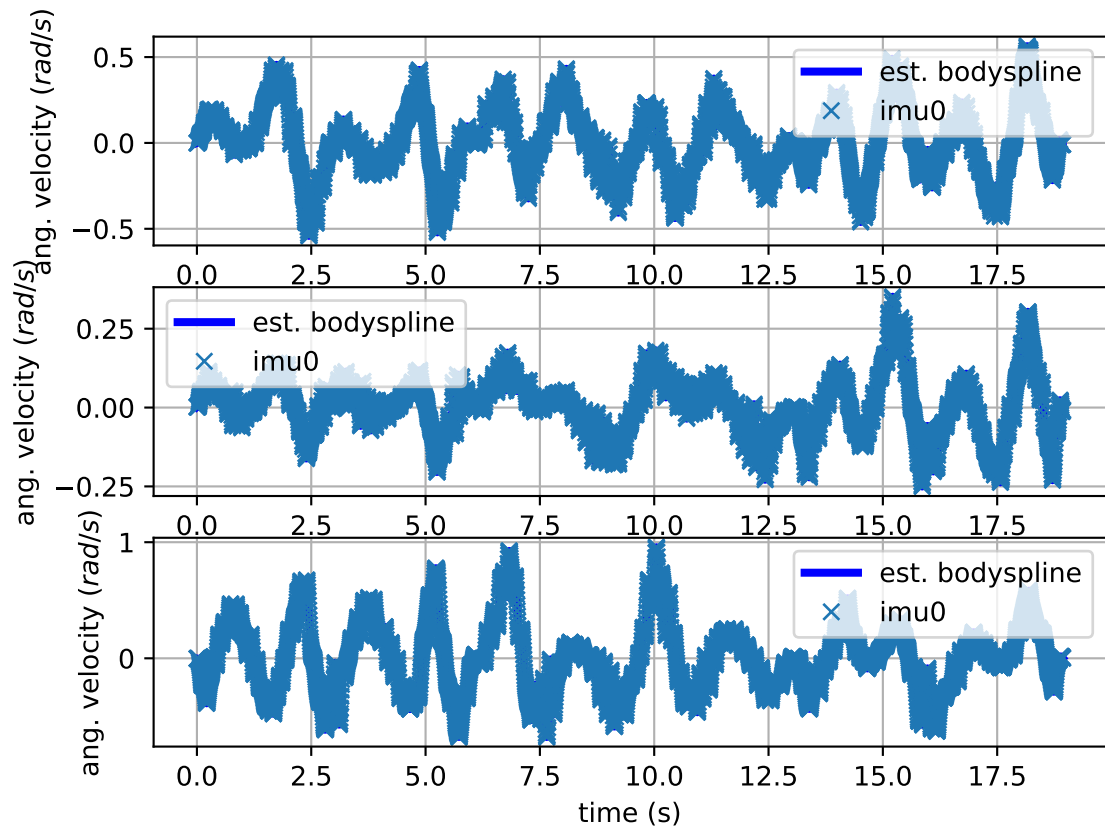
imu0: acceleration error



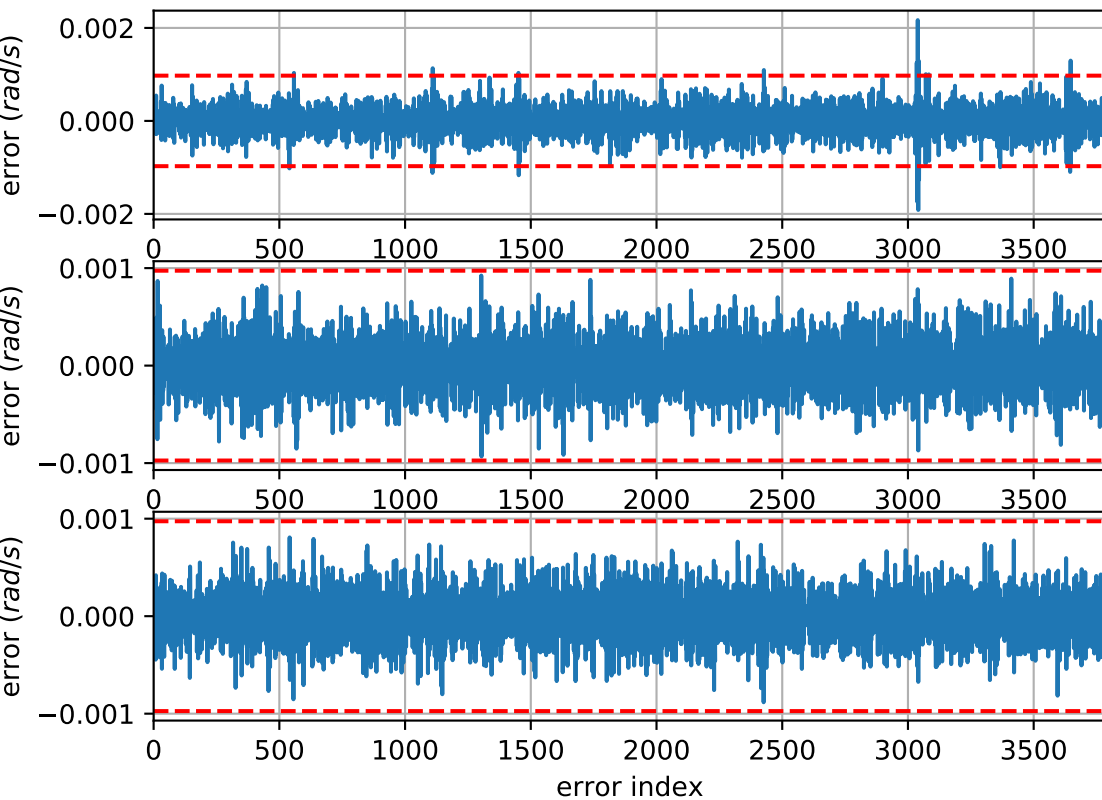
imu0: estimated accelerometer bias (imu frame)



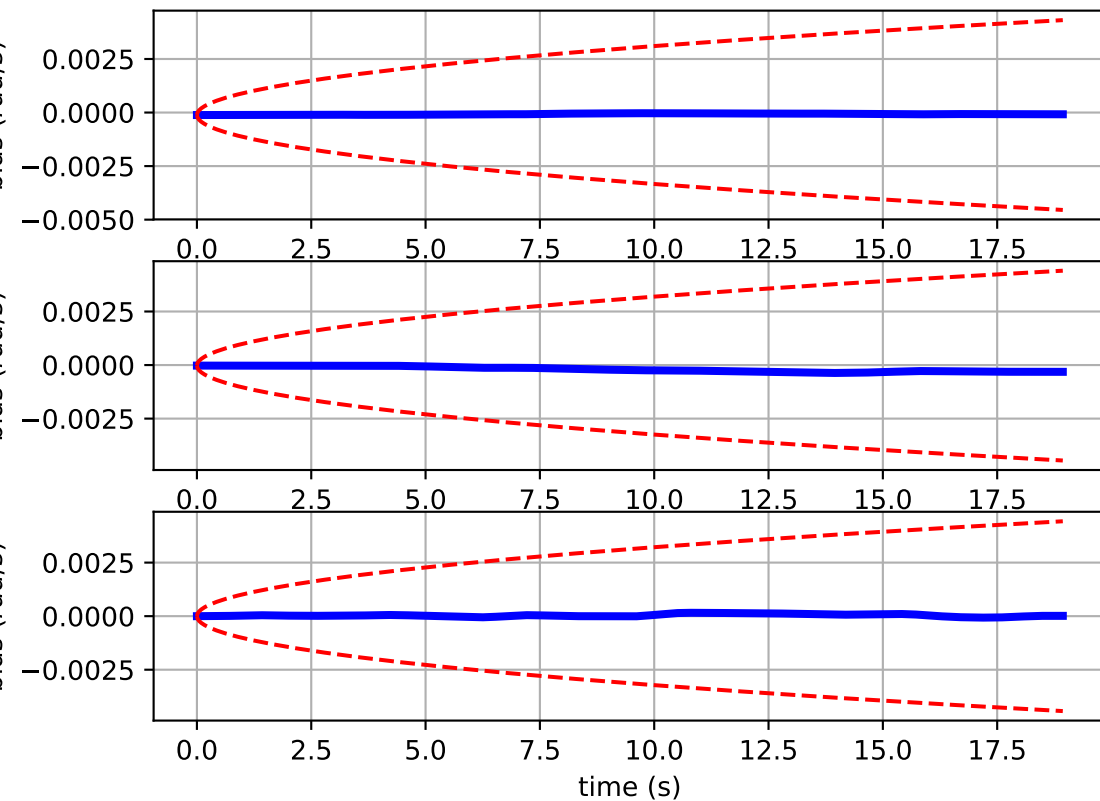
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

