

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.30984560442358106, median 0.24604816959284598, std: 0.2946403252080661
Gyroscope error (imu0): mean 0.42806805359969274, median 0.3459394427759361, std: 0.3116169653132214
Accelerometer error (imu0): mean 0.41940629714436123, median 0.32278547875173447, std: 0.3412580076290805

Residuals

Reprojection error (cam0) [px]: mean 0.30984560442358106, median 0.24604816959284598, std: 0.2946403252080661
Gyroscope error (imu0) [rad/s]: mean 0.0018456700248917996, median 0.0014915620415729507, std: 0.001343576301221029
Accelerometer error (imu0) [m/s²]: mean 0.11361327868965339, median 0.08743959450320583, std: 0.09244363136611013

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[[ 0.49661887 -0.8679071  0.01034252  0.02604113]
 [-0.00773442 -0.01634033 -0.99983657 -0.03391645]
 [ 0.86793426  0.49645772 -0.01482768 -0.0747124 ]
 [ 0.          0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[[ 0.49661887 -0.00773442  0.86793426  0.05165061]
 [-0.8679071 -0.01634033  0.49645772  0.05913862]
 [ 0.01034252 -0.99983657 -0.01482768 -0.03528805]
 [ 0.          0.          0.          1.          ]]
```

timeshift cam0 to imu0: [s] (t_imu = t_cam + shift)
0.001320585803296196

Gravity vector in target coords: [m/s²]
[-0.02933329 -9.73226213 -1.20442361]

Calibration configuration

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cam0

Camera model: pinhole

Focal length: [395.84119025972154, 396.4431378178261]

Principal point: [325.3358565087569, 245.07585589291105]

Distortion model: radtan

Distortion coefficients: [-0.33157659047393234, 0.09806154779743906, -0.0011948536493189713, -0.0019292352376525912]

Type: aprilgrid

Tags:

Rows: 6

Cols: 6

Size: 0.088 [m]

Spacing 0.02639999999999996 [m]

IMU configuration

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IMU0:

Model: calibrated

Update rate: 100

Accelerometer:

Noise density: 0.027089073164427782

Noise density (discrete): 0.2708907316442778

Random walk: 0.0026405437265548015

Gyroscope:

Noise density: 0.0004311627577370619

Noise density (discrete): 0.0043116275773706185

Random walk: 5.5971879319209416e-05

T_ib (imu0 to imu0)

[[1. 0. 0. 0.]

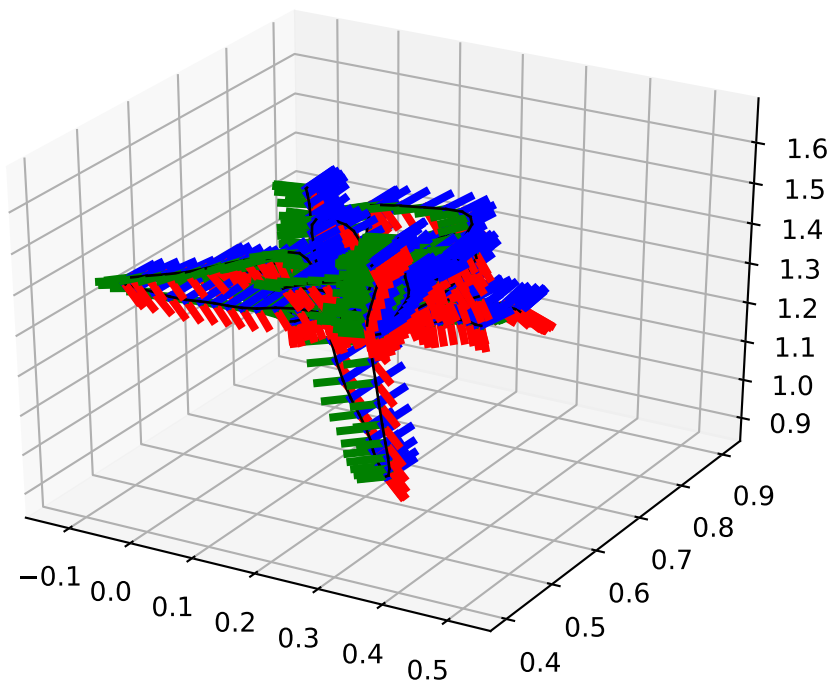
[0. 1. 0. 0.]

[0. 0. 1. 0.]

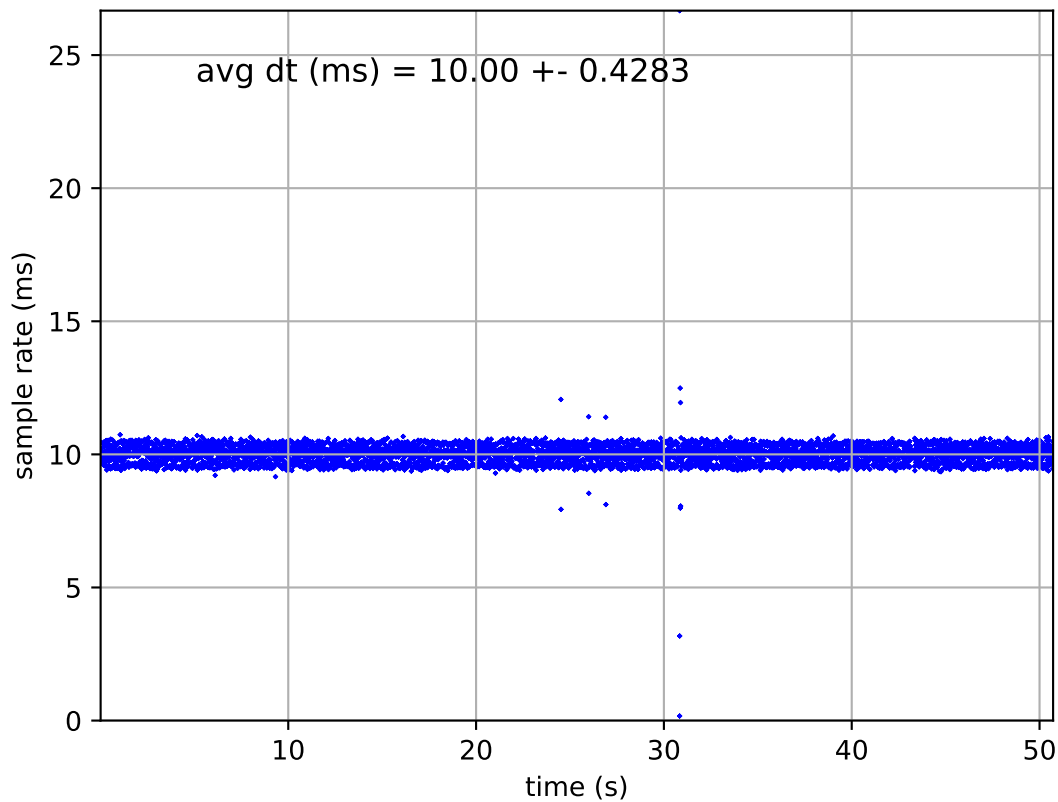
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

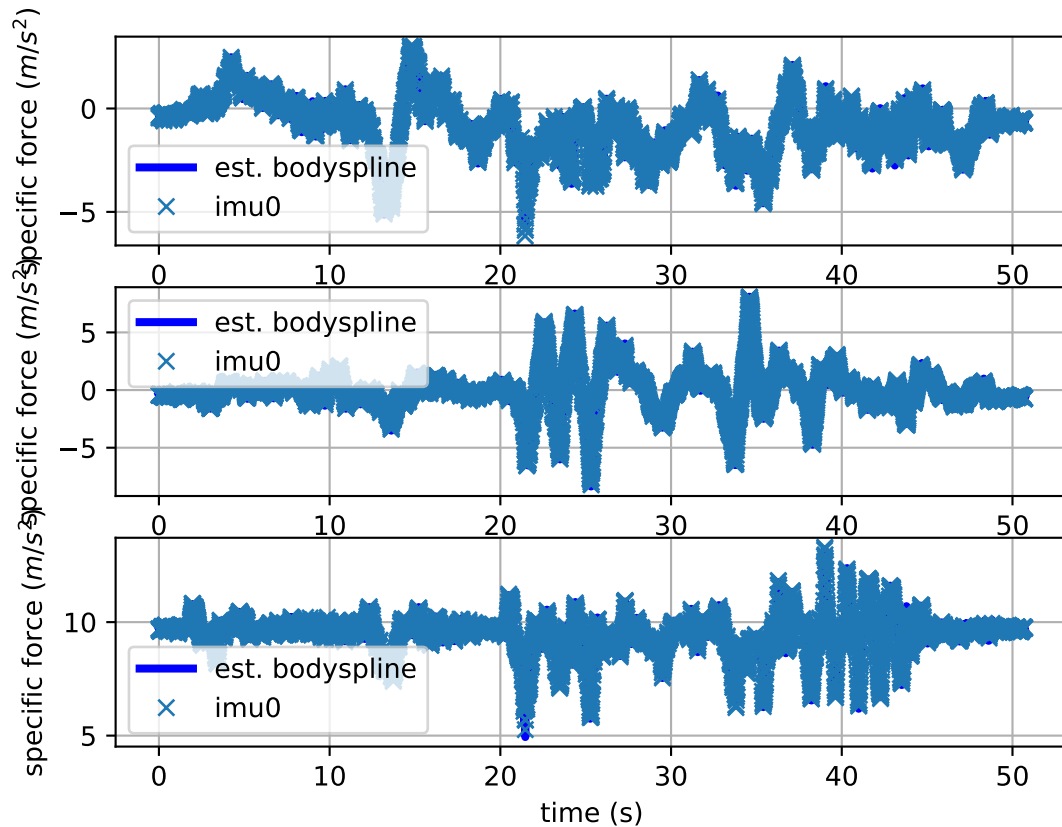
imu0: estimated poses



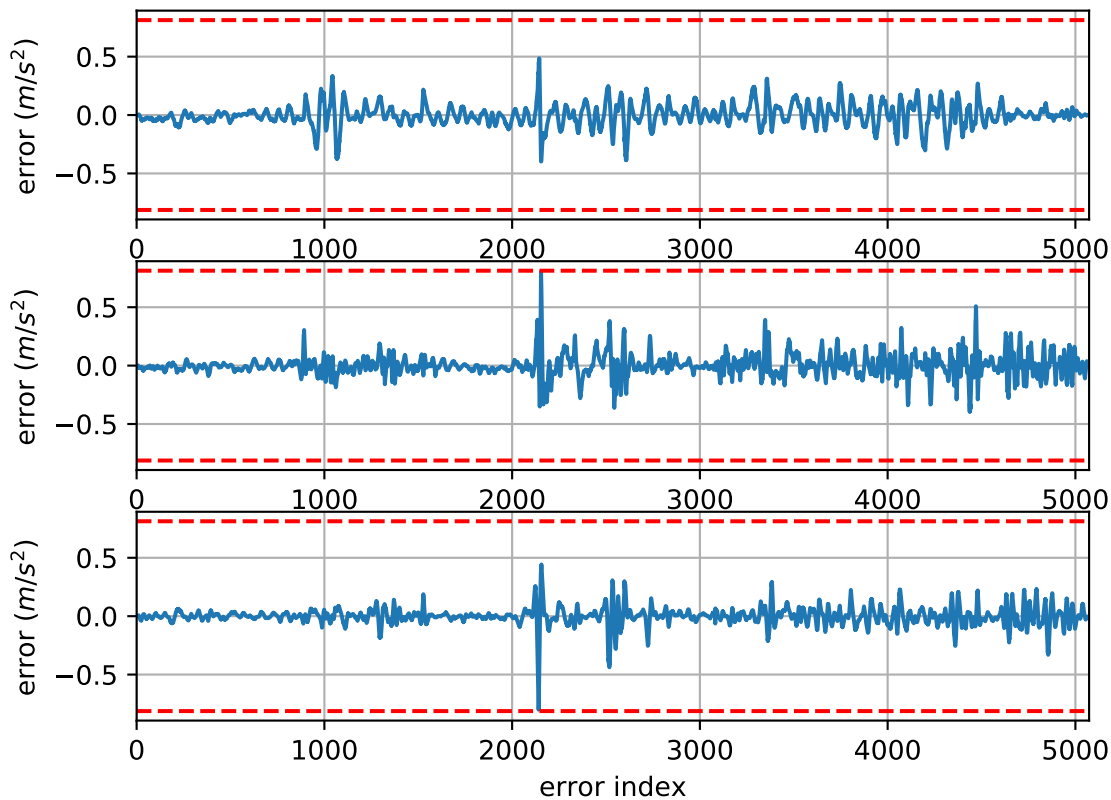
imu0: sample inertial rate



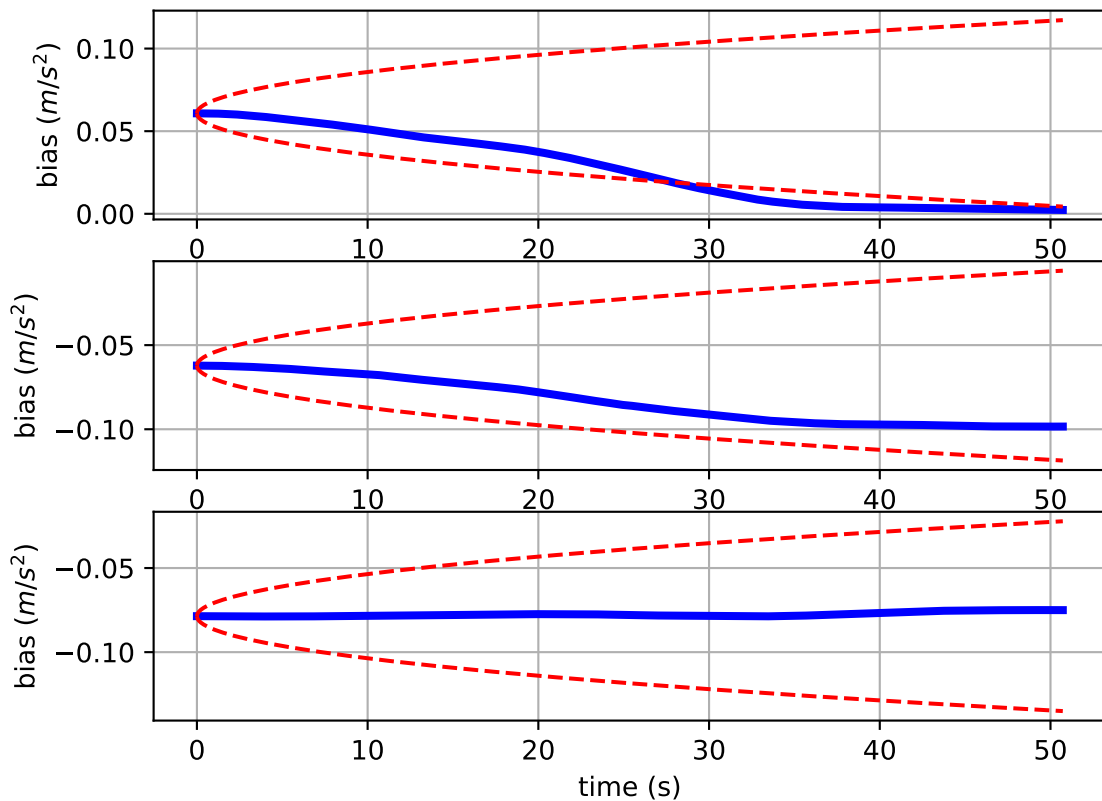
Comparison of predicted and measured specific force (imu0 frame)



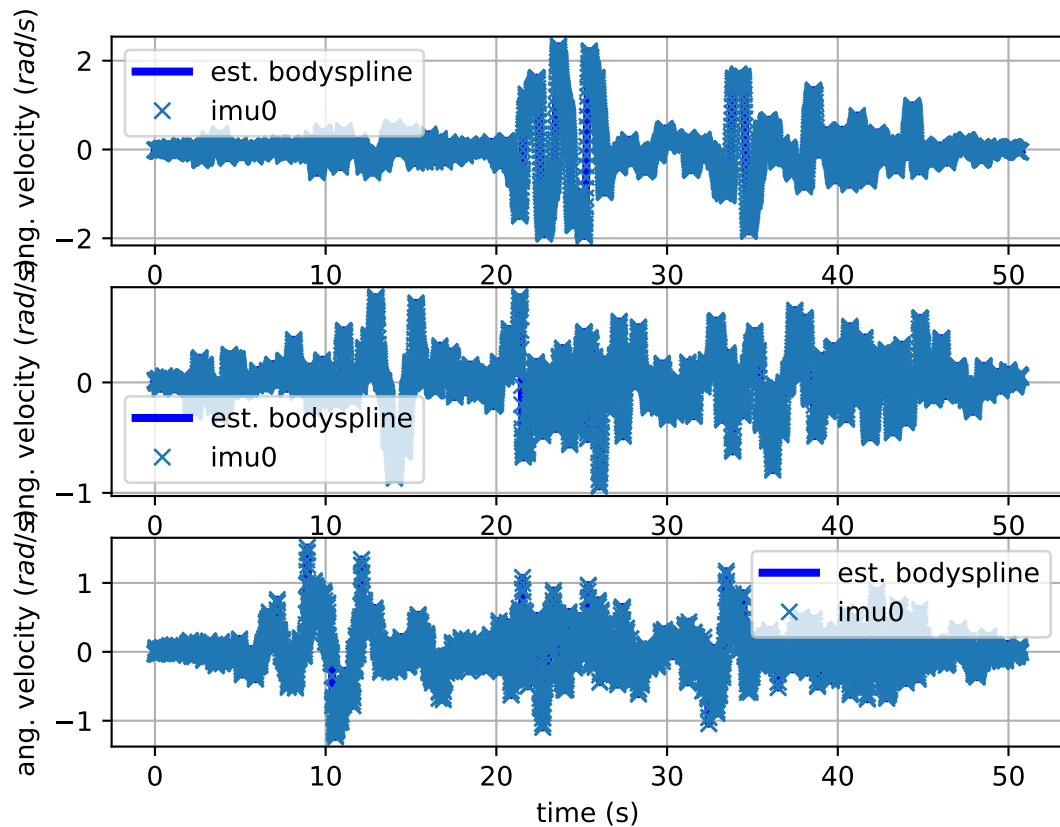
imu0: acceleration error



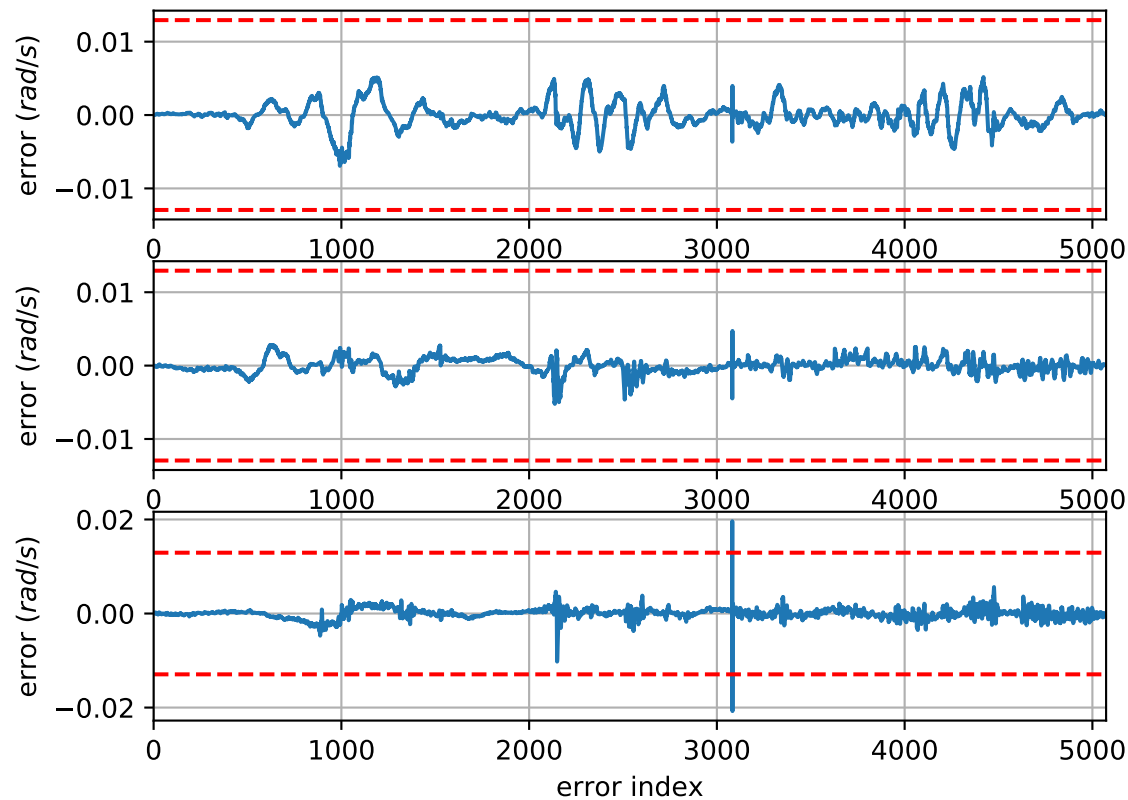
imu0: estimated accelerometer bias (imu frame)



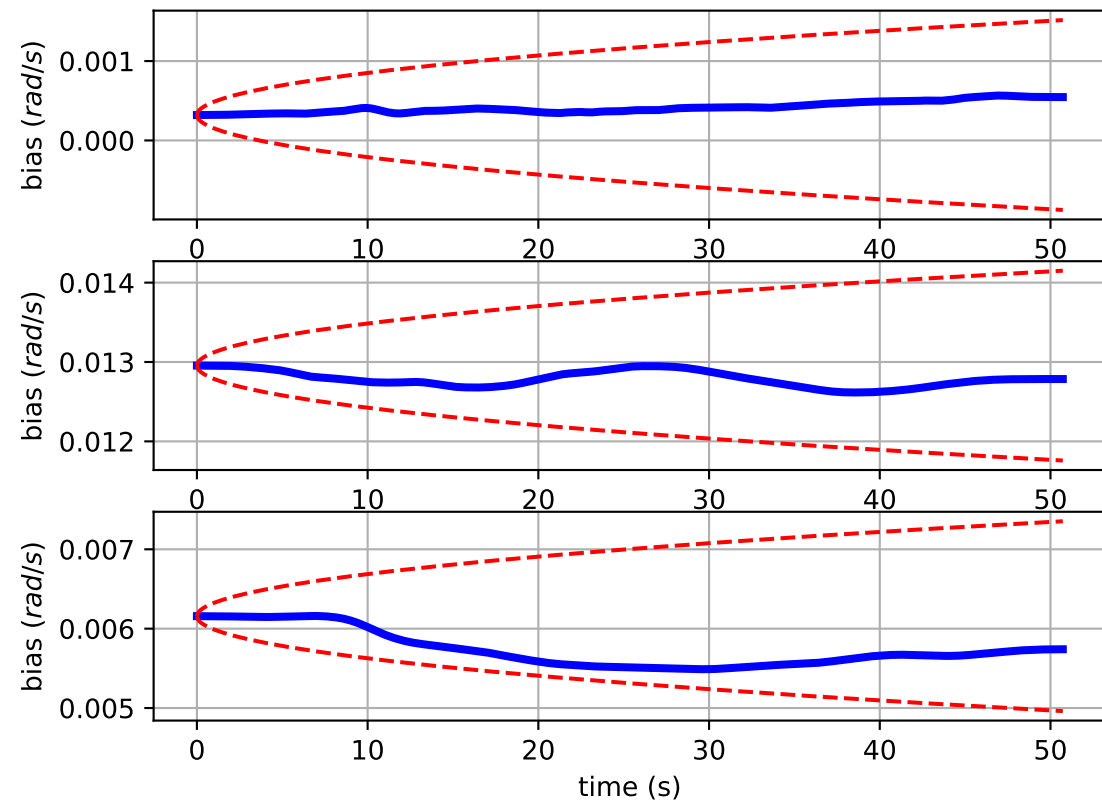
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

