

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.348444125906229, median 0.3132501992849717, std: 0.21242259113898165
Gyroscope error (imu0): mean 1.8068332796812379, median 1.4562601180689174, std: 1.3477171366022311
Accelerometer error (imu0): mean 1.5070006767439352, median 1.1694629319318044, std: 1.4056387214443389

Residuals

Reprojection error (cam0) [px]: mean 0.348444125906229, median 0.3132501992849717, std: 0.21242259113898165
Gyroscope error (imu0) [rad/s]: mean 0.0153314887744336, median 0.012356776855896647, std: 0.01143575911695305
Accelerometer error (imu0) [m/s^2]: mean 0.04262441591113411, median 0.033077406780611225, std: 0.03975746687326722

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[ [ 0.01111919  0.99988058 -0.01073218  0.0767933 ]  
  [ 0.99993809 -0.01112304 -0.00029948  0.00338498]  
  [-0.00041881 -0.01072819 -0.99994236 -0.00917233]  
  [ 0.          0.          0.          1.          ]]
```

T_ic: (cam0 to imu0):

```
[ [ 0.01111919  0.99993809 -0.00041881 -0.00424249]  
  [ 0.99988058 -0.01112304 -0.01072819 -0.07684488]  
  [-0.01073218 -0.00029948 -0.99994236 -0.00834663]  
  [ 0.          0.          0.          1.          ]]
```

timeshift cam0 to imu0: [s] ($t_{imu} = t_{cam} + \text{shift}$)

0.0023296971957541225

Gravity vector in target coords: [m/s^2]

[-9.75201654 0.13882397 -1.02338856]

Calibration configuration

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cam0

Camera model: pinhole

Focal length: [402.2875884269033, 402.27348159196305]

Principal point: [331.54260440803483, 203.59389426713713]

Distortion model: radtan

Distortion coefficients: [0.0043223786911166, -0.0448405164285339, 0.00019498020227043123,
-0.0013197399563750606]

Type: aprilgrid

Tags:

Rows: 6

Cols: 6

Size: 0.088 [m]

Spacing 0.026399999999999996 [m]

IMU configuration

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IMU0:

Model: calibrated

Update rate: 200.0

Accelerometer:

Noise density: 0.002

Noise density (discrete): 0.0282842712474619

Random walk: 0.0005

Gyroscope:

Noise density: 0.0006

Noise density (discrete): 0.00848528137423857

Random walk: 8e-05

T_ib (imu0 to imu0)

[[1. 0. 0. 0.]

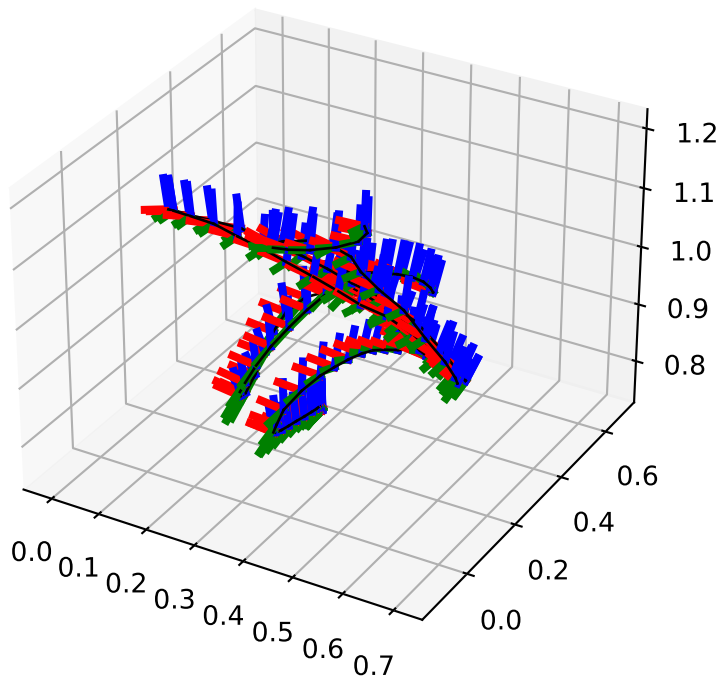
[0. 1. 0. 0.]

[0. 0. 1. 0.]

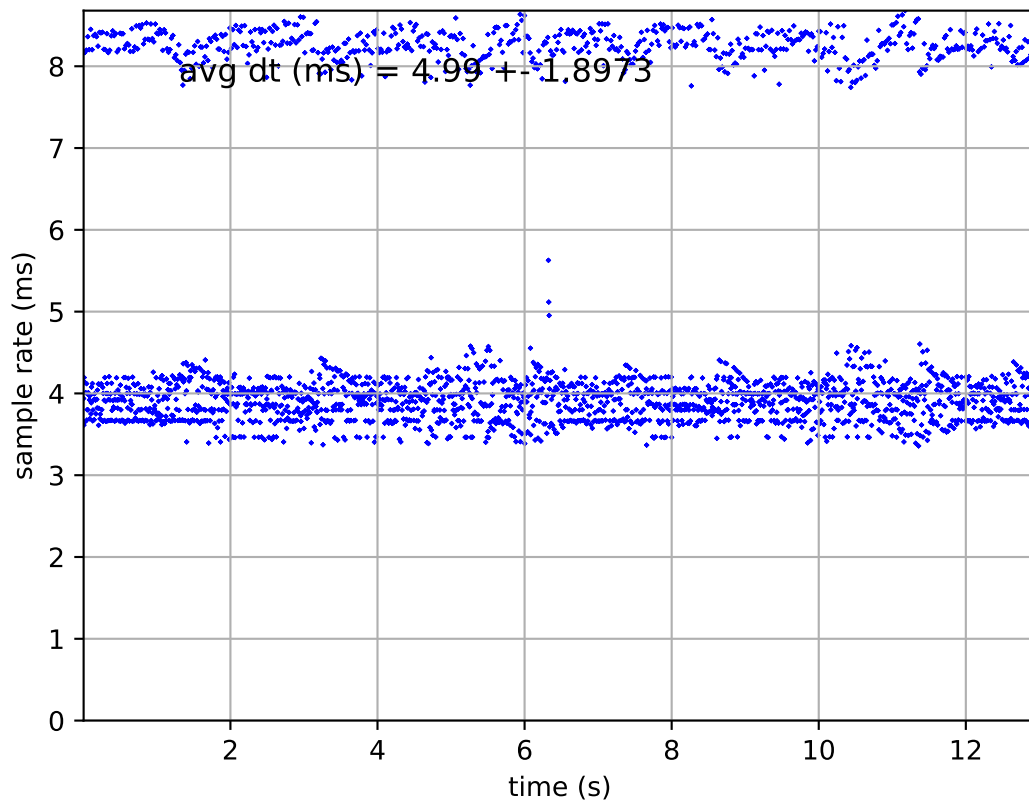
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

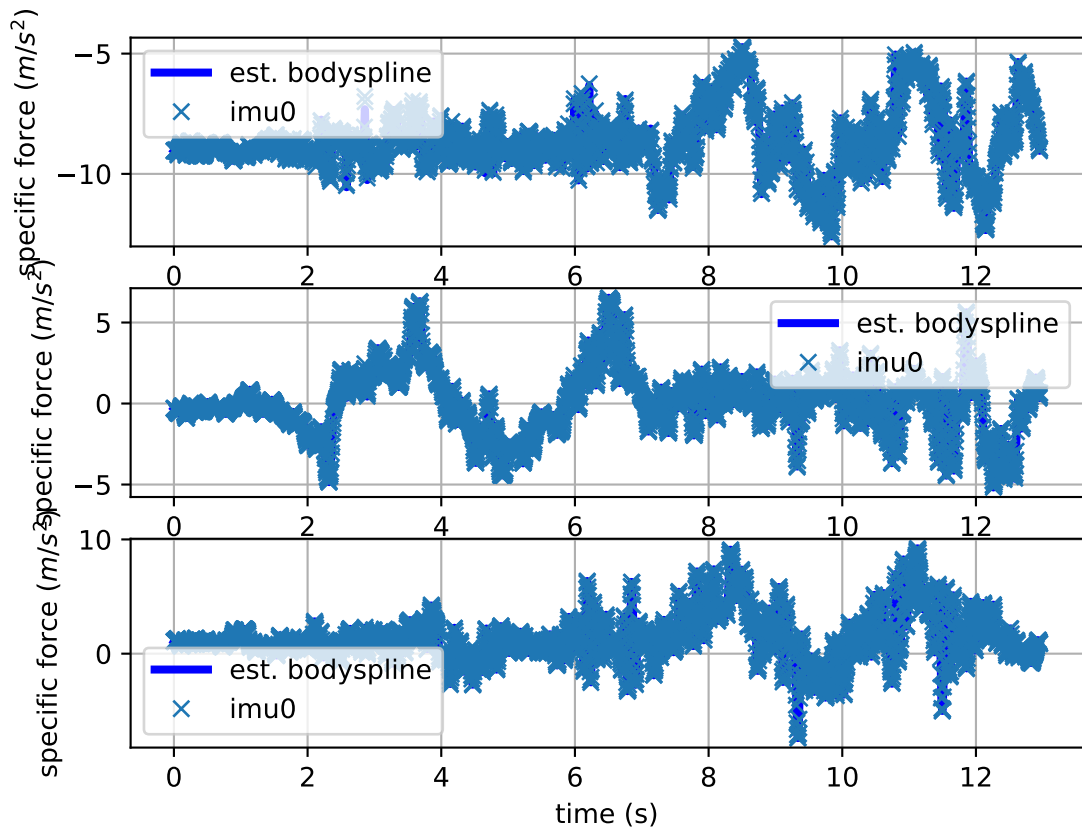
imu0: estimated poses



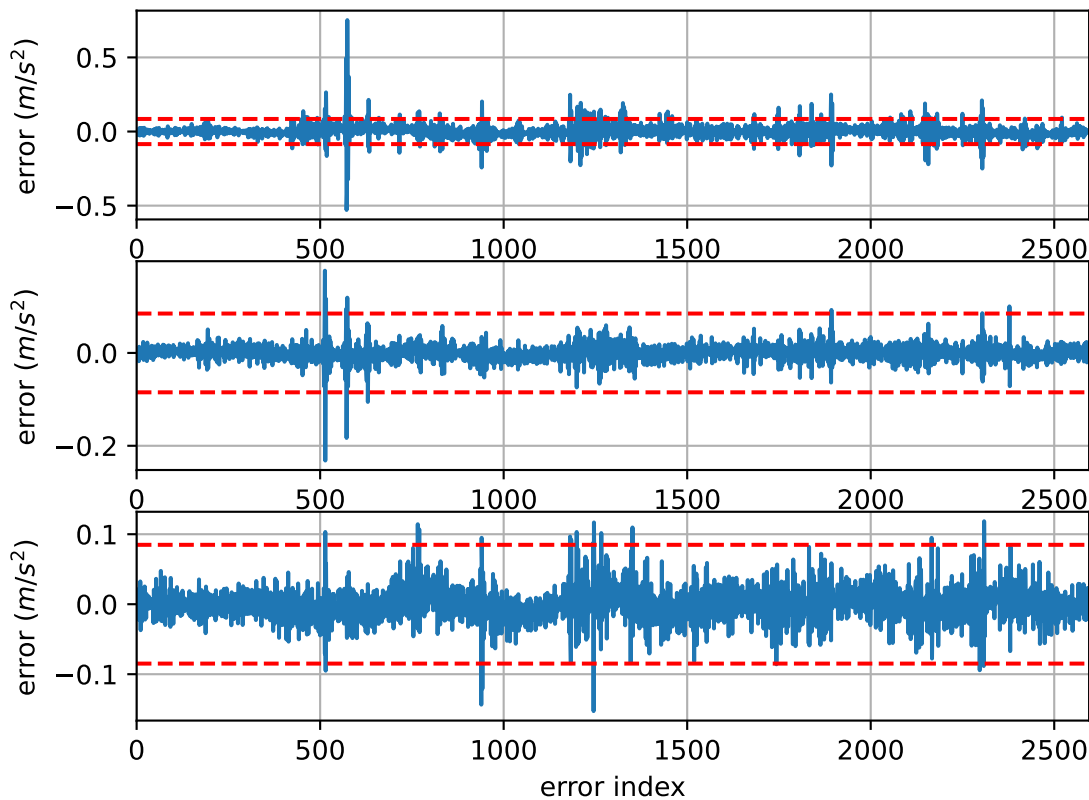
imu0: sample inertial rate



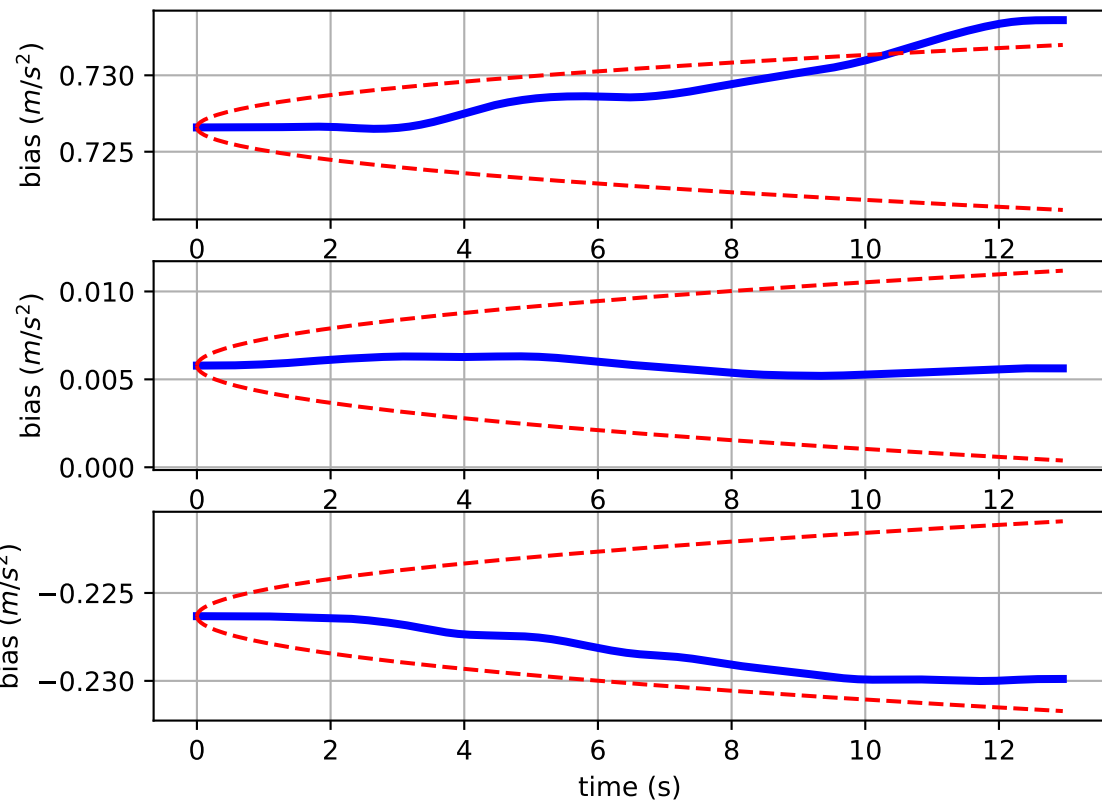
Comparison of predicted and measured specific force (imu0 frame)



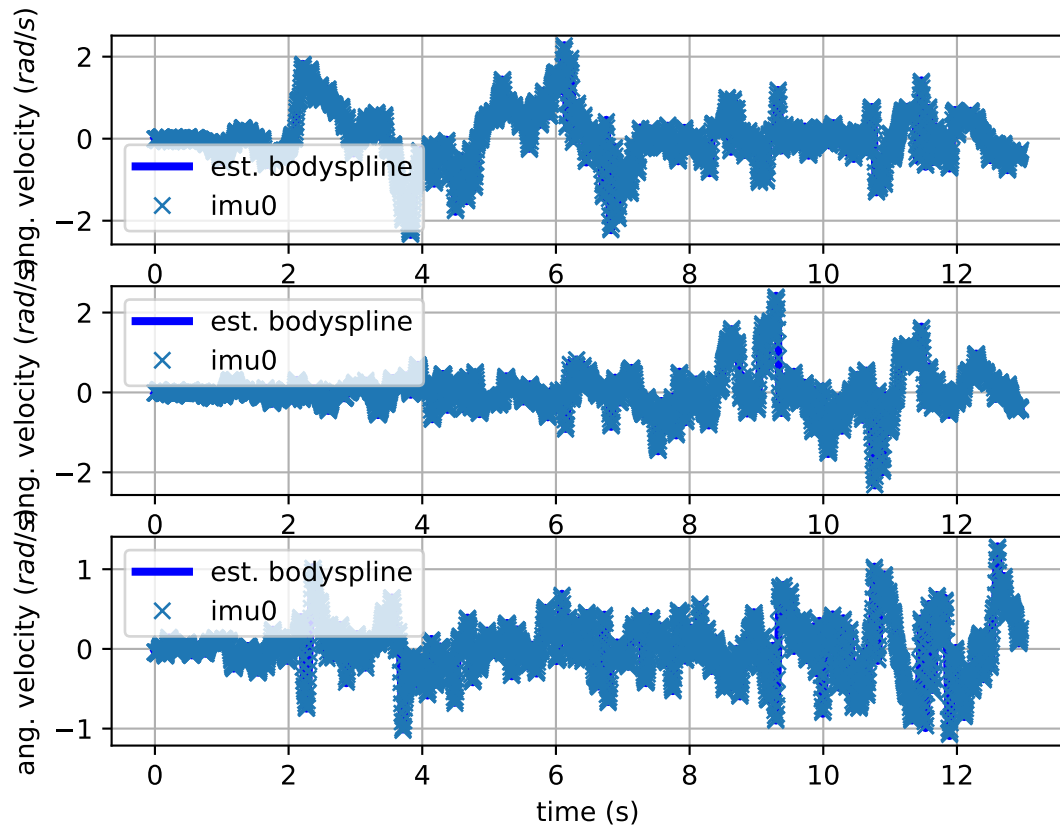
imu0: acceleration error



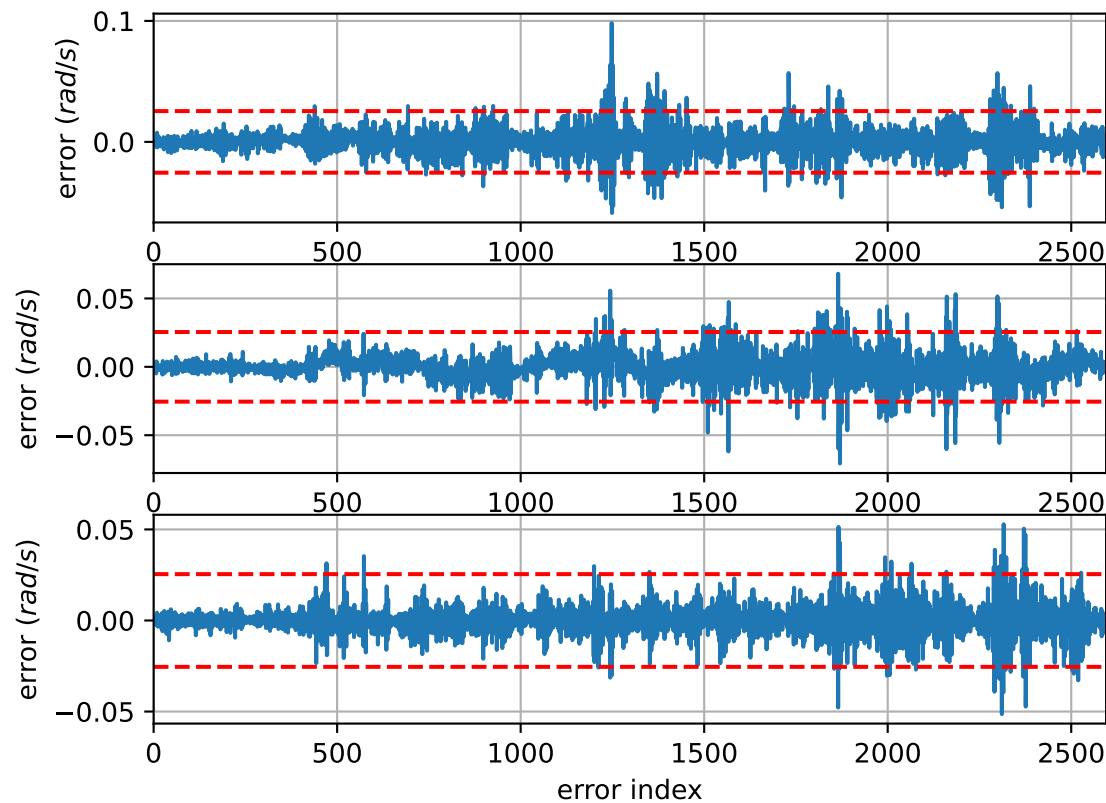
imu0: estimated accelerometer bias (imu frame)



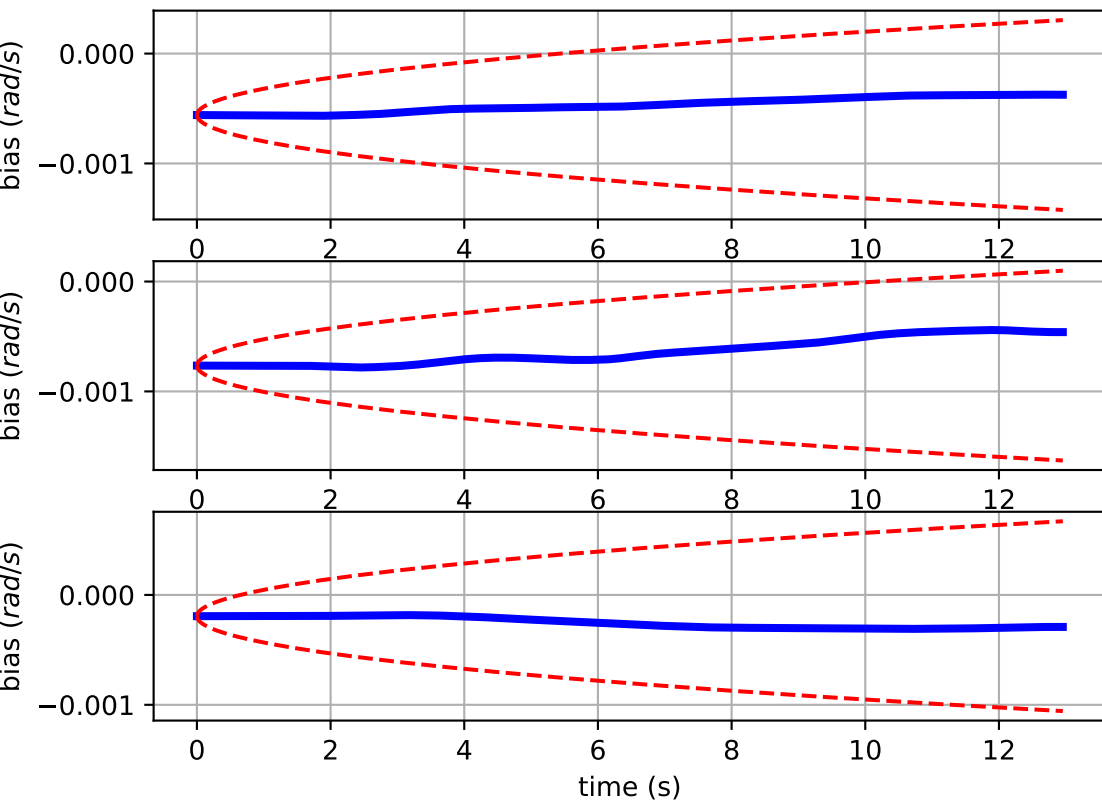
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

