

Calibration results

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Normalized Residuals

Reprojection error (cam0): mean 0.3755238505512289, median 0.2997213786041404, std: 0.30331684307438944
Gyroscope error (imu0): mean 0.7261512593220939, median 0.5718563746556441, std: 0.6196970671783322
Accelerometer error (imu0): mean 0.8899830322681148, median 0.7031341375941444, std: 0.7131848179788016

Residuals

Reprojection error (cam0) [px]: mean 0.3755238505512289, median 0.2997213786041404, std: 0.30331684307438944
Gyroscope error (imu0) [rad/s]: mean 0.0031308937950355435, median 0.0024656317152604596, std: 0.00267190296446179
Accelerometer error (imu0) [m/s²]: mean 0.24108815476210246, median 0.1904725209769461, std: 0.19319515713986865

Transformation (cam0):

T_ci: (imu0 to cam0):

```
[ [ 0.99998527  0.00476288  0.00260457  0.05723909]
  [ 0.00267531 -0.01490535 -0.99988533 -0.03239169]
  [-0.00472351  0.99987757 -0.01491787 -0.06708284]
  [ 0.          0.          0.          1.          ] ]
```

T_ic: (cam0 to imu0):

```
[ [ 0.99998527  0.00267531 -0.00472351 -0.05746845]
  [ 0.00476288 -0.01490535  0.99987757  0.06631919]
  [ 0.00260457 -0.99988533 -0.01491787 -0.03353779]
  [ 0.          0.          0.          1.          ] ]
```

timeshift cam0 to imu0: [s] ($t_{imu} = t_{cam} + \text{shift}$)
-0.00469846572031349

Gravity vector in target coords: [m/s²]

[-0.00365655 -9.7294634 -1.22717212]

Calibration configuration

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cam0

Camera model: pinhole

Focal length: [397.5140865834166, 397.0636155168975]

Principal point: [324.6509024299695, 239.43461882257037]

Distortion model: radtan

Distortion coefficients: [-0.341501522923929, 0.10230247731969135, -0.00030846227394207266, 0.0005389293391860201]

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.]

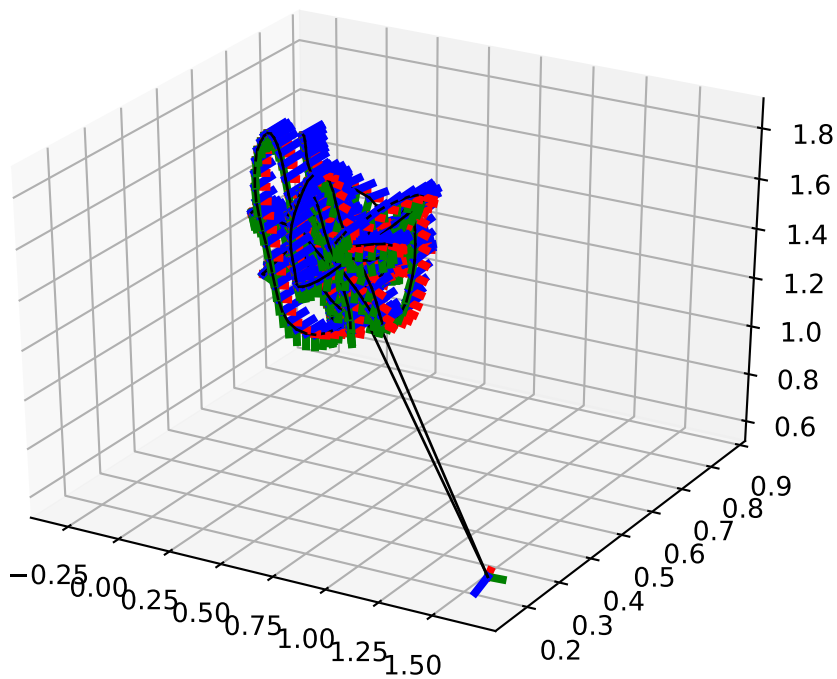
[0. 1. 0. 0.]

[0. 0. 1. 0.]

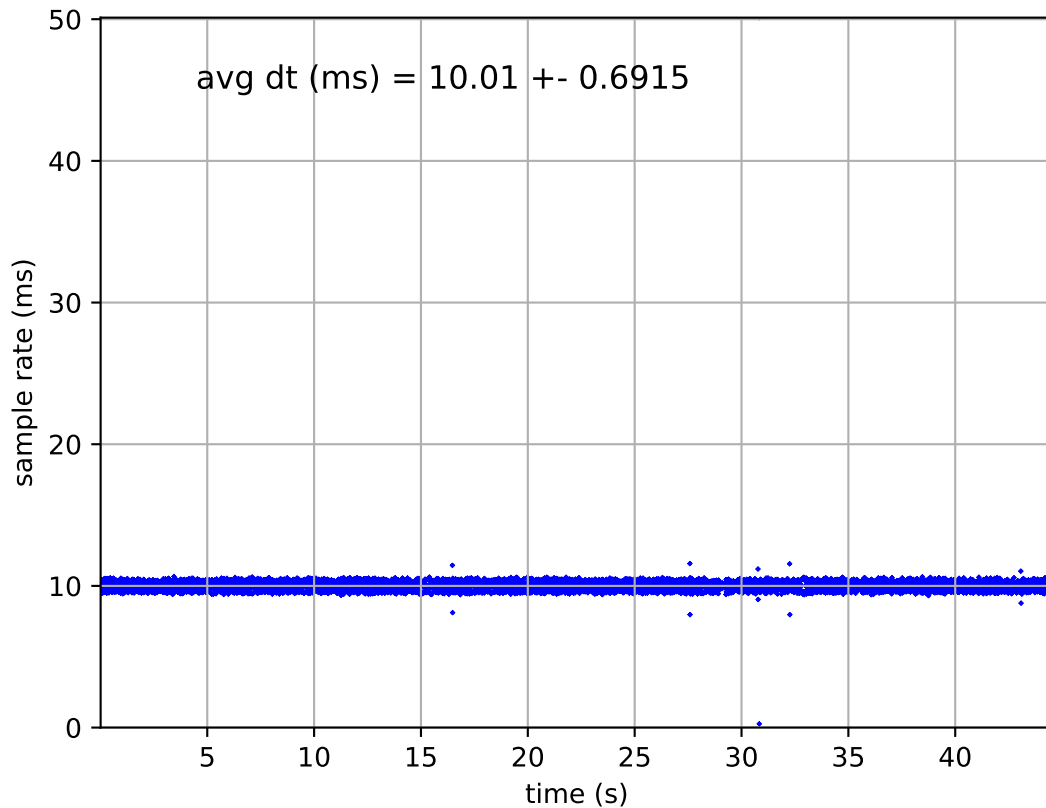
[0. 0. 0. 1.]]

time offset with respect to IMU0: 0.0 [s]

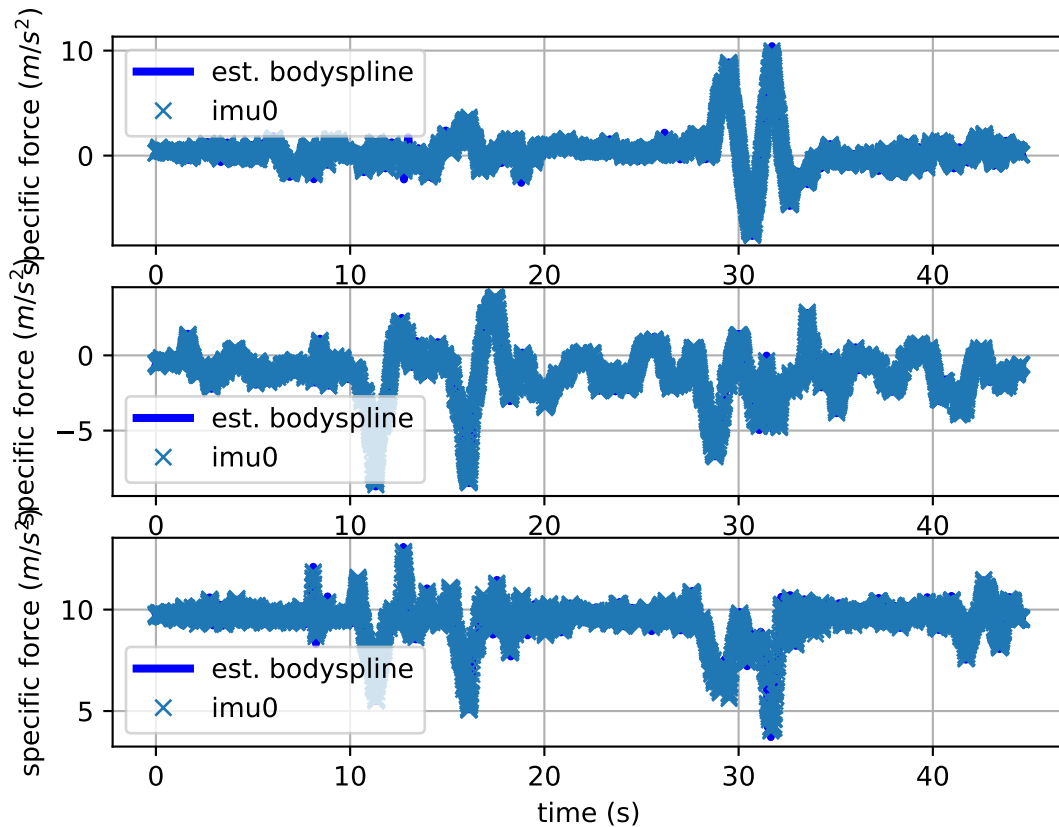
imu0: estimated poses



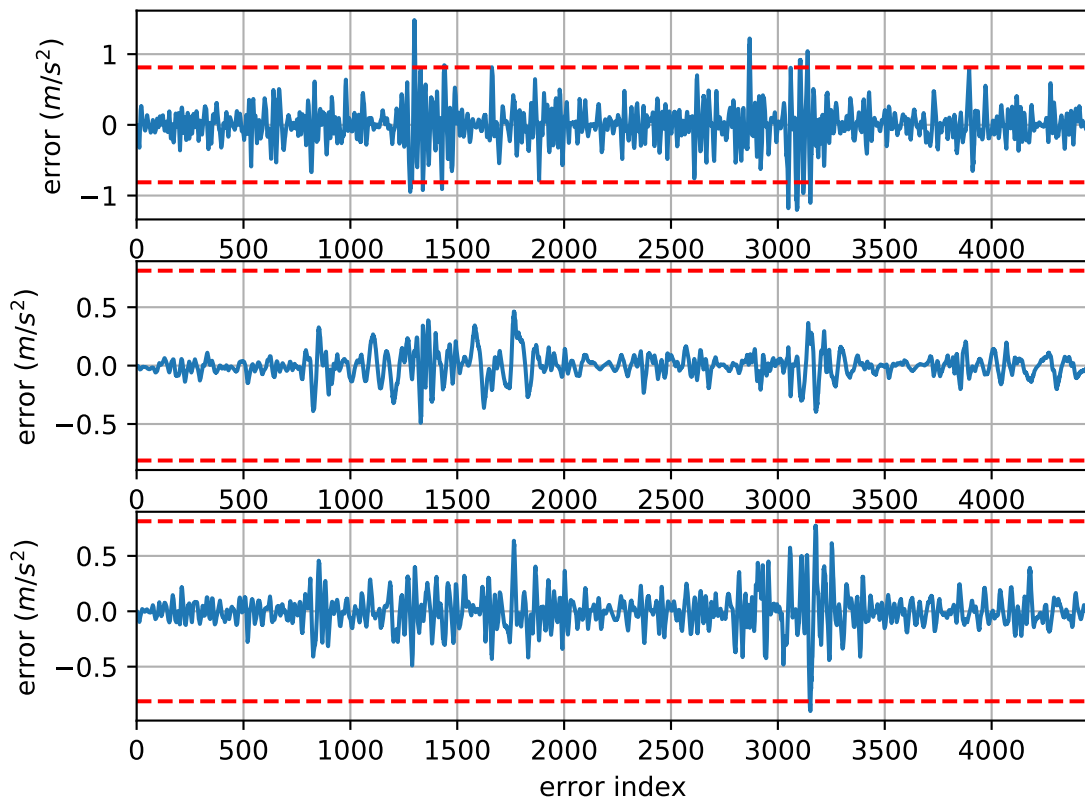
imu0: sample inertial rate



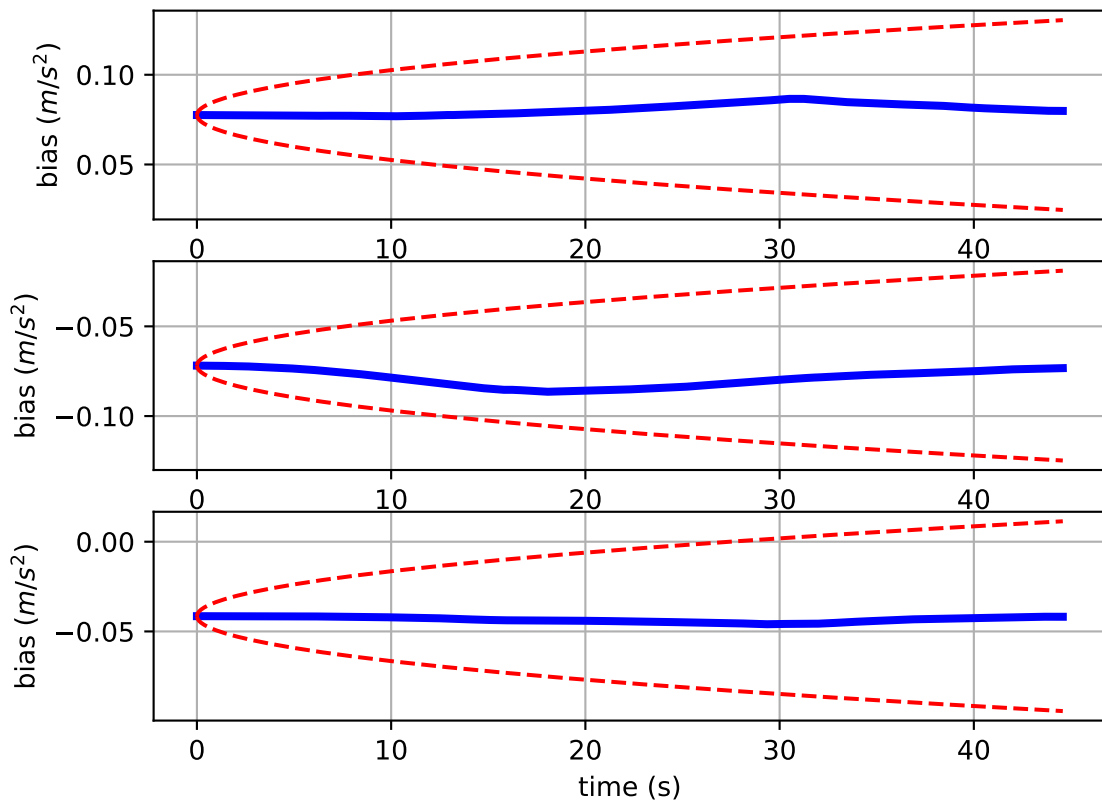
Comparison of predicted and measured specific force (imu0 frame)



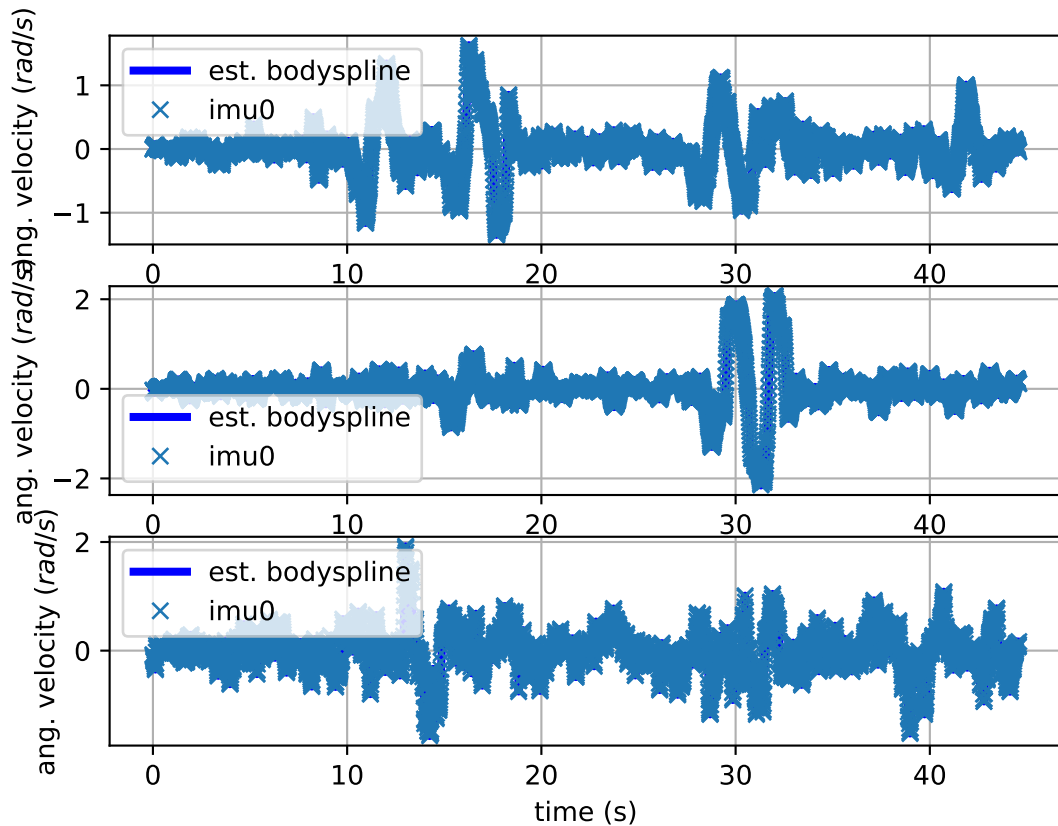
imu0: acceleration error



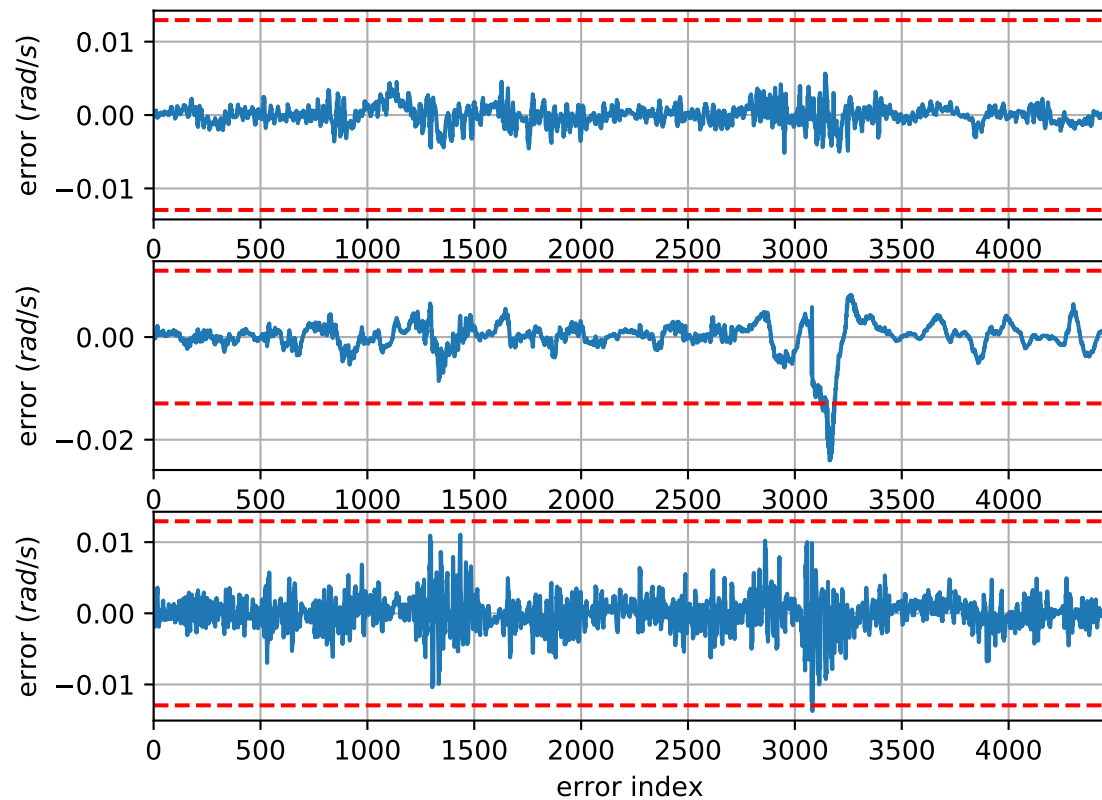
imu0: estimated accelerometer bias (imu frame)



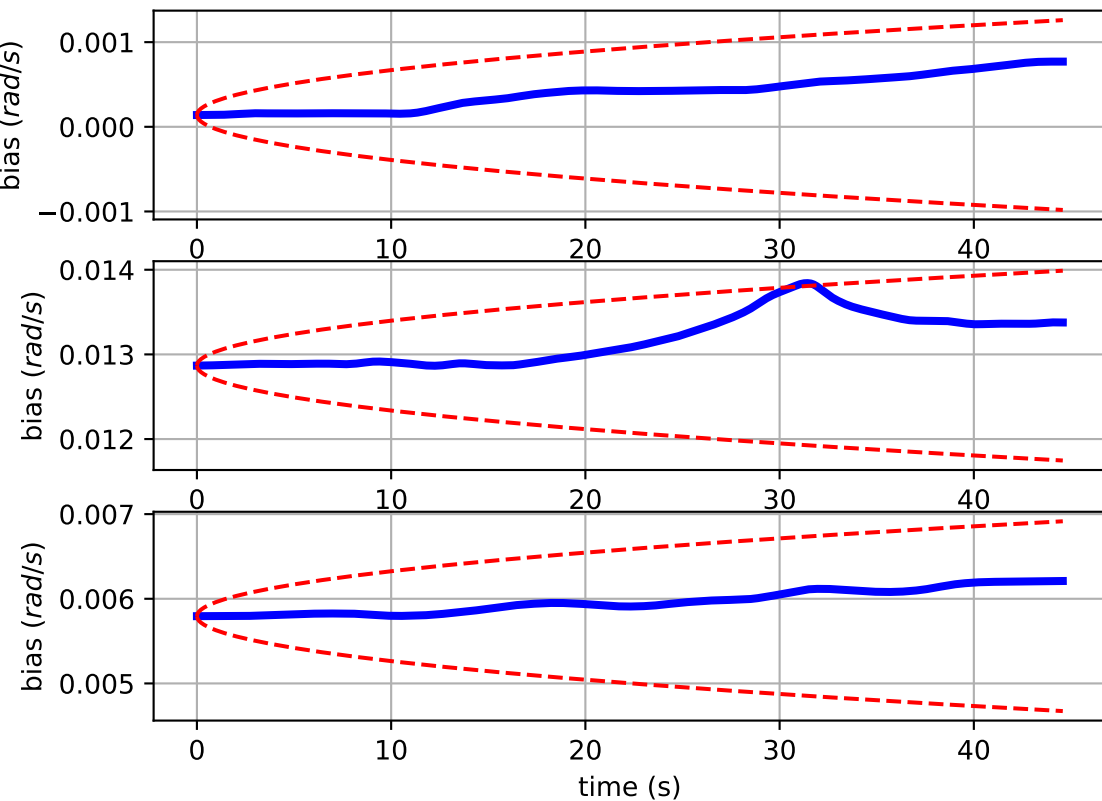
Comparison of predicted and measured angular velocities (body frame)



imu0: angular velocities error



imu0: estimated gyro bias (imu frame)



cam0: reprojection errors

