The Experiment:

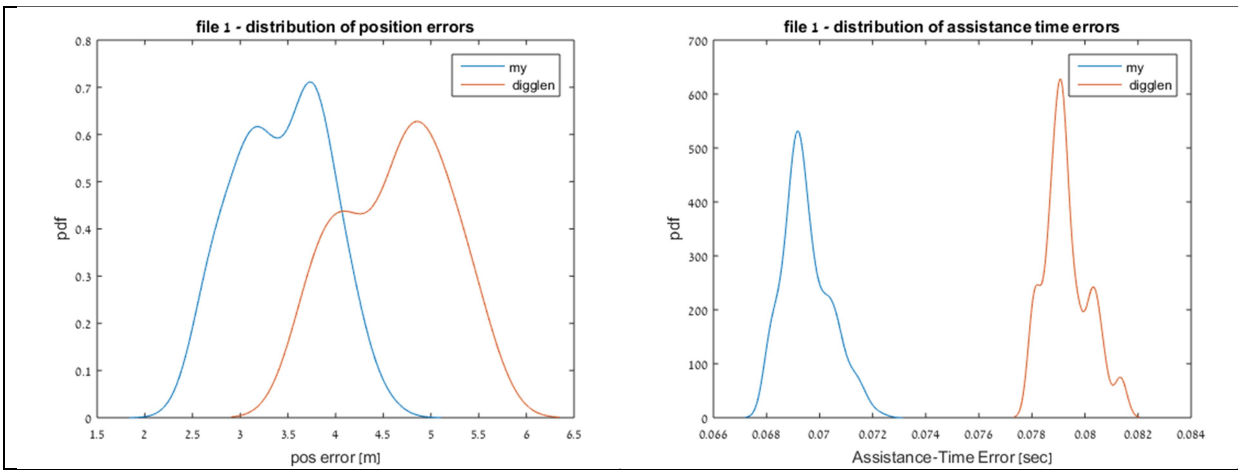
1. There are 5 input files:
    a. The first file contains 20 epochs, is part of the easy suite.
    b. The other four contain 900 epochs (15 mins) each, downloaded from `ftp://cddis.nasa.gov/gnss/data/highrate`.

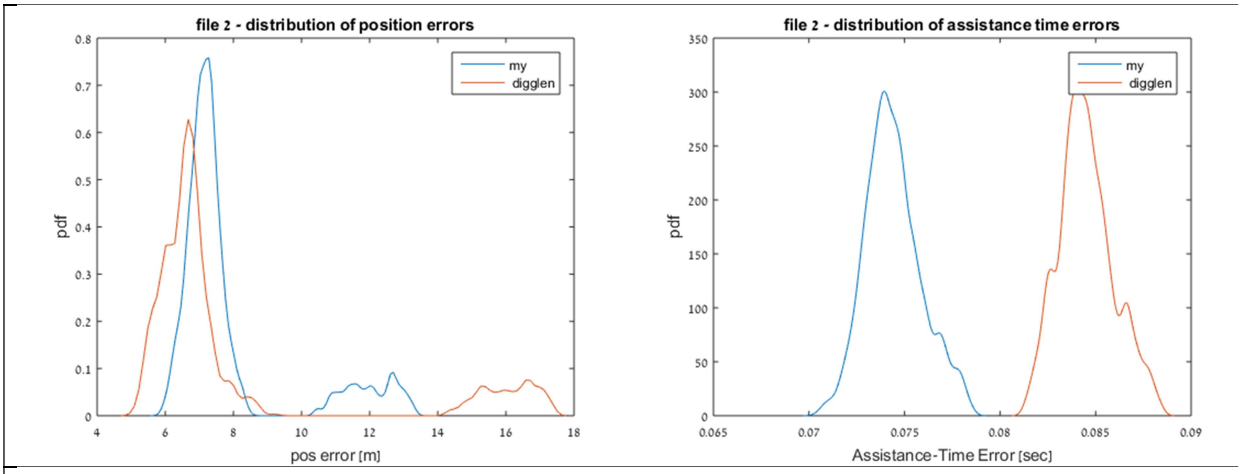
2. For each file, I randomly select `N_Trials=10` of the following errors:
    a. Assistance error in position: uniform azimuth in 0-360 Deg, uniform distance in 0-3 Km.
    b. Assistance error in time: uniform integer number of milliseconds 0-2000
    c. Random common bias added to all pseudo-ranges.

3. For each epoch in each file I calculate a Coarse-Time-Nav fix (from scratch), one for each set of errors described in 2. Repeat this section once with Diggelen's original algorithm, and once with my fixed algorithm.

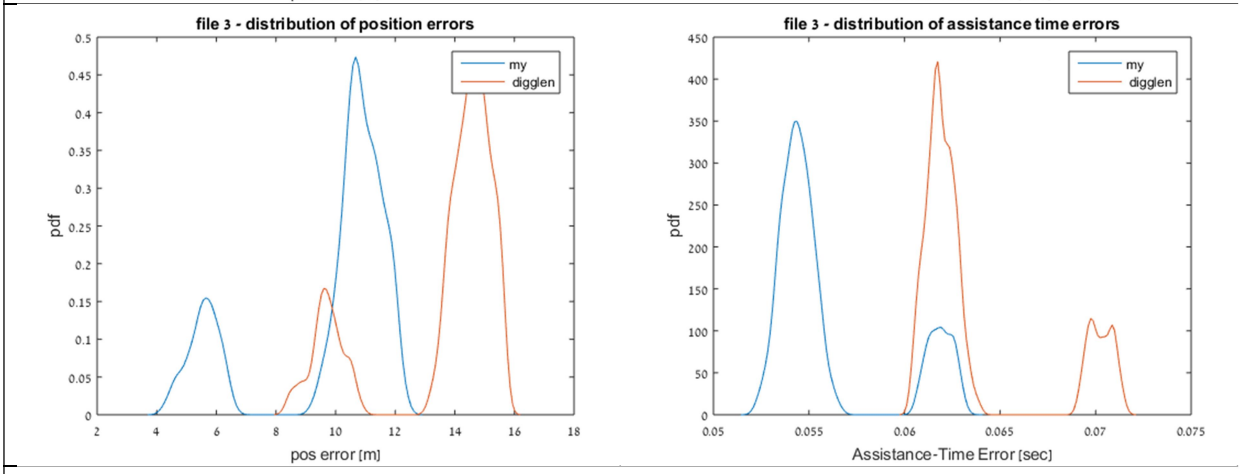
4. I calculate the distribution of position estimation error, and the distribution of error in assistance-time error estimation.

Plots:

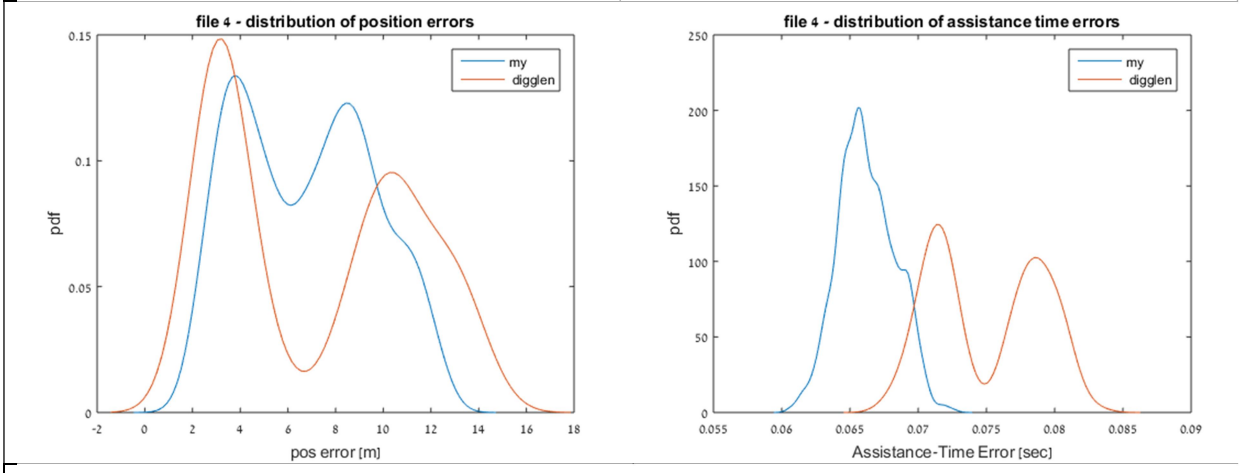



file 2 - distribution of position errors
my
digglen
pdf
pos error [m]

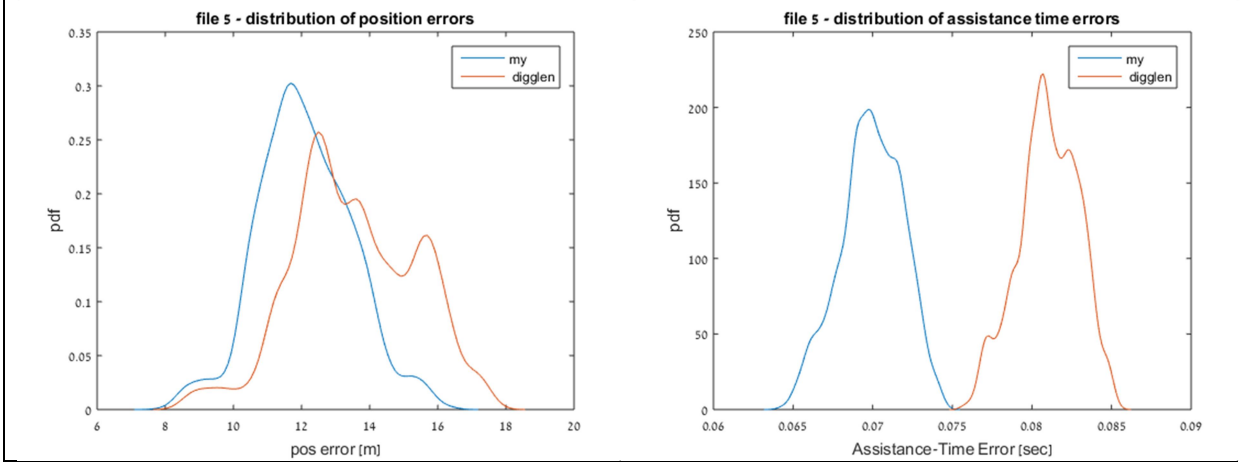
file 2 - distribution of assistance time errors
my
digglen
pdf
Assistance-Time Error [sec]


file 3 - distribution of position errors
my
digglen
pdf
pos error [m]

file 3 - distribution of assistance time errors
my
digglen
pdf
Assistance-Time Error [sec]


file 4 - distribution of position errors
my
digglen
pdf
pos error [m]

file 4 - distribution of assistance time errors
my
digglen
pdf
Assistance-Time Error [sec]


file 5 - distribution of position errors
my
digglen
pdf
pos error [m]

file 5 - distribution of assistance time errors
my
digglen
pdf
Assistance-Time Error [sec]