

Adj. GeoSpec. Obs. Homework 7 GPS pseudorange Adj.

assigned Mon. 14 Nov, due 1 week

1. Go to [www.ngs.noaa.gov/CORS](http://www.ngs.noaa.gov/CORS) → Data Products → Standard

2. Select RINEX, and date 1 Oct. 2011, and station INWL and find observation file

inwl 2740.110 (.gz)

Station      D.O.Y.      24 hrs.      Yr.      obs

3. select IGS Ephemeris for same day and find

igs 16556.sp3 (.gz)

int'l GNSS Service      final      GPS wk      day      sat. eph.

Sun=0, sat=6

(sat. coords in ITRF2008)  $X, Y, Z$  (km),  $dt_s$  ( $\mu$ sec)

4. Make LS adjustment using C1 pseudorange at 13:00:00

5. Make LS adjustment using C1 at 13:00:00, 13:30:00, 14:00:00

6. Repeat single epoch adjustment in (4) and constrain the computed receiver position to be exactly 100 m from

$[260679.818, -4852970.302, 4116969.922]$

Use elevation angle mask of 10 degrees for all adjustments, assume  $\sigma = 25$  m, make 2-sided global test at  $\alpha = 0.05$  for all adjustments. Use

$$PR_{CORR} = PR_{RAW} + c \cdot dt_s, \quad c = 299792458 \text{ m/s}, \quad \text{rec. units for LS: Km, } \mu\text{sec}$$