```
wv1_i2g_1b2
do for point A4
vec0 =
                  0.05372
                140.711895
                  7949.165
vec_img =
                        0
               -81.2580524
                        0
vSensor =
                  0.05372
                59.4538426
                  7949.165
vSensor =
     6.75775349145191e-006
       0.00747904714092297
          0.99997203151298
vSat =
     6.75775349145191e-006
       0.00747904714092297
          0.99997203151298
idx1 =
   846
idx2 =
   847
intx =
           211872.540599001
inty =
          -5276565.25644929
intz =
           4391229.06108219
intvx =
           -1477.9354747142
intvy =
          -4872.78486922457
intvz =
          -5767.39502550526
intqi =
         -0.619438924671526
intqj =
          0.624385218021547
intqk =
           0.29370116292118
intqs =
          0.374403718776603
m =
        0.0477654524651902        -0.993462631657994         0.103684430123176
        -0.553611401062736        0.0600700906410985         0.830605803509538
        -0.831404160540559        -0.097075144653729        -0.547122964356558
vEcf =
        0.0962516991587759
          0.83102809859219
        -0.547839310162477
vNad =
          -211872.540599001
           5276565.25644929
          -4391229.06108219
vNad =
        -0.0308490708640113
          0.768278584164724
        -0.639371841685786
theta =
          0.168932281612298
HH =
           497.036367544972
hh =
                  0.15542
K =
     4.61331713596649e-006
dtheta =
     7.86837421298259e-007
vNorm =
          0.656889341786716
         -0.466549660686136
         -0.592307189523026
atm. refr. rotation matrix for - dtheta
ans =
          0.999999999999824    -4.66049556482847e-007      3.6709861148973e-007
       4.6604936675849e-007          0.999999999999758     5.16865201305509e-007
     -3.67098852353908e-007    -5.16865030233925e-007          0.999999999999799
theta_prime =
          0.168931494774876
```

```
atm. refr. rotation matrix for + theta_prime
ans =
         0.991907440477614        0.0952214754364509       -0.0839791649211542
        -0.103946733446353         0.988863493916876        -0.106508530195194
           0.0729020310484         0.114375963446054         0.990759018558401
vEcfCor =
        0.0962511107474321
         0.831027860290957
        -0.547839775025618
new_theta =
         0.168931494774876
satPos =
          211872.540599001
         -5276565.25644929
          4391229.06108219
satVel =
          -1477.9354747142
         -4872.78486922457
         -5767.39502550526
corrected for velocity aberration
vEcfCorr =
        0.0962556071878608
         0.831041264807566
        -0.547818650898212
iterate for the height
k =
          506471.449261485
XG =
          260623.257470981
          -4855666.5826661
           4113774.5550293
dh =
    -0.000213421024369609
k =
          506471.449044382
XG =
          260623.257450084
         -4855666.58284652
          4113774.55514823
dh =
    -1.00581587503257e-009
k =
          506471.449044381
XG =
          260623.257450084
         -4855666.58284652
          4113774.55514823
dh =
    -1.00581587503257e-009
phid =
          40.4208631410027
lamd =
         -86.927651976522
computed
xy_comp =
          506137.525020114
          4474473.12612344
control
xy =
           506135.56816329
          4474472.74812566
dx =
          1.95685682428302
dy =
          0.37799778021872
do for point A6
vec0 =
                   0.05372
                140.711895
                  7949.165
vec_img =
                         0
             -150.75910556
                         0
vSensor =
                   0.05372
                -10.04721056
                    7949.165
vSensor =
     6.75793710273614e-006
      -0.00126393181352246
         0.999999201215032
vSat =
```

```
     6.75793710273614e-006
      -0.00126393181352246
         0.999999201215032
idx1 =
   868
idx2 =
   869
intx =
          211230.26114174
inty =
         -5278681.93382434
intz =
          4388722.51973524
intvx =
         -1478.35668086827
intvy =
         -4869.88559784135
intvz =
         -5769.74547055217
intqi =
        -0.619031951163249
intqj =
         0.624350525470477
intqk =
         0.293566164507322
intqs =
         0.375239618616388
m =
        0.0480106563636766        -0.993301159658146         0.105108434948447
        -0.552670537021469         0.0612367005583338        0.831147005055743
        -0.832015777725357        -0.0979942484358745       -0.546028271144963
vEcf =
         0.106364140378506
          0.83106520722129
        -0.545909599647942
vNad =
          -211230.26114174
          5278681.93382434
         -4388722.51973524
vNad =
       -0.0307555331391277
         0.768586263488589
        -0.639006457524474
theta =
         0.177355045759352
HH =
          497.040953353194
hh =
                   0.16614
K =
      4.6074896911924e-006
dtheta =
     8.25838623401865e-007
vNorm =
         0.631862391101726
        -0.480409708691387
        -0.608240438072203
atm. refr. rotation matrix for - dtheta
ans =
         0.999999999999795     -5.0230854957102e-007     3.96740761459382e-007
     5.02308342578656e-007         0.999999999999738     5.21816466873815e-007
    -3.96741023529701e-007    -5.21816267619788e-007         0.999999999999785
theta_prime =
         0.177354219920729
atm. refr. rotation matrix for + theta_prime
ans =
         0.990576589669491         0.102547822864896       -0.0907852632558347
        -0.112070929765106         0.987934166341471        -0.106893356560491
        0.0787281823767446         0.116060445462067         0.990117087166362
vEcfCor =
         0.106363506342735
         0.831064975784048
        -0.545910075510187
new_theta =
         0.177354219920728
satPos =
           211230.26114174
          -5278681.93382434
           4388722.51973524
satVel =
         -1478.35668086827
         -4869.88559784135
         -5769.74547055217
```

```
corrected for velocity aberration
vEcfCorr =
         0.106367961182888
         0.831078309092715
        -0.545888909018484
iterate for the height
k =
          507263.663474661
XG =
          265186.862807702
         -4857106.10611964
          4111812.91189633
dh =
     -0.000228084959076114
k =
          507263.66324224
XG =
          265186.86278298
         -4857106.1063128
          4111812.91202321
dh =
    -3.35262484441046e-010
k =
          507263.66324224
XG =
          265186.86278298
         -4857106.1063128
          4111812.91202321
dh =
    -3.35262484441046e-010
phid =
          40.3975809795961
lamd =
         -86.8748845030739
computed
xy_comp =
          510617.625525288
          4471893.85128146
control
xy =
          510615.82284792
          4471893.90464438
dx =
          1.80267736798851
dy =
        -0.053362924605608
diary off
```