

i2g_intermed_res

```

main1
line =
  6859
samp =
  7692
tline =
  43.1753746666667
num_intvl =
  580.1614833333333
nintvl =
  580
frac =
  0.161483333333194
idx1 =
  581
idx2 =
  582
Xs =
  291489.191479716
Ys =
  -4999112.82889089
Zs =
  4699572.45525561
satVel =
  -1420.54869229342
  -5229.58142504342
  -5459.82690689589
intqi =
  -0.729799431724664
intqj =
  0.672056166834426
intqk =
  0.100396692264932
intqs =
  0.0751917232280404
unitized
qi =
  -0.729799434284229
qj =
  0.672056169191473
qk =
  0.100396692617045
qs =
  0.0751917234917541
rotation matrix for sensor => ECF
m =
  0.0765220191264821      -0.996030424867821      -0.0454727756623092
  -0.965834423464831     -0.0853734203400442      0.244694187813687
  -0.2476050222414       0.0251946787451341     -0.968533417659796
check_m_view =
  1      -5.72458747072346e-17      -2.08166817117217e-17
  -5.72458747072346e-17      1      5.55111512312578e-17
  -2.08166817117217e-17      5.55111512312578e-17      1
after rotation into ecf
vEcf =
  -0.0553854291815733
  0.243764307124041
  -0.968251732147539
vNad =
  -291489.191479716
  4999112.82889089
  -4699572.45525561
len =
  6867465.05538457
vNad =
  -0.0424449471717615
  0.727941502224498
  -0.684324189108297
from dot product of vNad & vEcf
theta =
  0.569083732513203
HH =
  496.46505538457
hh =
  0.20917
term1 =
  4.58964794091646
term2 =
  4.31003366799304e-32

```

i2g_intermed_res

```

K =
  4.58964794091646e-06
dtheta =
  2.93589040225766e-06
AR angle correction (rad)
dtheta =
  2.93589040225766e-06
AR angle correction (sec)
cross product of vEcf & vNad
vNorm =
  0.538016808624746
  0.00319580470687367
  -0.029970789381542
len =
  0.538860415828286
vNorm =
  0.998434460615847
  0.00593067260648822
  -0.0556188365320427
alpha =
  0.998434460615847
beta =
  0.00593067260648822
gamma =
  -0.0556188365320427
rotation matrix for the atm. refr. correction
m2 =
  0.999999999999987      1.63290833878775e-07      1.74115654549054e-08
 -1.63290782839079e-07      0.999999999999569      -2.93129415162277e-06
 -1.74120441136869e-08      2.93129414877955e-06      0.9999999999995704
check_m_atm =
  1      5.74761066139852e-19      -5.39016364302419e-18
  5.74761066139852e-19      1      -3.21872519956634e-20
 -5.39016364302419e-18      -3.21872519956634e-20      1
vEcfCor =
  -0.0553854062335874
  0.243767154397561
  -0.968251016634118
new_theta =
  0.5690807966228
corrected for velocity aberration using the vac.m function
vEcfCorr =
  -0.0553814589800586
  0.243787916228194
  -0.968246015175046
a0 =
  6378137
f =
  0.00335281066474748
b0 =
  6356752.31424518
iterate for the height
dh =
  -0.000287388525890719
dh =
  1.78815184881387e-09
dh =
  -7.44933004170889e-11
dh =
  -7.44933004170889e-11
dh =
  -7.44933004170889e-11
k =
  601040.453386206
Xg =
  258202.694265152
Yg =
  -4852586.42919101
Zg =
  4117617.43130541
XYZ =
  258202.694265152
  -4852586.42919101
  4117617.43130541
misclosure with atmref & velab correction
enu =
  -0.638799351023418
  22.4515152315429
  -3.96447690960144e-05

```

diary off

i2g_intermed_res