

Program name/version: LSAdjGPSvectors: Version 2014-A

The user is: Earl F. Burkholder
Program used on: May 15, 2014
The input file for program is: HOLD FOLA_KEHA and 16 baselines.txt
The name of this output file is: HOLD FOLA_KEHA and 16 baselines.ans

The client is: WisCORS - Hold FOLA and KEHA plus 16 baselines
The project is: EFB May 15, 2014 using Trimble vectors

Three input matrices are F, B, and Q. They are:

The name/dimensions of the F vector are: F 54 1

-6,049.84
23,089.552
25,209.414
55,284.138
4,164.224
2,589.57
49,234.298
27,253.794
27,798.977
591.015
-26,179.546
-28,308.041
49,825.313
1,074.247
-509.066
-38,088.692
-13,401.941
-13,217.015
11,736.622
-12,327.695
-13,726.078
-17,613.23
-67,771.572
-71,093.815
3,160.419
-29,145.645
-31,100.235
12,264.525
-22,491.525
-24,372.823
-47,192.795
-20,056.051
-19,944.432
-32,510.268
-26,298.224
-26,267.509
25,381.565
-27,977.353
-30,092.793
-21,811.232
-48,033.426


```

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 -1
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 -1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 -1
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1 0 0 0 0 0 0 0 0 0 0 0 1
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -1
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 -1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 -1 0 0 0 0 0 0 0
-1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 -1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 -1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```

The name/dimensions of the Q matrix are: Q 54 54

```

3.7414E-6 -5.3433E-6 1.9981E-6 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
-5.3433E-6 8.19327E-5 -5.11704E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
1.9981E-6 -5.11704E-5 3.9252E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 4.8227E-6 -9.042E-7 1.0047E-6 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 -9.042E-7 6.82233E-5 -4.17516E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 0E0 1.0047E-6 -4.17516E-5 3.36817E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 1.8818E-6 1.138E-7 3.332E-7 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 1.138E-7 2.64428E-5 -1.9893E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 3.332E-7 -1.9893E-5 2.09629E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 1.4129E-6 -9.82E-8 -3.532E-7 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 -9.82E-8 2.11207E-5 -1.5796E-5 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0 0E0
0E0 0E0

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-2.09723551E-7 2.79710969E-6 4.78927371E-5 9.29690357E-8 -6.74121105E-6 5.54531363E-5 1.03185513E-7 -9.5705489E-6 5.83896268E-5
 3.1147204E-7 -1.57140113E-5 6.458789E-5 1.01479652E-7 -5.83270904E-6 5.51021611E-5 2.80883022E-7 -9.06540733E-6 5.7997399E-5 -
 3.78142208E-8 -9.42122963E-6 5.83861127E-5 4.94037728E-8 -7.66299606E-6 5.64051387E-5 2.09723551E-7 -2.79710969E-6 5.21072629E-5
 4.95897334E-5 3.82774108E-7 -2.45338529E-7 5.04808705E-5 -2.60230134E-7 2.45200493E-8 5.06041178E-5 -3.06932258E-7 2.81552863E-8
 5.0661405E-5 -3.71159394E-7 1.01479652E-7 5.13264262E-5 -1.01307441E-6 6.62413524E-7 5.07158824E-5 -4.80962015E-7 2.88217287E-7
 5.86235158E-5 -2.87334234E-7 6.48286183E-8 5.06546739E-5 -2.90548701E-7 -7.16675592E-8 5.04102666E-5 -3.82774108E-7 2.45338529E-7
 3.89239276E-7 4.26023152E-5 4.32105464E-6 -2.554204E-7 5.60082077E-5 -3.74475809E-6 -3.2828418E-7 5.78524786E-5 -5.06201629E-6 -
 3.80205722E-7 5.8842088E-5 -5.83270904E-6 -1.01307441E-6 7.18153831E-5 -1.51016009E-5 -4.63545107E-7 5.9963173E-5 -6.81713215E-6 -
 3.0225769E-7 5.86371508E-5 -5.54472008E-6 -3.43549153E-7 5.87767567E-5 -5.76771777E-6 -3.89239276E-7 5.73976848E-5 -4.32105464E-6
 -2.45230595E-7 4.45421101E-6 4.61418235E-5 1.16838767E-8 -3.59126976E-6 5.25358162E-5 3.96354968E-8 -5.01643968E-6 5.4102969E-5
 1.20705435E-7 -5.89170636E-6 5.51021611E-5 6.62413524E-7 -1.51016009E-5 6.40772969E-5 2.65357038E-7 -6.90125145E-6 5.64978447E-5
 3.12268344E-8 -5.58873494E-6 5.4867996E-5 -2.42417858E-8 -5.58565245E-6 5.44869765E-5 2.45230595E-7 -4.45421101E-6 5.38581765E-5
 4.95060535E-5 3.10228189E-7 -1.30587508E-7 5.04442783E-5 -3.74433908E-7 1.74279959E-7 5.06461735E-5 -4.58659954E-7 1.60749188E-7
 5.08379909E-5 -6.02232851E-7 2.80883022E-7 5.07158824E-5 -4.63545107E-7 2.65357038E-7 5.1226526E-5 -7.8924144E-7 4.05131214E-7
 5.08513916E-5 -3.62346787E-7 1.25152969E-8 5.05362315E-5 -3.851679E-7 7.45888197E-8 5.04939465E-5 -3.10228189E-7 1.30587508E-7
 3.50037037E-7 4.27782584E-5 4.48043031E-6 -2.98056829E-7 5.68181072E-5 -4.03344182E-6 -4.04825233E-7 5.99483379E-5 -6.29357543E-6 -
 5.75623407E-7 6.35297937E-5 -9.06540733E-6 -4.80962015E-7 5.9963173E-5 -6.90125145E-6 -7.8924144E-7 7.05159431E-5 -1.44219229E-5 -
 2.05256071E-7 6.40096532E-5 -8.940344E-6 -3.56674408E-7 5.82557313E-5 -5.10397416E-6 -3.50037037E-7 5.72217416E-5 -4.48043031E-6
 -1.54083781E-7 4.50167499E-6 4.59835405E-5 1.05414246E-7 -3.91804514E-6 5.27338784E-5 1.20056634E-7 -6.25883834E-6 5.5177359E-5
 2.77779705E-7 -9.08161892E-6 5.7997399E-5 2.88217287E-7 -6.81713215E-6 5.64978447E-5 4.05131214E-7 -1.44219229E-5 6.35232676E-5 -
 1.42331678E-7 -8.99284034E-6 5.77715107E-5 6.26061171E-8 -4.96591147E-6 5.38408569E-5 1.54083781E-7 -4.50167499E-6 5.40164595E-5
 4.96190787E-5 3.78060774E-7 -1.37279431E-7 5.05964015E-5 -2.6319773E-7 1.5396728E-7 5.08570785E-5 -3.368012E-7 1.20023257E-7
 5.08671108E-5 -2.18848787E-7 1.25152969E-8 5.06247587E-5 -2.80671076E-7 4.5582234E-8 5.03809213E-5 -3.78060774E-7 1.37279431E-7
 5.16915797E-5 1.66151946E-7 -3.49936291E-7 5.06247587E-5 -2.80671076E-7 4.5582234E-8 5.03809213E-5 -3.78060774E-7 1.37279431E-7
 4.9786778E-7 4.37353168E-5 3.77484385E-6 -1.56351357E-7 5.86014735E-5 -5.3263527E-6 -2.54312703E-7 6.25621242E-5 -8.26867605E-6 -
 2.74814877E-7 6.39517162E-5 -9.42122963E-6 -2.87334234E-7 5.86371508E-5 -5.58873494E-6 -3.6346787E-7 6.40096532E-5 -8.99284034E-6
 1.66151946E-7 7.45038224E-5 -1.64875001E-5 -2.23919522E-7 5.93555708E-5 -5.27355708E-6 -4.9786778E-7 5.62646832E-5 -3.77484385E-6
 -2.50715587E-7 3.86717829E-6 4.67455112E-5 2.75945728E-8 -5.19476067E-6 5.4029085E-5 2.67015987E-8 -8.20368458E-6 5.7173355E-5
 2.18589222E-8 -9.34344298E-6 5.83861127E-5 6.48286183E-8 -5.54472008E-6 5.4867996E-5 1.25152969E-8 -8.940344E-6 5.77715107E-5 -
 3.49936291E-7 -1.64875001E-5 6.47006135E-5 -1.88456714E-8 -5.7137847E-6 5.46056409E-5 2.50715587E-7 -3.86717829E-6 5.32544888E-5
 4.99039295E-5 2.29725967E-7 -1.52510683E-8 5.07512385E-5 -4.8901671E-7 2.5840827E-7 5.08014547E-5 -4.30583842E-7 1.47137544E-7
 5.07441579E-5 -3.65383905E-7 4.94037728E-8 5.06546739E-5 -3.43549153E-7 -2.42417858E-8 5.0536292E-5 -3.56674408E-7 6.26061171E-8
 5.06247587E-5 -2.23919522E-7 -1.88456714E-8 5.10140128E-5 -6.55219872E-7 3.25858987E-7 5.00960705E-5 -2.29725967E-7 1.52510683E-8
 2.58711594E-7 4.77057404E-5 6.68547624E-7 -4.42417421E-7 6.28343794E-5 -8.41057505E-6 -4.29072831E-7 6.33942206E-5 -8.71325424E-6 -
 3.88732665E-7 6.21097124E-5 -7.66299606E-6 -2.90548701E-7 5.87767567E-5 -5.58565245E-6 -3.851679E-7 5.82557313E-5 -4.96591147E-6 -
 2.80671076E-7 5.9355615E-5 -5.7137847E-6 -6.55219872E-7 6.78422694E-5 -1.22092327E-5 -2.58711594E-7 5.22942596E-5 -6.68547624E-7
 -4.09898093E-8 1.03468942E-6 5.01227853E-5 1.95966433E-7 -8.42348929E-6 5.71629697E-5 1.47658888E-7 -8.77268432E-6 5.74450097E-5
 6.92384048E-8 -7.75220883E-6 5.64051387E-5 -7.16675592E-8 -5.76771777E-6 5.44869765E-5 7.45888197E-8 -5.10397416E-6 5.38408569E-5
 4.5582234E-8 -5.87555708E-6 5.46056409E-5 3.25858987E-7 -1.22092327E-5 6.09428563E-5 4.09898093E-8 -1.03468942E-6 4.98772147E-5
 4.90679919E-5 3.9047963E-7 -1.29610288E-7 4.99855319E-5 -2.73450029E-7 1.67168138E-7 5.0165794E-5 -3.72587092E-7 1.84896898E-7
 5.0281117E-5 -4.00756653E-7 2.09723551E-7 5.04102666E-5 -3.89239276E-7 2.45230595E-7 5.04939465E-5 -3.50037037E-7 1.54083781E-7
 5.03809213E-5 -4.9786778E-7 2.50715587E-7 5.00960705E-5 -2.58711594E-7 4.09898093E-8 5.09320081E-5 -3.9047963E-7 1.29610288E-7
 3.9047963E-7 3.88153039E-5 7.17486768E-6 -1.9079102E-7 5.06995932E-5 7.09034941E-8 -2.92901936E-7 5.30075025E-5 -1.58723538E-6 -
 3.13716741E-7 5.46637925E-5 -2.79710969E-6 -3.82774108E-7 5.73976848E-5 -4.45421101E-6 -3.10228189E-7 5.72217416E-5 -4.50167499E-6
 -3.78060774E-7 5.62646832E-5 -3.86717829E-6 -2.29725967E-7 5.22942596E-5 -1.03468942E-6 -3.9047963E-7 6.11846961E-5 -7.17486768E-6
 -1.29610288E-7 7.17486768E-6 4.31459356E-5 8.21256183E-8 4.08132473E-7 4.87701601E-5 1.10200916E-7 -1.36090633E-6 5.07266376E-5
 1.41041997E-7 -2.67987451E-6 5.21072629E-5 2.45338529E-7 -4.32105464E-6 5.38581765E-5 1.30587508E-7 -4.48043031E-6 5.40164595E-5
 1.37279431E-7 -3.77484385E-6 5.32544888E-5 1.52510683E-8 -6.68547624E-7 4.88772147E-5 1.29610288E-7 -7.17486768E-6 5.68540644E-5

Delta - the answers.

170,846.09455
 -4,702,276.06493
 4,291,680.31273

115,561.9561
-4,706,440.29607
4,289,090.74517
114,970.94112
-4,680,260.74961
4,317,398.78543
153,059.63233
-4,666,858.80829
4,330,615.80086
182,409.48417
-4,611,414.9374
4,387,983.54501
149,899.21411
-4,637,713.16651
4,361,716.03667
102,706.41821
-4,657,769.22076
4,341,771.60106
164,796.25389
-4,679,186.5046
4,316,889.72313
124,517.64795
-4,609,735.81157
4,391,808.83097

Residuals.

0.00066
-0.00833
0.0036
-0.00044
-0.00714
0.00244
0.00022
0.00253
-0.00096
0.00001
0.00046
-0.00074
0.00023
0.00198
-0.0037
-0.00079
0.00032
0.00043
0.00045
0.00131
-0.00027
0.00029
-0.0048
0.00688
0.00078
-0.00322
0.00081

0.00209
0.00386
-0.00737
0.0009
0.00325
0.00361
0.00206
0.00512
-0.00067
-0.00116
0.00194
0.0013
-0.00226
-0.01681
-0.00209
-0.00178
0.00417
-0.00696
0.00345
-0.00007
0.00027
-0.00512
0.01953
-0.00879
-0.00345
0.00007
-0.00027

Now, finally redundancy, $R = 27$

And, $\text{SigmaNaughtSquared} = 2.1443805E0$

The covariance matrix of the computed parameters is

$\text{sigmanaghtsquared} * \text{Ninv} \quad 27 \quad 27$

1.09217605E-4	-8.37336906E-7	2.77933774E-7	1.0725005E-4	5.86380911E-7	-3.58472095E-7	1.068635E-4	7.98968495E-7	-3.96489303E-7
1.06616203E-4	8.59374753E-7	-4.49727095E-7	1.06339257E-4	8.34677115E-7	-5.25867707E-7	1.06159816E-4	7.50612598E-7	-3.30414256E-7
1.06402185E-4	1.06761796E-6	-5.37629616E-7	1.07013013E-4	5.54776098E-7	-8.78977478E-8	1.05220445E-4	8.37336906E-7	-2.77933774E-7
-8.37336906E-7	1.31203269E-4	-1.53856464E-5	4.09128543E-7	1.05718831E-4	-1.5204407E-7	6.28093201E-7	1.00769795E-4	3.4036366E-6
6.72728062E-7	9.72180794E-5	5.99806749E-6	8.20813335E-7	9.13555741E-5	9.55152326E-6	6.6524728E-7	9.17328632E-5	9.65330409E-6
8.10706153E-7	9.37851606E-5	8.29270173E-6	4.92619884E-7	1.0229926E-4	2.21876781E-6	8.37336906E-7	8.32347809E-5	1.53856464E-5
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