NỘI DUNG FILE INPUT.csv tôi trích ra đây cho bạn xem:

**Point\_ID,X\_VN2000,Y\_VN2000,Z\_VN2000,Fix\_Point**

**D493,2146723.945,473260.477,252.748,0**

**D629,2140610.794,477935.742,868.463,1**

**PH03,2146009.394,478383.23,199.857,1**

**PH04,2147697.7,472089.619,201.726,1**

**TỌA ĐỘ ECEF:**

**D493,**-1506551.4508,5826544.0664,2106062.3331**,0,**T11L03353 ComNav 55.0

**D629,**-1511746.7591,5827903.4010,2100507.7700**,1,**

**PH03,**-1511560.5114,5825442.1168,2105377.8958**,1**

**PH04,**-1505324.1920,5826477.9187,2106962.0671**,1**

**CAO MÁY:**

**D493: 2.0 M**

**D629: 2.0 M**

**PH03: 1.4 M**

**PH04: 2.0 M**

**Dữ liệu 1 phần 03 file gốc cùng thời gian đo CÓ TỌA ĐỘ ECEF VÀ CÁC QUAN SÁT:**

**1 đoạn file** D629.**25O điểm gốc 1:**

“3.04 O: GNSS OBS DATA M: Mixed RINEX VERSION / TYPE

CRU ComNav Technology 20250714 135153 LCL PGM / RUN BY / DATE

D629 MARKER NAME

GEODETIC MARKER TYPE

OBSERVER / AGENCY

T11L03428 ComNav 55.0 REC # / TYPE / VERS

ANT # / TYPE

-1511746.7591 5827903.4010 2100507.7700 APPROX POSITION XYZ

2.0000 0.0000 0.0000 ANTENNA: DELTA H/E/N

G 16 C1C L1C S1C D1C C2W L2W S2W D2W C2X L2X S2X D2X C5X SYS / # / OBS TYPES

L5X S5X D5X SYS / # / OBS TYPES

R 8 C1C L1C S1C D1C C2P L2P S2P D2P SYS / # / OBS TYPES

C 20 C2I L2I S2I D2I C7I L7I S7I D7I C6I L6I S6I D6I C1P SYS / # / OBS TYPES

L1P S1P D1P C5P L5P S5P D5P SYS / # / OBS TYPES

E 16 C1X L1X S1X D1X C7X L7X S7X D7X C5X L5X S5X D5X C8Q SYS / # / OBS TYPES

L8Q S8Q D8Q SYS / # / OBS TYPES

J 12 C1C L1C S1C D1C C2L L2L S2L D2L C5Q L5Q S5Q D5Q SYS / # / OBS TYPES

2.000 INTERVAL

2025 7 11 2 22 38.000000 GPS TIME OF FIRST OBS

G L1C SYS / PHASE SHIFT

G L2P SYS / PHASE SHIFT

G L2X SYS / PHASE SHIFT

G L5X SYS / PHASE SHIFT

R L1C SYS / PHASE SHIFT

R L2C SYS / PHASE SHIFT

C L2I SYS / PHASE SHIFT

C L7X SYS / PHASE SHIFT

C L6I SYS / PHASE SHIFT

C L1X SYS / PHASE SHIFT

C L5X SYS / PHASE SHIFT

E L1X SYS / PHASE SHIFT

E L7X SYS / PHASE SHIFT

E L5X SYS / PHASE SHIFT

E L8Q SYS / PHASE SHIFT

J L1C SYS / PHASE SHIFT

J L2L SYS / PHASE SHIFT

J L5Q SYS / PHASE SHIFT

24 R01 1 R02 -4 R03 5 R04 6 R05 1 R06 -4 R07 5 R08 6 GLONASS SLOT / FRQ #

R09 -2 R10 -7 R11 0 R12 -1 R13 -2 R14 -7 R15 0 R16 -1 GLONASS SLOT / FRQ #

R17 4 R18 -3 R19 3 R20 2 R21 4 R22 -3 R23 3 R24 2 GLONASS SLOT / FRQ #

C1C -71.940 C1P -71.940 C2C -71.940 C2P -71.940 GLONASS COD/PHS/BIS

18 LEAP SECONDS

COMMENT

END OF HEADER

> 2025 7 11 2 24 44.0000000 0 39

G21 20238505.023 109253956.89807 43.000 -494.965 20238508.203 85017294.98005 35.000 -385.684 20238507.469 85018369.97308 51.000 -385.578 20238510.992 76626422.41808 51.000 -369.551

G20 20489395.617 109227304.17207 46.000 -363.059 20489397.086 85359795.93406 36.000 -282.906

G05 21331183.078 108738153.68407 44.000 1680.246 21331181.781 85101910.78905 33.000 1309.285 21331181.469 85096863.78106 38.000 1309.156

G11 21959765.531 117611009.89807 46.000 -297.086 21959765.672 93745436.46905 30.000 -231.500 21959766.250 93746547.48407 44.000 -231.508 21959772.586 85355725.84008 50.000 -221.875

G12 21870224.313 117444939.73406 36.000 317.281 21870230.547 93630050.73404 25.000 247.234 21870231.695 93631136.69905 35.000 247.430

G19 21479029.047 109539912.08606 37.000 -1687.668 21479032.625 85583170.91403 21.000 -1315.059

G17 23627460.336 126402120.87905 33.000 -2222.215 23627468.273 94065825.34415 31.000 -1731.316

G06 23113836.414 117769031.11705 31.000 -1184.250 23113830.742 93896574.77303 20.000 -922.793 23113829.453 93897625.77305 33.000 -923.297 23113828.898 93889122.53506 36.000 -884.113

G09 24096499.555 102363229.08216 40.000 -1324.074 24096498.484 93962922.19106 39.000 -1269.035

G25 23617394.156 125648402.79705 34.000 1636.137 23617406.406 96390147.54713 20.000 1274.934 23617405.602 96390569.52015 35.000 1275.230 23617401.867 96401358.64806 39.000 1221.852

C08 36288083.547 193131689.48407 43.000 -405.645 36288079.430 142776587.41808 48.000 -313.668 36288078.281 151190547.45707 45.000 -329.668

C07 35768605.258 184617378.62906 40.000 104.547 35768601.523 142680991.74606 40.000 80.895 35768601.109 151092692.10907 42.000 85.016

C10 35740847.133 184547932.60906 39.000 397.465 35740846.242 142629833.87906 41.000 307.320 35740845.695 151036307.98007 42.000 323.023

C13 36348812.492 193098259.36307 43.000 -270.020 36348815.383 142751579.36707 45.000 -208.746 36348810.289 151164322.71506 36.000 -219.188

C03 35921715.008 184637339.54305 35.000 31.461 35921711.461 142697182.88707 45.000 24.047 35921712.508 151756643.08607 42.000 25.547

C02 36748914.727 193021488.37906 41.000 53.984 36748910.664 151081873.68808 48.000 41.660 36748912.789 151752421.84007 43.000 43.645

C01 37864651.516 193034037.28906 37.000 18.480 37864654.430 151089840.81607 43.000 14.297 37864653.891 159500374.11706 39.000 14.977

C05 38183239.180 201414212.48406 36.000 24.691 38183236.891 151085941.19906 39.000 19.613

C04 39068130.492 201408601.08606 39.000 29.430 39068126.352 159471275.68805 30.000 22.016 39068129.008 168528867.44105 32.000 23.555

C47 23113087.141 117227682.14107 44.000 1318.719 23113086.008 100528570.80107 47.000 1071.605

C32 23168992.578 117876982.27706 41.000 -1538.844 23168996.695 101058185.11707 43.000 -1250.480 23169000.031 92649271.78106 41.000 -1159.734

C20 22353967.766 117100363.73007 46.000 1753.602 22353964.000 92045136.59007 45.000 1425.066 22353971.188 83681246.86708 49.000 1321.586

C30 22497138.484 117429535.25806 39.000 443.566 22497142.445 92306566.87506 36.000 360.109 22497145.563 92312336.30906 41.000 334.270

C59 37465973.039 193033093.16006 41.000 42.559 37465961.727 159496725.12907 44.000 34.492

C29 24053853.891 125491168.50006 41.000 1850.691 24053854.500 100435575.96107 46.000 1503.738 24053857.344 92057525.66807 43.000 1394.500

C27 24754237.070 126195666.20706 39.000 -1210.023 24754241.586 101650924.43406 38.000 -983.145

C38 36085990.172 184789488.72708 50.000 -594.996 36085988.039 151228279.03908 49.000 -483.465 36085992.438 142830811.72708 50.000 -448.473

C40 36147007.086 184580120.10208 48.000 280.770 36147006.234 151058336.91008 48.000 228.168 36147008.469 142673207.83207 46.000 211.594

R22 21333138.273 115389833.96907 42.000 471.086 21333142.438 90249165.47707 42.000 366.273

R23 22478918.570 123546845.77707 42.000 1506.543

R21 23359986.109 124107572.64806 40.000 -985.504 23359988.680 98890773.21906 38.000 -766.484

R07 20244240.672 107325210.85508 49.000 -1052.141 20244240.914 82110696.83208 49.000 -818.305

R08 20198064.344 106465061.51606 41.000 2754.508 20198058.953 81448734.65205 35.000 2142.566

E10 25285890.461 134300225.82407 44.000 62.242 25285905.297 101250670.17607 47.000 47.777 25285907.547 101250894.08207 47.000 46.508

E16 25623082.883 134055303.29306 39.000 1111.012 25623097.773 101067583.62507 47.000 851.129 25623096.742 101072462.96906 41.000 829.535

E24 24350334.188 125951307.33606 39.000 -128.867 24350345.672 101291521.64507 42.000 -98.660 24350346.961 92902108.64506 39.000 -96.027

E33 26964037.141 142941877.40207 45.000 -1097.828 26964053.805 109823183.62507 43.000 -841.258 26964056.945 109818742.02307 43.000 -819.926

E25 27421720.172 142277064.46905 34.000 1961.793 27421740.992 109334595.09806 40.000 1503.246 27421742.758 109342568.71506 37.000 1464.996

E31 24905494.648 101643689.28107 42.000 -1820.828 24905492.242 101633924.51205 31.000 -1774.746

**1 đoạn file** PH03.**25O điểm gốc 2:**

“3.04 O: GNSS OBS DATA M: Mixed RINEX VERSION / TYPE

CRU ComNav Technology 20250714 135156 LCL PGM / RUN BY / DATE

PH03 MARKER NAME

GEODETIC MARKER TYPE

OBSERVER / AGENCY

T11L02083 ComNav 55.0 REC # / TYPE / VERS

ANT # / TYPE

-1511560.5114 5825442.1168 2105377.8958 APPROX POSITION XYZ

1.4000 0.0000 0.0000 ANTENNA: DELTA H/E/N

G 16 C1C L1C S1C D1C C2W L2W S2W D2W C2X L2X S2X D2X C5X SYS / # / OBS TYPES

L5X S5X D5X SYS / # / OBS TYPES

R 8 C1C L1C S1C D1C C2P L2P S2P D2P SYS / # / OBS TYPES

C 20 C2I L2I S2I D2I C7I L7I S7I D7I C6I L6I S6I D6I C1P SYS / # / OBS TYPES

L1P S1P D1P C5P L5P S5P D5P SYS / # / OBS TYPES

E 16 C1X L1X S1X D1X C7X L7X S7X D7X C5X L5X S5X D5X C8Q SYS / # / OBS TYPES

L8Q S8Q D8Q SYS / # / OBS TYPES

J 12 C1C L1C S1C D1C C2L L2L S2L D2L C5Q L5Q S5Q D5Q SYS / # / OBS TYPES

2.000 INTERVAL

2025 7 11 1 31 48.000000 GPS TIME OF FIRST OBS

G L1C SYS / PHASE SHIFT

G L2P SYS / PHASE SHIFT

G L2X SYS / PHASE SHIFT

G L5X SYS / PHASE SHIFT

R L1C SYS / PHASE SHIFT

R L2C SYS / PHASE SHIFT

C L2I SYS / PHASE SHIFT

C L7X SYS / PHASE SHIFT

C L6I SYS / PHASE SHIFT

C L1X SYS / PHASE SHIFT

C L5X SYS / PHASE SHIFT

E L1X SYS / PHASE SHIFT

E L7X SYS / PHASE SHIFT

E L5X SYS / PHASE SHIFT

E L8Q SYS / PHASE SHIFT

J L1C SYS / PHASE SHIFT

J L2L SYS / PHASE SHIFT

J L5Q SYS / PHASE SHIFT

24 R01 1 R02 -4 R03 5 R04 6 R05 1 R06 -4 R07 5 R08 6 GLONASS SLOT / FRQ #

R09 -2 R10 -7 R11 0 R12 -1 R13 -2 R14 -7 R15 0 R16 -1 GLONASS SLOT / FRQ #

R17 4 R18 -3 R19 3 R20 2 R21 4 R22 -3 R23 3 R24 2 GLONASS SLOT / FRQ #

C1C -71.940 C1P -71.940 C2C -71.940 C2P -71.940 GLONASS COD/PHS/BIS

18 LEAP SECONDS

COMMENT

END OF HEADER

> 2025 7 11 1 31 48.0000000 0 48

> 2025 7 11 2 24 44.0000000 0 47

G21 20238348.375 107560468.82007 47.000 -490.746 20238355.344 83296893.82007 44.000 -382.395 20238355.063 83297996.82408 51.000 -382.367 20238358.883 83348957.55108 51.000 -366.434

G20 20489023.648 107649447.87107 45.000 -359.133 20489030.688 83365217.60506 39.000 -279.844

G19 21480424.828 112334837.61707 45.000 -1691.488 21480432.555 87005502.10906 36.000 -1318.039

G11 21956363.828 118399609.23406 38.000 -296.730 21956373.039 93584099.00404 24.000 -231.230 21956372.953 93585214.00007 43.000 -231.020 21956375.711 85168469.19506 40.000 -221.270

G13 23914730.742 125774409.37906 37.000 3087.719 23914743.258 99326442.51203 23.000 2406.000

G17 23630032.867 123100006.42206 39.000 -2225.125 23630043.828 97240408.84405 35.000 -1733.859 23630043.039 97241475.84006 41.000 -1733.727

G06 23110470.359 121872945.13305 34.000 -1185.598 23110480.102 96285653.82403 22.000 -923.844 23110480.172 96286284.80105 32.000 -923.328 23110481.930 87756875.85906 36.000 -885.344

G05 21333544.078 109299387.84407 45.000 1683.887 21333551.914 86515992.69507 45.000 1312.125 21333551.820 86517119.69507 46.000 1312.145

G12 21870165.578 113223645.27306 40.000 313.766 21870172.633 89773344.89505 31.000 244.496 21870172.367 89785151.91806 37.000 244.543

G09 24093082.906 127750833.98005 33.000 -1696.727 24093095.055 102748412.54704 25.000 -1322.109 24093094.406 95087229.57806 36.000 -1322.254 24093096.414 94996522.82006 39.000 -1266.906

C08 36288178.359 185076093.20707 45.000 -403.730 36288180.109 143034117.75808 50.000 -312.094 36288179.531 151463551.36708 50.000 -328.016

C07 35769367.789 183765851.60207 46.000 102.543 35769369.617 142020955.44508 49.000 79.316 35769368.156 150398924.73407 47.000 83.469

C03 35924320.711 184529395.68407 46.000 31.195 35924324.375 142611173.16408 49.000 24.188 35924324.688 151019221.07807 45.000 25.426

C13 36349767.789 193039224.36307 47.000 -267.973 36349777.383 142705111.85507 47.000 -207.195 36349775.133 151117887.78507 46.000 -217.734

C10 35740771.664 182877155.02707 45.000 395.777 35740775.883 141333758.73007 47.000 305.996 35740774.195 149676838.15607 47.000 321.488

C02 36751737.219 192854533.06307 43.000 53.785 36751738.930 150950904.78508 48.000 41.621 36751741.961 159356254.92607 45.000 43.871

C01 37866194.727 201352190.83207 43.000 18.691 37866200.523 151035228.84007 43.000 14.152 37866202.320 159444868.85207 42.000 15.180

C05 38185515.219 201345505.90606 36.000 24.270 38185518.531 151030057.33206 38.000 19.449 38185521.445 159439427.27706 39.000 20.012

C04 39068897.148 201306487.38306 40.000 29.238 39068904.219 159388487.18007 42.000 22.809 39068903.906 167796350.49206 41.000 23.898

C59 37467794.688 192885596.18807 45.000 42.539 37467789.141 159381228.62907 47.000 34.598

C20 22357067.086 117844898.38308 49.000 1756.828 22357070.211 94216930.76608 51.000 1427.672 22357074.922 86304455.94908 49.000 1323.977

C32 23167029.516 119745065.65206 39.000 -1535.750 23167036.898 94187808.53107 45.000 -1247.836 23167041.055 94057195.44107 45.000 -1157.234

C47 23109867.125 121668579.86307 42.000 1317.941 23109871.680 97323002.35506 40.000 1071.012

C30 22494805.023 115650969.67608 48.000 441.293 22494813.805 99249647.79708 48.000 358.543 22494816.141 90971893.81307 47.000 332.496

C36 24811606.656 130321113.14807 43.000 -1635.547 24811620.789 104559255.99207 47.000 -1328.945 24811626.875 95910984.16007 46.000 -1232.543

C19 25557468.031 131054049.23407 42.000 3281.063 25557474.906 106644669.47307 45.000 2666.137 25557478.797 98585945.99207 42.000 2472.609

C38 36084982.578 185967077.34007 47.000 -593.328 36084986.906 152187429.66008 49.000 -482.160 36084990.172 143720515.32407 47.000 -447.164

C27 24754172.609 129247394.28107 42.000 -1213.133 24754183.430 103990484.47307 42.000 -985.676 24754187.703 95405407.31606 39.000 -914.313

C40 36147454.766 191542538.52707 47.000 278.543 36147459.977 149901512.06608 49.000 226.445 36147462.664 141600509.10208 48.000 209.922

C29 24050559.313 128593656.72305 34.000 1850.785 24050566.656 105152535.22706 39.000 1503.980 24050570.219 97101443.30506 39.000 1394.852

C45 26124943.875 133614678.62505 35.000 -284.297 26124947.352 109468559.16006 38.000 -230.988 26124955.844 100782277.28106 40.000 -214.418

R23 22474960.906 120172833.09808 48.000 1507.758

R13 22620880.844 118091706.36315 32.000 -34.398

R22 21329244.930 114791347.59407 47.000 469.516 21329252.320 89896093.68806 37.000 364.945

R12 21885674.719 121052992.47308 48.000 -2404.859 21885685.727 94766360.57807 45.000 -1870.352

R21 23358720.984 127392623.47307 42.000 -989.563 23358732.266 93169510.74606 40.000 -769.500

R07 20242891.813 106318005.82008 50.000 -1047.469 20242898.633 81444103.98807 47.000 -814.664

R08 20201572.477 104173432.69108 51.000 2758.266 20201577.938 81647725.01208 49.000 2145.250

E31 24909894.047 132348465.34407 44.000 -2378.418 24909917.289 97396748.55908 50.000 -1822.438 24909918.945 97271513.85907 45.000 -1776.152

E24 24350903.766 123878459.46107 43.000 -132.188 24350923.258 99295705.39507 46.000 -101.320 24350926.977 99335459.19507 46.000 -98.813

E10 25283330.273 134052853.40606 39.000 64.293 25283351.945 100663697.55107 44.000 49.191 25283354.359 100668666.07406 40.000 48.000

E33 26960797.234 137609983.37505 33.000 -1099.555 26960818.836 112554913.90205 33.000 -842.477 26960822.258 104292864.55905 33.000 -820.914

E04 26255818.398 135025804.95306 39.000 2426.590 26255842.656 103376112.37507 45.000 1859.313 26255846.961 103526379.11307 45.000 1811.973

E16 25621395.383 136934054.62505 32.000 1107.742 25621416.289 104870106.44506 40.000 848.781 25621418.438 96592824.09005 35.000 827.262

E11 26262234.148 140469803.05905 31.000 570.230 26262254.875 107539333.75805 35.000 437.336

E19 25060181.938 129744834.74206 38.000 908.691 25060204.250 97357801.56606 41.000 696.238 25060207.063 97446809.76606 38.000 678.637

E06 27554139.516 141074815.70306 39.000 2458.875 27554165.445 107407991.21107 44.000 1884.055 27554168.359 107454408.75006 40.000 1836.066

**1 đoạn file** PH04.**25O điểm gốc 3:**

“3.04 O: GNSS OBS DATA M: Mixed RINEX VERSION / TYPE

CRU ComNav Technology 20250714 135208 LCL PGM / RUN BY / DATE

PH04 MARKER NAME

GEODETIC MARKER TYPE

OBSERVER / AGENCY

T11L03359 ComNav 55.0 REC # / TYPE / VERS

ANT # / TYPE

-1505324.1920 5826477.9187 2106962.0671 APPROX POSITION XYZ

2.0000 0.0000 0.0000 ANTENNA: DELTA H/E/N

G 16 C1C L1C S1C D1C C2W L2W S2W D2W C2X L2X S2X D2X C5X SYS / # / OBS TYPES

L5X S5X D5X SYS / # / OBS TYPES

R 8 C1C L1C S1C D1C C2P L2P S2P D2P SYS / # / OBS TYPES

C 20 C2I L2I S2I D2I C7I L7I S7I D7I C6I L6I S6I D6I C1P SYS / # / OBS TYPES

L1P S1P D1P C5P L5P S5P D5P SYS / # / OBS TYPES

E 16 C1X L1X S1X D1X C7X L7X S7X D7X C5X L5X S5X D5X C8Q SYS / # / OBS TYPES

L8Q S8Q D8Q SYS / # / OBS TYPES

J 12 C1C L1C S1C D1C C2L L2L S2L D2L C5Q L5Q S5Q D5Q SYS / # / OBS TYPES

2.000 INTERVAL

2025 7 11 2 1 32.000000 GPS TIME OF FIRST OBS

G L1C SYS / PHASE SHIFT

G L2P SYS / PHASE SHIFT

G L2X SYS / PHASE SHIFT

G L5X SYS / PHASE SHIFT

R L1C SYS / PHASE SHIFT

R L2C SYS / PHASE SHIFT

C L2I SYS / PHASE SHIFT

C L7X SYS / PHASE SHIFT

C L6I SYS / PHASE SHIFT

C L1X SYS / PHASE SHIFT

C L5X SYS / PHASE SHIFT

E L1X SYS / PHASE SHIFT

E L7X SYS / PHASE SHIFT

E L5X SYS / PHASE SHIFT

E L8Q SYS / PHASE SHIFT

J L1C SYS / PHASE SHIFT

J L2L SYS / PHASE SHIFT

J L5Q SYS / PHASE SHIFT

24 R01 1 R02 -4 R03 5 R04 6 R05 1 R06 -4 R07 5 R08 6 GLONASS SLOT / FRQ #

R09 -2 R10 -7 R11 0 R12 -1 R13 -2 R14 -7 R15 0 R16 -1 GLONASS SLOT / FRQ #

R17 4 R18 -3 R19 3 R20 2 R21 4 R22 -3 R23 3 R24 2 GLONASS SLOT / FRQ #

C1C -71.940 C1P -71.940 C2C -71.940 C2P -71.940 GLONASS COD/PHS/BIS

18 LEAP SECONDS

COMMENT

END OF HEADER

> 2025 7 11 2 24 44.0000000 0 43

G21 20237466.641 109256742.34407 47.000 -490.836 20237470.516 85245260.21907 42.000 -382.465 20237470.258 85246350.23008 51.000 -382.520 20237474.500 76853721.56308 51.000 -366.555

G20 20486835.438 109175140.78107 45.000 -359.770 20486838.039 85181431.81606 39.000 -280.336

G19 21485360.086 111144251.89107 43.000 -1693.094 21485363.703 86695658.09406 37.000 -1319.285

G11 21955213.359 117965023.08607 45.000 -300.691 21955217.477 93873715.66005 35.000 -234.301 21955217.023 93874796.67208 48.000 -234.316 21955221.281 85472189.50408 48.000 -224.582

G05 21330532.141 114511648.59407 44.000 1684.898 21330535.844 83211614.49607 46.000 1312.910 21330535.805 83212732.50007 47.000 1312.902

G12 21865417.086 116378976.94507 45.000 313.051 21865421.141 93033026.93407 45.000 243.938 21865421.383 93034130.93807 46.000 243.824

G06 23113239.422 119355783.77706 39.000 -1189.676 23113247.414 95303033.36306 36.000 -927.016 23113247.781 95304136.36707 42.000 -926.965 23113249.125 86857240.07407 45.000 -888.449

G13 23916907.875 124830934.48806 39.000 3085.723 23916914.453 98432209.10903 23.000 2404.465

G25 23609116.297 123633574.36706 38.000 1633.430 23609125.789 93900522.52305 35.000 1272.805 23609126.289 93901638.50807 42.000 1272.957 23609126.711 93953280.61307 43.000 1219.871

G17 23635879.148 120417454.18005 32.000 -2224.578 23635886.164 96503245.93403 22.000 -1733.445 23635886.008 96504341.97305 35.000 -1733.684

C08 36286568.359 185069252.63307 45.000 -402.301 36286566.805 143029566.10908 49.000 -310.980 36286564.820 152069205.50407 47.000 -326.848

C07 35770652.203 184367905.07407 45.000 102.566 35770650.266 142489000.44508 49.000 79.324 35770648.625 151673463.16008 48.000 83.328

C10 35740562.703 183955000.77707 45.000 395.555 35740564.625 142169004.05908 49.000 305.852 35740561.656 151168770.15207 47.000 321.348

C03 35925722.867 184585793.20307 46.000 31.207 35925722.219 142657321.63708 48.000 24.121 35925723.109 151846444.02007 46.000 25.473

C13 36347624.875 193251235.26607 47.000 -266.434 36347631.242 142872113.98808 48.000 -205.941 36347628.398 151290368.58207 47.000 -216.461

C02 36749854.820 192944798.76207 43.000 54.031 36749852.953 151023887.49208 48.000 41.648 36749854.945 152583555.60907 44.000 43.844

C01 37871158.102 201382087.61307 42.000 18.477 37871162.031 151060943.48407 46.000 14.273 37871162.078 160250653.35507 43.000 14.902

C05 38181058.281 201375906.09406 40.000 24.785 38181059.555 151056005.11707 45.000 19.137 38181059.664 160245462.85507 42.000 20.234

C32 23169747.328 119245259.93808 48.000 -1534.355 23169751.414 102167172.06608 49.000 -1246.770 23169755.563 93677361.90208 48.000 -1156.293

C30 22496079.320 116779236.01608 49.000 437.574 22496083.719 91989598.21108 49.000 355.668 22496085.563 92034038.73007 46.000 329.746

C29 24046236.625 123271184.38707 45.000 1848.211 24046239.063 98622387.29707 45.000 1501.867 24046241.156 90385474.22707 44.000 1392.820

C47 23107680.742 123994545.30907 47.000 1314.695 23107681.945 99427559.75408 48.000 1068.105

C59 37472420.805 192959098.51207 47.000 42.547 37472411.555 160222408.44507 47.000 34.461

C36 24807560.656 128159776.05507 42.000 -1637.652 24807571.367 103378929.02707 44.000 -1330.641 24807577.234 94858003.27007 44.000 -1234.102

C45 26118547.352 134318814.15606 39.000 -284.348 26118546.023 109955902.56606 39.000 -231.078 26118550.367 101566346.23406 40.000 -214.461

C38 36084115.578 185391532.01208 48.000 -592.281 36084116.539 152330915.54308 50.000 -481.336 36084119.555 143897692.15208 49.000 -446.398

C20 22358249.383 114501113.80908 50.000 1757.750 22358248.094 91057779.84008 50.000 1428.359 22358253.523 91236947.75808 49.000 1324.676

C40 36150058.430 184108995.49607 47.000 278.582 36150060.109 151288719.32008 50.000 226.305 36150062.461 142931281.45708 48.000 209.906

C19 25556640.477 134303278.97307 43.000 3281.340 25556641.438 110515453.31607 43.000 2666.461 25556648.680 98545297.82807 42.000 2472.773

R23 22470804.922 122126404.21107 44.000 1503.957

R22 21329785.336 115128367.55108 48.000 464.336 21329790.117 90106582.07807 45.000 361.219

R12 21881507.383 118820482.91007 47.000 -2406.984 21881516.195 92974549.68807 46.000 -1872.027

R13 22614801.766 123439066.38306 40.000 -33.836

R07 20245866.094 107973956.26608 51.000 -1044.840 20245869.375 82677293.97308 50.000 -812.668

R08 20204025.648 111144556.12908 50.000 2759.320 20204027.367 87017300.90208 50.000 2146.191

E10 25279329.422 134233127.14507 44.000 62.117 25279347.883 101191694.68408 48.000 47.535 25279349.766 101193150.91807 46.000 46.320

E31 24910417.141 129158339.29307 44.000 -2379.547 24910436.914 103730468.43408 49.000 -1823.371 24910439.266 95278782.35507 47.000 -1776.938

E24 24346946.641 125632458.92207 45.000 -132.805 24346963.672 101029252.51608 50.000 -101.820 24346965.750 92646226.66407 47.000 -99.277

E16 25616188.547 132266152.63707 43.000 1107.848 25616206.609 99686702.93808 48.000 848.918 25616207.500 99726416.68807 44.000 827.336

E04 26259018.813 139223674.91006 39.000 2425.672 26259039.016 107009101.81607 47.000 1858.563 26259040.680 107075948.26607 43.000 1811.328

E19 25065595.508 132657386.52706 38.000 909.887 25065614.875 99958074.05906 41.000 697.305 25065617.602 99990877.27006 40.000 679.520

E11 26256416.492 141838502.87506 38.000 569.547 26256433.227 108976808.40607 42.000 436.395 26256434.836 100604746.63306 39.000 425.453

E06 27555383.531 141287752.27706 37.000 2457.297 27555406.258 109403591.78506 40.000 1882.918 27555409.078 109433756.92206 40.000 1835.078

chúng ta quay lại với vấn đề nội suy các tín hiệu quan sát vệ tinh bằng máy thu gps đặt tại mặt đất nhé: tôi cung cấp cho bạn tọa độ vn2000 kinh tuyến trục 104 độ 45 phút, múi chiếu 3 độ, và tọa độ ecef được thu từ máy thu gps, chiều cao của máy thu so với mặt đất, khoảng thời gian đo chung của 3 máy gốc. có số liệu của 3 máy gốc, và số liệu vn2000, ecef của điểm mới cần nội suy mặc định chiều cao máy là 2m so với mặt đất. BẠN HÃY ĐỌC DỮ LIỆU TÔI GỬI VÀ TÌM CÁC VỆ TINH ĐO CHUNG TRONG KHOẢNG THỜI GIAN CHUNG ĐỂ NỘI SUY TẤT CẢ CÁC QUAN SÁT CÓ CHUNG ĐÓ THÀNH QUAN SÁT CỦA ĐIỂM MỚI NHÉ