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NOTES SCIENTIFIQUES ET TECHNIQUES DE L'INSTITUT DE MÉCANIQUE CÉLESTE

S089

OBSERVATIONS DES PLANÈTES, SATELLITES ET ASTÉROÏDES AVEC LA LUNETTE MÉRIDIENNE DE L'OBSERVATOIRE DE BORDEAUX (1995-2007)

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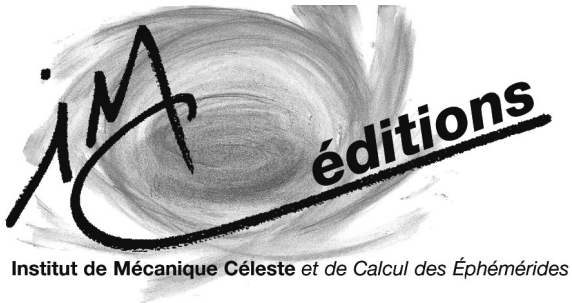

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INTRODUCTION

Nous présentons dans cette Note Scientifique et Technique les résultats des observations astrométriques d'objets du système solaire effectuées de 1995 à 2007 avec la lunette méridienne CCD automatique de l'Observatoire de Bordeaux.

Sur cette période, nous avons effectué près de 900 observations de planètes et satellites et plus de 1600 observations d'astéroïdes.

Une analyse des observations des planètes et des satellites par Arlot et al. (2008) a montré leur utilité pour l'étude des éphémérides de ces corps.

I. OBSERVATIONS

Les coordonnées locales de l'Observatoire de Bordeaux (code UAI = 999), sont les suivantes:

Longitude = 0° 31' 39" W
Latitude = 44° 50' 7" N
Altitude = 73m.

La lunette méridienne de l'Observatoire de Bordeaux a un diamètre de 20cm et une longueur focale de 2,7m, ce qui conduit à une échelle de 8,7''/mm dans le plan focal.

Depuis 1996, cet instrument est totalement automatisé et équipé d'un capteur CCD Thomson 7896M de 1024x1024 pixels de 19µm x19µm de dimension, correspondant à un champ de 1,7''x1,7''.

Nous avons effectué ces observations en mode TDI qui consiste à laisser défiler le ciel devant l'instrument immobile, positionné à une hauteur choisie. Les bandes de ciel ainsi observées ont une hauteur de 28' et leur longueur a été limitée à 1 heure.

Le temps de transit, qui est également le temps de pose en mode TDI, est de $112s/\cos\delta$ pour un objet céleste situé à une déclinaison δ. Il en résulte que la magnitude des objets observables dans de bonnes conditions est comprise entre 8,5 et 16.

Toutes les observations de planètes et de satellites sont issues de programmes spécifiques dédiés à ces objets. Par contre, seulement le quart des observations d'astéroïdes proviennent de programmes spécifiques. Les autres observations sont dérivées de la réduction astrométrique du catalogue stellaire M2000 (Rapaport et al., 2001) de la zone de Bordeaux de la carte du ciel $+11° < \delta < +18°$.

Le nombre total d'observations que nous présentons ici pour chacun de ces objets est :

1. Planètes

- Uranus (165 observations de 1997 à 2006)
- Neptune (102 observations de 1999 à 2006)
- Pluton (56 observations de 2002 et 2006)

2. Satellites des planètes

- Saturne : Titan, Hypérion et Japet (216 observations de 1999 à 2007)
- Uranus : Ariel, Umbriel, Titania et Obéron (235 observations de 1997 à 2006)
- Neptune : Triton (95 observations de 1999 à 2006)

3. Astéroïdes

- 1612 positions d'astéroïdes de magnitude visuelle inférieure ou égale à 16, observés entre 1995 et 2005.

La répartition des observations des planètes et des satellites pour chaque opposition de 1997 à 2007 est donnée dans la Table 1.

Table 1. Nombre d'observations de planètes et de satellites par opposition

	1997	1998	1999	2000	2001	2002	2003	2004 -2005	2006	2007	1997-2007
Titan	-	-	14	-	13	-	4	7	12	12	62
Hyperion	-	-	15	-	11	-	7	8	18	11	70
Japet	-	-	15	-	16	-	9	9	21	14	84
Uranus	18	10	2	-	50	9	26	22	28	-	165
Ariel	-	-	-	-	-	-	2	-	-	-	2
Umbriel	2	2	-	-	1	-	6	2	7	-	20
Titania	14	5	1	-	29	5	14	12	16	-	96
Oberon	13	6	1	-	38	9	20	12	18	-	117
Neptune	-	-	4	-	-	-	50	19	29	-	102
Triton	-	-	3	-	-	-	48	18	26	-	95
Pluton	-	-	-	-	-	23	-	-	33	-	56

II. RÉDUCTION ASTROMÉTRIQUE

Pour chaque bande de ciel et pour chaque étoile de référence, la réduction astrométrique utilise le modèle d'ordre 1 correspondant aux équations de condition suivantes:

$\alpha_R = \alpha_0 + a_1 x + a_2 (y - y_0)$
$\delta_R = \delta_0 + b_1 (y - y_0) + b_2 x + b_3 \Phi$
$V_R = V_0 - 2.5 \log\Phi + cx$

α_R, δ_R et V_R représentent respectivement l'ascension droite, la déclinaison et la magnitude cataloguées des étoiles de référence. Elles sont reliées à leurs coordonnées rectangulaires mesurées x et y, et à leur flux mesuré Φ. α_0 est le temps sidéral local et δ_0 la déclinaison du centre de la bande de ciel ayant pour coordonnée rectangulaire y_0. Le catalogue de référence utilisé est Tycho-2. Les coordonnées équatoriales sont réduites à l'époque d'observation par l'intermédiaire de leur mouvement propre. Le système des équations ci-dessus est résolu par la méthode des moindres carrés qui permet de déterminer par ajustement aux observations la valeur des constantes instrumentales a_1, a_2, y_0, b_1, b_2, b_3, V_0 et c, ainsi que celles de α_0 et δ_0. On en déduit les nouvelles positions et magnitudes des étoiles de référence et de tous les objets présents dans le champ.

L'ensemble des bandes est réduit par une méthode itérative qui consiste à réintroduire dans une seconde réduction le catalogue préliminaire obtenu à partir de la première réduction de toutes les bandes. Une troisième réduction, puis éventuellement de nouvelles réductions peuvent ensuite être effectuées. Généralement, la convergence des positions et des magnitudes est obtenue après 5 itérations (Viateau et al., 1999).

La précision des positions observées ainsi obtenues est de l'ordre de 60mas, compte tenu de la précision de Tycho-2, utilisé comme catalogue de référence. Par ailleurs, la précision en magnitude est de l'ordre de 4.10^{-4}. Aucune correction des effets chromatiques n'a été prise en compte dans la réduction des observations, ces effets ayant été évalués comme négligeables face à la précision des observations (Arlot et al., 2008).

III. PRÉSENTATION DES POSITIONS ET MAGNITUDES OBSERVEES

Les positions observées sont fournies sous forme de coordonnées astrométriques topocentriques, rapportées à l'équateur et à l'équinoxe moyens de J2000. Les magnitudes observées sont données en bande V.

Les positions et les magnitudes observées sont données dans des fichiers disponibles sur le site web de l'IMCCE, à l'adresse : ftp://ftp.imcce.fr/pub/misc/bordeaux/1995-2007

Ces fichiers portent le nom de la planète ou du satellite dont ils contiennent les positions, suivi de «-data.txt ». Par ailleurs, les positions des astéroïdes se trouvent dans le fichier appelé « asteroids-data.txt ».

Le contenu de ces fichiers est donné ci-dessous, en Annexe à cette Note Scientifique.

1. Planètes et satellites

Les fichiers fournissant les positions et les magnitudes observées comportent 8 colonnes successives. Donnons un exemple avec les premières lignes du fichier « uranus-data.txt » :

```
2450707.370159  20 30 27.2007  -19 36 55.959     6.196
2450709.364575  20 30 16.5251  -19 37 31.030     6.178
2450711.358998  20 30  6.5329  -19 38  3.773     6.206
```

La première colonne indique la date julienne d'observation, exprimée en Temps Universel. L'ascension droite observée, exprimée en heures, minutes et secondes décimales, est donnée dans les colonnes 2 à 4. La déclinaison observée, exprimée en degrés, minutes et secondes décimales, est fournie dans les colonnes 5 à 7. La 8ème colonne indique la magnitude observée.

2. Astéroïdes

Le fichier « asteroids-data.txt » possède 9 colonnes. Pour exemple, voici quelques lignes de ce fichier :

```
6    11 23   1.1496   16 36 40.496     9.8   2450525.487970
7     8 25  14.5316   11 38 56.610     9.4   2451620.366929
8    20 15  36.6504  -24 51 55.102     8.8   2451796.378358
```

La première colonne indique le numéro de l'astéroïde. Les colonnes 2 à 4 fournissent l'ascension droite observée (en heures, minutes, secondes décimales) et les colonnes 5 à 7 la déclinaison observée (en degrés, minutes, secondes décimales). La colonne 8 indique la magnitude observée. La date julienne d'observation (en TU) se trouve dans la colonne 9.

CONCLUSION

Les observations des planètes et des satellites présentées dans cette Note Scientifique ont été analysées et comparées aux principales éphémérides disponibles actuellement (Arlot et al. (2008). Ces comparaisons ont permis de mettre en évidence des dérives systématiques des éphémérides des planètes Uranus, Neptune et Pluton. Les diverses éphémérides des satellites ont également pu être comparées.

Par ailleurs, les observations des satellites ont permis de déduire des pseudo positions observées de leurs planètes respectives, via les positions observées et théoriques de ces satellites. Les positions planétaires observées ainsi obtenues présentent une meilleure précision que celle des positions issues de leur observation directe.

Il résulte de cette analyse que les observations méridiennes de Bordeaux présentent un intérêt scientifique certain qui justifie leur continuation et leur renforcement dans les années à venir.

RÉFÉRENCES

Arlot J.E., Dourneau G. and Le Campion J.F., « An analysis of Bordeaux Meridian Circle observations of planets and satellites (1997-2007), 2008, A&A accepté

Rapaport M., Le Campion J.F., Soubiran C. et al., « M2000: An astrometric catalog in the Bordeaux Carte du Ciel zone $+11° < \delta < +18°$ » , 2001, A&A 376, 325

Viateau B., Réquième Y., Le Campion J.F. et al., « The Bordeaux and Valinhos CCD meridian circles », 1999, A&ASS 134, 173

ANNEXE

Nous présentons en Annexe le contenu des fichiers suivants qui contiennent les positions observées des planètes, des satellites et des astéroïdes :

- Planètes : « uranus-data.txt », « neptune-data.txt » et « pluto-data.txt »
- Satellites : « titan-data.txt », « hyperion-data.txt », « iapetus-data.txt », « ariel-data.txt », « umbriel-data.txt », « titania-data.txt », « oberon-data.txt » et « triton-data.txt »
- Astéroïdes : « asteroids-data.txt »

Ces fichiers sont également disponibles électroniquement sur le site web de l'IMCCE à l'adresse : ftp://ftp.imcce.fr/pub/misc/bordeaux/1995-2007

PLANÈTES

uranus-data.txt

```
2450707.370159 20 30 27.2007 -19 36 55.959    6.196
2450709.364575 20 30 16.5251 -19 37 31.030    6.178
2450711.358998 20 30  6.5329 -19 38  3.773    6.206
2450716.345092 20 29 44.6247 -19 39 14.270    5.355
2450718.339545 20 29 37.1499 -19 39 37.638    6.552
2450720.334006 20 29 30.4354 -19 39 58.129    6.512
2450721.331240 20 29 27.3625 -19 40  7.558    6.549
2450723.325715 20 29 21.8012 -19 40 24.039    6.701
2450724.322955 20 29 19.3211 -19 40 31.293    6.473
2450726.317443 20 29 14.9467 -19 40 43.486    6.535
2450730.306448 20 29  8.6362 -19 40 59.369    6.532
2450738.284571 20 29  5.8684 -19 40 55.798    6.510
2450739.281847 20 29  6.4553 -19 40 52.204    6.804
2450750.252044 20 29 26.6737 -19 39 22.669    6.849
2450751.249349 20 29 29.7726 -19 39 10.245    6.438
2450752.246656 20 29 33.0689 -19 38 57.090    5.669
2450753.243966 20 29 36.5821 -19 38 42.877    6.251
2450754.241278 20 29 40.3011 -19 38 28.269    6.432
2451062.410791 20 48 41.2160 -18 31  1.139    5.432
2451074.377093 20 47 20.5054 -18 36  4.544    7.295
2451075.374296 20 47 14.7451 -18 36 25.682    7.025
2451077.368707 20 47  3.6987 -18 37  6.031    7.046
2451078.365915 20 46 58.4335 -18 37 25.344    6.769
2451081.357553 20 46 43.6435 -18 38 18.821    6.771
2451085.346431 20 46 26.3865 -18 39 20.040    6.606
2451101.302293 20 45 47.5673 -18 41 24.324    5.524
2451107.285893 20 45 46.1527 -18 41 18.973    6.132
2451115.264160 20 45 55.8549 -18 40 26.870    6.395
2451407.479849 21  8 32.5479 -17 10 32.524    5.603
2451478.281568 21  2 10.2787 -17 36 27.139    6.542
2452100.608842 21 46 55.1967 -14 10 25.466    6.371
2452106.591961 21 46 11.9097 -14 14 16.483    6.459
2452111.577859 21 45 32.7747 -14 17 43.401    6.796
2452112.575035 21 45 24.6516 -14 18 25.907    6.564
2452114.569384 21 45  8.1447 -14 19 52.566    6.531
2452115.566557 21 44 59.7541 -14 20 36.516    6.840
2452116.563729 21 44 51.2991 -14 21 20.605    5.871
2452119.555240 21 44 25.4619 -14 23 35.176    6.475
2452120.552409 21 44 16.7189 -14 24 20.358    6.540
2452121.549577 21 44  7.9025 -14 25  6.284    5.978
2452126.535408 21 43 23.0467 -14 28 57.526    6.344
2452131.521226 21 42 37.1408 -14 32 52.479    6.767
2452132.518389 21 42 27.8825 -14 33 39.474    6.492
2452133.515552 21 42 18.5916 -14 34 26.607    6.533
2452134.512714 21 42  9.2922 -14 35 13.752    6.573
2452136.507038 21 41 50.6416 -14 36 48.275    6.387
2452142.490011 21 40 54.7151 -14 41 29.792    6.329
2452143.487173 21 40 45.4391 -14 42 16.099    5.907
2452144.484336 21 40 36.1766 -14 43  2.463    6.340
2452145.481499 21 40 26.9573 -14 43 48.647    6.255
2452146.478662 21 40 17.7667 -14 44 34.681    6.300
2452149.470156 21 39 50.4090 -14 46 50.246    5.687
2452157.447497 21 38 39.7544 -14 52 38.199    6.435
2452158.444668 21 38 31.2288 -14 53 19.809    6.341
2452159.441840 21 38 22.7686 -14 54  1.173    6.474
2452163.430537 21 37 49.8022 -14 56 41.147    6.479
2452165.424893 21 37 33.8705 -14 57 58.045    6.537
2452169.413618 21 37  3.2585 -15  0 25.167    6.405
2452172.405175 21 36 41.5087 -15  2  8.794    6.646
2452178.388330 21 36  1.5095 -15  5 17.584    6.645
2452179.385528 21 35 55.3204 -15  5 46.447    5.560
2452180.382728 21 35 49.2883 -15  6 14.558    6.014
2452182.377132 21 35 37.6561 -15  7  8.903    6.692
2452186.365963 21 35 16.2365 -15  8 47.353    6.767
2452191.352043 21 34 53.1145 -15 10 31.825    6.086
2452192.349265 21 34 48.9936 -15 10 50.004    6.651
2452193.346489 21 34 45.0467 -15 11  7.193    5.782
2452194.343715 21 34 41.2729 -15 11 24.108    6.345
2452197.335405 21 34 31.0429 -15 12  8.442    6.328
2452198.332639 21 34 27.9981 -15 12 21.321    6.780
2452199.329876 21 34 25.1391 -15 12 33.146    6.076
2452201.324355 21 34 19.9821 -15 12 54.459    6.069
2452204.316090 21 34 13.6599 -15 13 19.332    6.247
2452206.310592 21 34 10.4115 -15 13 30.926    6.812
2452209.302360 21 34  6.9978 -15 13 41.264    6.207
2452211.296884 21 34  5.6979 -15 13 43.329    6.320
2452213.291417 21 34  5.1895 -15 13 41.353    5.713
2452215.285959 21 34  5.4682 -15 13 35.707    6.442
2452217.280510 21 34  6.5399 -15 13 26.104    6.242
2452229.248011 21 34 29.7242 -15 11  6.395    6.479
2452497.530274 21 58 36.9809 -13 10 54.087    6.589
2452504.510422 21 57 32.9052 -13 16 38.424    6.659
2452520.465051 21 55  6.8702 -13 29 29.904    6.559
2452528.442409 21 53 57.7307 -13 35 28.755    6.019
2452531.433933 21 53 33.0521 -13 37 35.480    6.698
2452540.408565 21 52 24.2694 -13 43 25.470    6.691
2452541.405752 21 52 17.1681 -13 44  1.117    6.627
2452544.397324 21 51 56.6489 -13 45 44.235    6.676
2452553.372124 21 51  2.4439 -13 50 12.052    6.872
2452830.632088 22 18 28.2223 -11 21 45.943    6.134
2452832.626497 22 18 16.8756 -11 22 53.953    6.564
2452833.623699 22 18 10.9825 -11 23 29.288    6.558
2452839.606879 22 17 32.8809 -11 27 15.445    6.739
2452842.598448 22 17 12.1246 -11 29 17.258    6.686
2452845.590006 22 16 50.3417 -11 31 24.916    6.395
2452848.581553 22 16 27.5862 -11 33 37.249    6.908
2452849.578733 22 16 19.8023 -11 34 22.305    6.937
2452852.570267 22 15 55.8943 -11 36 40.610    6.968
2452853.567443 22 15 47.7573 -11 37 27.571    6.800
2452854.564617 22 15 39.5331 -11 38 14.707    6.659
2452860.547649 22 14 48.6825 -11 43  6.147    6.553
2452861.544819 22 14 39.9871 -11 43 55.780    6.619
2452863.539156 22 14 22.4376 -11 45 35.697    5.801
2452870.519320 22 13 19.7328 -11 51 29.850    6.457
2452873.510814 22 12 52.4405 -11 54  2.859    6.615
2452874.507978 22 12 43.3193 -11 54 53.813    6.302
2452876.502307 22 12 25.0486 -11 56 35.750    6.793
2452877.499471 22 12 15.9125 -11 57 26.768    6.547
2452886.473956 22 10 54.3431 -12  4 58.177    6.697
2452892.456965 22 10  1.5477 -12  9 47.369    6.523
2452895.448477 22  9 35.9117 -12 12  6.903    6.560
2452897.442823 22  9 19.1736 -12 13 37.368    6.769
2452899.437172 22  9  2.7353 -12 15  6.313    6.728
2452903.425883 22  8 30.8995 -12 17 57.242    6.774
2452907.414612 22  8  0.6301 -12 20 38.865    6.636
2453245.502565 22 27 32.9683 -10 31 15.285    6.487
2453248.494061 22 27  5.8559 -10 33 52.483    6.632
2453249.491226 22 26 56.8271 -10 34 44.291    6.928
2453252.482724 22 26 29.8459 -10 37 20.013    6.711
2453255.474224 22 26  3.0849 -10 39 53.471    6.418
2453256.471391 22 25 54.2261 -10 40 43.782    6.375
2453257.468559 22 25 45.4095 -10 41 34.601    6.302
2453259.462896 22 25 27.9157 -10 43 14.243    6.345
2453264.448750 22 24 45.1340 -10 47 17.259    6.390
2453265.445923 22 24 36.7712 -10 48  4.329    6.310
2453266.443097 22 24 28.4835 -10 48 51.003    6.226
2453268.437448 22 24 12.1359 -10 50 23.057    6.069
2453270.431802 22 23 56.1321 -10 51 52.917    6.052
2453273.423342 22 23 32.8159 -10 54  3.309    6.213
2453282.398026 22 22 28.5948 -10 59 58.321    6.252
2453283.395220 22 22 22.0526 -11  0 34.214    6.560
2453322.287212 22 20 10.6809 -11 11 40.605    6.388
2453323.284484 22 20 10.9048 -11 11 36.894    6.509
2453330.265453 22 20 18.0990 -11 10 38.876    6.447
2453331.262743 22 20 19.9075 -11 10 25.917    6.578
2453334.254627 22 20 26.4725 -11  9 41.225    6.482
2453341.235768 22 20 48.4817 -11  7 18.464    6.472
2453571.624005 22 48  8.5998  -8 28 43.376    6.688
2453572.621207 22 48  2.7647  -8 29 20.698    6.773
2453574.615608 22 47 50.7213  -8 30 37.362    5.734
2453577.607198 22 47 31.6925  -8 32 38.006    6.491
2453586.581894 22 46 28.2235  -8 39 15.494    6.328
2453591.567795 22 45 49.3821  -8 43 16.114    6.298
2453594.559323 22 45 25.0831  -8 45 45.609    6.216
2453606.525373 22 43 42.2393  -8 56 13.433    6.271
2453612.508374 22 42 48.7538  -9  1 36.490    6.627
2453613.505541 22 42 39.7867  -9  2 30.480    6.527
2453625.471540 22 40 52.7107  -9 13  9.245    6.778
2453628.463048 22 40 26.5929  -9 15 43.473    6.564
2453629.460218 22 40 17.9753  -9 16 34.280    6.494
2453632.451732 22 39 52.4741  -9 19  3.683    6.476
2453633.448905 22 39 44.0953  -9 19 53.204    6.504
2453635.443253 22 39 27.5395  -9 21 29.918    6.559
2453639.431960 22 38 55.3615  -9 24 37.262    6.436
2453651.398186 22 37 28.0513  -9 32 59.163    7.106
2453660.372991 22 36 34.2242  -9 38  2.104    6.616
2453667.353488 22 36  0.5749  -9 41  6.758    6.275
2453669.347933 22 35 52.4027  -9 41 50.951    6.322
2453682.312019 22 35 16.2607  -9 44 54.221    6.318
2453684.306525 22 35 13.4353  -9 45  5.888    6.411
2453692.284637 22 35  9.6787  -9 45  8.208    6.529
2453693.281911 22 35 10.0735  -9 45  2.766    5.920
2453696.273746 22 35 12.3751  -9 44 42.209    6.437
2453698.268314 22 35 14.8709  -9 44 22.268    6.340
2453704.252070 22 35 26.9864  -9 42 55.453    6.336
```

neptune-data.txt

```
2451353.596564 20 24 11.1545 -19  1 28.909    8.058
2451413.428374 20 17 52.3885 -19 23 15.076    8.013
2451460.298139 20 15  7.9563 -19 32 59.527    7.920
2451467.279007 20 15  6.4674 -19 33 12.894    8.078
2452832.571784 20 59 15.7974 -17  5 20.949    8.134
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pluto-data.txt

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SATELLITES

Satellites de Saturne

titan-data.txt

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2453826.328979	8	27	26.0991	19	53	22.012	8.194
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2453809.376623	8	29	12.1609	19	47	41.121	14.530
2453811.370955	8	28	54.2724	19	49	38.429	14.208
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2454127.556174	9	42	9.9686	15	8	47.730	14.445
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2454169.432712	9	29	28.4465	16	13	54.918	14.440
2454170.429843	9	29	16.4640	16	15	28.060	14.330
2454171.426961	9	29	3.3028	16	17	0.577	14.247
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2454196.355528	9	24	28.6791	16	38	22.885	14.475
2454202.338540	9	23	36.2386	16	39	19.152	14.527
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Satellites d'Uranus

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Satellite de Neptune
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ASTÉROÏDES

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2	20	33	22.8523	7	35	51.120	10.0	2452528.386591
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7	8	25	14.5316	11	38	56.610	9.4	2451620.366929
8	20	15	36.6504	-24	51	55.102	8.8	2451796.378358
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8	20	41	59.2810	-23	38	30.344	9.7	2451840.276480
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8	10	10	42.7582	19	1	46.116	10.1	2452365.400417
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9	20	33	20.9081	-26	58	23.916	10.2	2451797.387913
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14	23	51	47.6706	-15	31	50.245	11.0	2452548.469403
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16	10	36	58.7629	9	56	29.961	11.1	2452359.434988
16	10	36	24.6107	10	0	23.729	10.8	2452360.431864
16	10	35	19.2110	10	7	51.317	11.1	2452362.425648
16	10	34	17.8628	10	14	51.157	11.2	2452364.419479
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30	2	23	25.3137	17	17	44.703	11.1	2451788.654924
30	2	24	15.6539	17	25	18.857	11.1	2451790.650045
30	2	26	2.4679	17	44	28.066	10.8	2451796.634897
30	9	10	39.1185	15	15	28.282	11.0	2450871.448866
32	4	50	28.3872	17	43	59.940	10.9	2451883.497391
32	5	37	50.1097	16	28	6.248	11.4	2450461.423647
32	5	35	44.9056	16	27	57.317	11.5	2450464.414010
32	5	28	9.6729	16	40	39.354	11.7	2450484.354145
32	5	28	5.3799	16	41	50.882	11.6	2450485.351365
32	5	28	2.8787	16	43	5.165	11.7	2450486.348606
32	5	28	2.1655	16	44	22.060	11.7	2450487.345867
32	5	28	6.0803	16	47	3.172	11.9	2450489.340451
32	5	28	3.2330	16	45	41.330	11.8	2450488.343149
32	6	2	2.4767	16	51	49.979	11.3	2450435.511400
33	9	39	23.4199	15	54	33.504	13.8	2450498.489918
33	9	15	15.0915	17	19	48.531	14.7	2450553.323019
33	9	36	58.2697	16	5	27.282	13.8	2450501.480051
33	9	32	20.2811	16	25	36.315	14.1	2450507.460459
33	9	30	52.3330	16	31	46.272	14.1	2450509.453983
33	9	30	9.3967	16	34	44.248	14.2	2450510.450757
33	9	26	46.3449	16	48	22.914	14.1	2450515.434761
33	9	26	8.2739	16	50	51.522	14.4	2450516.431591
33	9	25	31.1125	16	53	14.960	14.1	2450517.428431
33	9	24	54.8935	16	55	33.359	14.3	2450518.425283
33	9	24	19.6398	16	57	46.391	14.3	2450519.422145
33	5	17	10.2768	25	35	55.255	13.5	2451939.362981
33	5	18	27.0637	25	24	27.975	13.6	2451955.320177
33	5	18	45.0419	25	23	58.550	13.6	2451956.317654
33	5	20	11.2315	25	22	15.338	13.9	2451960.307727
37	2	23	54.5953	18	14	36.795	10.2	2450786.399257
37	2	20	38.3918	17	57	48.060	10.5	2450798.364226
37	2	23	2.1175	18	10	36.782	10.1	2450788.393190
39	5	52	42.7551	11	3	36.571	10.4	2450840.396423
39	5	49	49.5295	11	55	59.231	10.6	2450850.367118
39	5	49	51.8761	13	0	7.271	10.8	2450862.334377
45	20	16	9.7692	-13	22	58.753	11.3	2452080.600596
45	20	15	41.1331	-13	25	6.705	11.2	2452081.597535
45	20	15	11.0941	-13	27	22.625	11.3	2452082.594458
45	20	14	39.6843	-13	29	46.339	11.7	2452083.591366
45	20	13	32.8763	-13	34	56.075	11.0	2452085.585135
45	20	11	43.2377	-13	43	36.161	10.8	2452088.575678
45	20	11	4.3482	-13	46	43.684	10.9	2452089.572499
45	20	10	24.3410	-13	49	58.099	11.1	2452090.569307
45	20	9	43.2456	-13	53	19.125	11.1	2452091.566103
45	20	9	1.1337	-13	56	46.647	11.0	2452092.562887
45	20	8	18.0347	-14	0	20.795	11.0	2452093.559659
45	20	3	41.3274	-14	23	48.805	11.3	2452099.540084
45	19	50	56.9363	-15	33	44.054	10.6	2452114.490308
45	19	49	15.3169	-15	43	44.163	10.6	2452116.483674
45	19	45	9.9731	-16	8	52.991	11.2	2452121.467190
45	19	38	38.0147	-16	53	22.127	11.3	2452130.438093
45	19	35	6.2532	-17	21	29.838	11.1	2452136.419266
45	19	33	38.3817	-17	34	53.915	11.0	2452139.410061
45	19	32	1.7863	-17	51	56.721	11.4	2452143.398024
45	19	31	22.7270	-18	0	5.165	11.5	2452145.392112
45	19	31	5.5615	-18	4	3.225	11.6	2452146.389183
45	19	29	45.9732	-18	33	13.674	11.8	2452154.366421
45	19	29	44.8375	-18	46	0.255	11.9	2452158.355485
45	19	29	53.8565	-18	51	55.293	11.7	2452160.350128
45	19	30	19.2470	-19	0	11.896	12.2	2452163.342229
45	19	30	30.8483	-19	2	47.617	12.2	2452164.339633
45	19	30	44.0061	-19	5	18.685	12.1	2452165.337054
45	19	31	14.9571	-19	10	5.849	12.1	2452167.331950
45	19	31	32.7214	-19	12	21.875	12.2	2452168.329425
45	19	31	52.0085	-19	14	32.893	12.4	2452169.326917
45	19	32	12.8060	-19	16	39.079	12.3	2452170.324426
45	19	32	58.8771	-19	20	36.207	12.3	2452172.319497
45	19	35	51.6828	-19	30	25.537	12.7	2452178.305108
45	19	38	14.2587	-19	35	16.071	12.5	2452182.295832
45	19	40	14.6947	-19	37	59.454	12.5	2452185.289030
45	19	46	28.4543	-19	41	28.283	13.0	2452193.271499
45	19	47	20.2668	-19	41	30.218	13.0	2452194.269367
45	2	46	0.2908	8	45	58.064	13.3	2452519.669227
45	2	46	23.9154	8	15	23.996	13.0	2452529.642198
45	2	45	53.8981	8	0	11.620	13.0	2452533.630931
45	2	43	24.3337	7	20	27.531	12.6	2452542.604633
45	2	42	36.0200	7	10	42.565	12.6	2452544.598615
45	2	41	42.4235	7	0	39.980	12.8	2452546.592536
45	2	40	43.6813	6	50	21.536	12.6	2452548.586397
45	2	37	18.3798	6	18	8.164	12.5	2452554.567646
45	11	14	6.9217	10	48	5.321	11.9	2451665.361015
48	8	32	55.2871	13	32	39.253	12.3	2450540.329200
48	8	33	11.7068	13	34	33.387	12.3	2450541.326659
48	8	36	13.1978	11	44	5.859	11.5	2450508.418864
50	7	56	0.6861	17	30	24.270	13.1	2451950.442953
50	7	54	33.1489	17	37	10.724	13.3	2451952.436481
50	7	52	32.2223	17	46	53.529	13.1	2451955.426894
50	7	51	54.8339	17	50	0.089	13.4	2451956.423732
50	9	31	51.1149	13	25	16.838	14.5	2450541.367287
52	8	44	24.7365	20	20	38.080	11.0	2453436.408295
52	4	46	39.4831	15	26	51.626	10.8	2451198.370483
52	4	45	44.0913	16	6	19.808	11.0	2451209.339808
54	23	47	16.5003	7	1	35.601	11.6	2452120.637582
54	23	43	30.0287	8	21	14.407	11.4	2452132.602206
54	23	42	28.3516	8	31	57.023	11.3	2452134.596033
54	23	37	18.8350	9	6	33.733	11.2	2452142.570619
54	23	35	47.2490	9	13	4.754	10.9	2452144.564102
54	23	34	59.5920	9	16	0.709	10.9	2452145.560821
54	23	34	10.7614	9	18	43.617	10.9	2452146.557527
54	23	27	5.0663	9	32	40.716	10.8	2452154.530772
54	23	24	13.5806	9	34	25.585	10.9	2452157.520601
54	23	22	17.1569	9	34	34.876	10.6	2452159.513796
54	23	21	18.5295	9	34	22.110	10.7	2452160.510389
54	23	18	21.9009	9	32	35.578	10.8	2452163.500160
54	23	17	23.0236	9	31	38.473	10.8	2452164.496750
54	23	16	24.2873	9	30	30.717	11.0	2452165.493342
54	23	14	27.5215	9	27	45.661	10.9	2452167.486533
54	23	12	32.2351	9	24	23.073	10.7	2452169.479741
54	23	11	35.3515	9	22	28.765	10.8	2452170.476354
54	23	9	43.4675	9	18	16.475	10.9	2452172.469602
54	23	4	28.1423	9	3	0.489	11.0	2452178.449580
54	23	3	39.2165	9	0	9.741	11.0	2452179.446285
54	23	2	51.4722	8	57	14.847	11.0	2452180.443003
54	23	1	19.7578	8	51	15.180	11.1	2452182.436483
54	22	58	32.6018	8	38	47.372	11.2	2452186.423632
54	22	54	38.3135	8	16	37.371	11.3	2452193.401814
54	22	53	0.6942	8	4	26.542	13.2	2452197.389765
54	22	52	22.3014	7	58	40.295	11.5	2452199.383861
54	22	51	17.2439	7	45	25.490	11.7	2452204.369457
54	22	50	56.9787	7	36	22.828	11.8	2452208.358301
54	22	51	4.4250	7	28	57.905	11.7	2452212.347465
54	22	51	18.2731	7	25	55.067	11.9	2452214.342163
54	22	51	38.6965	7	23	20.096	12.1	2452216.336938
54	22	54	3.4859	7	17	50.348	12.2	2452224.316765
54	22	55	51.8130	7	18	7.112	12.4	2452228.307093
54	23	0	34.3124	7	24	57.448	12.6	2452236.288510
54	23	1	15.3635	7	26	24.219	12.6	2452237.286253
54	23	4	58.1741	7	35	32.470	12.6	2452242.275172
54	23	8	16.2190	7	45	6.160	12.5	2452246.266536
54	23	9	8.2997	7	47	47.705	12.6	2452247.264407
54	23	16	39.3887	8	13	33.311	12.9	2452255.247770
54	23	17	39.8298	8	17	17.292	12.9	2452256.245737
54	23	18	41.1461	8	21	7.810	12.8	2452257.243714
54	23	19	43.2818	8	25	4.970	12.5	2452258.241701
54	23	20	46.2483	8	29	8.870	12.8	2452259.239697
54	23	21	50.0097	8	33	19.133	12.6	2452260.237703
62	8	23	1.0039	20	2	7.271	14.1	2451623.357196
62	8	50	53.8377	17	52	35.002	12.8	2451571.518489
62	21	13	24.0769	-17	15	19.120	13.2	2452892.417754
62	21	11	55.9006	-17	23	9.430	13.0	2452895.408545
62	21	11	28.9425	-17	25	33.562	13.3	2452896.405503
62	21	11	3.2403	-17	27	51.166	13.3	2452897.402476
62	21	10	38.8289	-17	30	2.048	13.2	2452898.399464
62	21	10	15.7164	-17	32	6.566	13.3	2452899.396467
62	21	9	53.9289	-17	34	4.383	13.5	2452900.393485
62	21	9	14.4331	-17	37	39.627	13.5	2452902.387568
62	21	8	56.7466	-17	39	16.904	13.4	2452903.384633
62	21	8	12.1907	-17	43	28.372	13.4	2452906.375928
62	21	8	0.2027	-17	44	38.207	13.5	2452907.373059
62	21	7	49.6775	-17	45	41.357	13.5	2452908.370207
62	21	7	26.9657	-17	48	8.625	13.7	2452911.361752
62	21	7	22.3577	-17	48	43.802	13.6	2452912.358969
62	21	7	18.8017	-17	49	54.836	13.8	2452916.348006
62	21	8	9.2946	-17	47	35.875	13.6	2452923.329474
62	21	9	9.7893	-17	43	49.223	13.9	2452927.319250
62	21	9	48.4247	-17	41	16.841	13.9	2452929.314235
62	21	10	32.5739	-17	38	18.621	13.8	2452931.309283
62	21	13	17.1051	-17	26	49.599	14.1	2452937.294798
64	2	33	49.2311	16	43	21.513	12.3	2453378.309984
64	20	49	51.0235	-17	17	35.715	12.3	2452898.385061
64	20	48	33.8440	-17	21	51.399	12.2	2452902.373248
64	20	48	18.0723	-17	22	41.868	12.3	2452903.370336
64	20	47	39.3588	-17	24	39.854	12.4	2452906.361697
64	20	47	29.3349	-17	25	8.444	12.4	2452907.358851
64	20	47	20.7573	-17	25	31.407	12.5	2452908.356021
64	20	47	3.7449	-17	26	7.335	12.4	2452911.347633
64	20	47	0.9739	-17	26	8.369	12.5	2452912.344870
64	20	47	4.2393	-17	25	17.802	12.6	2452916.333986
64	20	47	14.3875	-17	24	20.405	12.9	2452918.328642
67	0	39	32.6950	10	2	53.104	11.7	2452131.643747
67	0	39	46.5485	10	3	19.656	11.6	2452132.641177
67	0	40	8.7100	10	3	28.500	11.8	2452134.635973
67	0	40	22.0864	9	53	51.687	11.8	2452142.614286
67	0	40	15.2686	9	51	29.082	11.6	2452143.611477
67	0	40	6.5869	9	48	50.660	11.5	2452144.608647
67	0	39	56.0571	9	45	56.416	11.4	2452145.605795
67	0	39	43.7051	9	42	46.406	11.3	2452146.602922
67	0	38	55.8417	9	31	41.967	11.4	2452149.594179
67	0	37	1.4973	9	8	6.149	11.1	2452154.579208
67	0	36	33.6989	9	2	37.858	11.2	2452155.576157
67	0	35	33.4497	8	50	57.274	11.1	2452157.570001
67	0	35	1.0743	8	44	45.604	11.1	2452158.566897
67	0	33	52.0676	8	31	40.710	10.8	2452160.560640
67	0	31	58.6391	8	10	24.299	11.1	2452163.551140
67	0	31	18.4089	8	2	53.909	11.0	2452164.547945
67	0	30	37.0731	7	55	11.581	11.0	2452165.544738
67	0	29	11.3296	7	39	13.157	10.9	2452167.538288
67	0	26	56.2028	7	13	59.520	10.8	2452170.528537
67	0	25	22.6918	6	56	26.620	10.9	2452172.521997
67	0	20	33.1149	6	1	16.672	10.7	2452178.502273

67	0	18	55.7815	5	42	21.349	10.6	2452180.495688
67	0	17	19.1291	5	23	19.819	10.6	2452182.489112
67	0	15	43.7907	5	4	17.395	10.8	2452184.482551
67	0	14	10.3687	4	45	19.862	10.8	2452186.476011
67	0	10	28.9016	3	58	52.277	11.1	2452191.459803
67	0	9	47.2169	3	49	49.313	11.1	2452192.456591
67	0	9	6.5661	3	40	52.964	11.2	2452193.453392
67	0	8	27.0003	3	32	3.462	11.1	2452194.450205
67	0	6	35.3807	3	6	22.772	10.6	2452197.440725
67	0	4	25.1821	2	34	18.777	11.5	2452201.428300
67	0	2	16.2557	1	58	24.816	11.4	2452206.413160
67	0	0	48.2080	1	27	47.325	11.5	2452211.398491
67	0	0	15.7777	1	12	7.024	11.7	2452214.389925
67	0	0	2.7437	1	2	49.341	11.8	2452216.384313
67	0	0	18.9860	0	34	58.124	12.0	2452224.362657
67	0	1	7.5142	0	26	36.108	12.0	2452228.352295
67	0	16	2.2025	0	53	9.423	13.0	2452254.291629
67	0	16	53.7369	0	56	34.775	12.9	2452255.289493
67	0	21	27.3289	1	15	53.935	12.8	2452260.278999
67	0	22	25.1033	1	20	11.225	12.9	2452261.276935
67	0	23	23.8507	1	24	36.344	12.8	2452262.274883
67	6	8	31.9941	14	58	32.800	12.7	2451210.394423
67	6	4	7.7323	15	31	7.374	13.2	2451224.353145
68	2	54	14.7878	13	35	13.027	10.5	2450725.586817
68	2	9	53.5406	15	27	5.400	11.5	2450822.291250
68	4	51	33.8178	30	24	12.616	11.6	2452664.360310
68	4	51	33.9259	30	12	50.914	12.1	2452675.330275
68	4	51	44.4835	30	11	57.740	12.0	2452676.327666
68	4	51	56.7249	30	11	6.248	11.9	2452677.325077
71	22	55	45.8069	16	21	22.918	11.4	2452900.466786
71	22	53	49.1559	16	17	8.924	11.4	2452902.459978
71	22	52	51.7708	16	14	48.279	11.3	2452903.456585
71	22	50	3.9205	16	6	56.075	11.4	2452906.446457
71	22	49	9.5803	16	4	3.104	11.5	2452907.443099
71	22	48	16.1262	16	1	3.023	11.4	2452908.439751
84	11	58	43.8121	-8	53	48.295	13.6	2452356.499795
84	11	57	43.2954	-8	49	49.671	13.4	2452357.496366
84	11	56	42.8623	-8	45	45.741	13.4	2452358.492938
84	11	55	42.5771	-8	41	37.737	13.1	2452359.489512
84	11	53	42.6755	-8	33	8.937	13.2	2452361.482667
84	11	49	47.1210	-8	15	30.901	13.1	2452365.469026
84	11	41	34.0181	-7	34	15.322	13.7	2452374.438760
84	8	54	37.0098	19	54	32.999	13.4	2453422.453588
90	9	0	0.6546	19	52	54.614	14.2	2452708.412227
90	8	59	31.6802	19	54	30.275	14.0	2452709.409162
90	8	58	36.8894	19	57	25.205	14.1	2452711.403069
90	8	58	11.1453	19	58	44.385	14.3	2452712.400041
90	8	57	0.5287	20	2	10.417	14.3	2452715.391034
90	8	56	39.2608	20	3	8.374	14.2	2452716.388058
90	8	56	19.1275	20	4	0.881	14.3	2452717.385095
90	8	56	0.1587	20	4	48.229	14.3	2452718.382146
90	8	55	42.3426	20	5	30.361	14.5	2452719.379210
90	8	55	10.2026	20	6	38.452	14.3	2452721.373377
90	8	54	55.8977	20	7	4.668	14.4	2452722.370482
90	8	54	30.8397	20	7	41.625	14.3	2452724.364732
90	8	53	37.1681	20	5	43.166	14.6	2452734.336806
90	8	53	38.3411	20	5	4.229	14.5	2452735.334089
90	8	53	40.6829	20	4	20.560	14.5	2452736.331385
90	8	53	44.1883	20	3	32.070	14.5	2452737.328695
91	15	35	2.2491	-21	30	43.382	12.9	2452400.529474
91	15	34	6.5030	-21	28	17.116	12.8	2452401.526100
91	15	26	29.2381	-21	6	37.512	12.5	2452409.498979
91	15	25	31.6337	-21	3	41.893	12.8	2452410.495584
91	15	21	43.0801	-20	51	39.597	12.7	2452414.482024
91	15	10	19.2445	-20	11	34.106	13.4	2452427.438635
91	9	49	4.7919	15	49	17.261	12.0	2450498.496629
91	9	46	17.3317	16	0	39.531	12.0	2450501.486505
91	9	41	0.4810	16	20	46.415	12.2	2450507.466464
91	9	39	22.1386	16	26	35.078	12.4	2450509.459868
91	9	38	34.6034	16	29	18.263	12.2	2450510.456589
91	9	34	55.5106	16	40	58.872	12.4	2450515.440408
91	9	34	15.7549	16	42	54.955	12.5	2450516.437218
91	9	33	37.4692	16	44	42.873	12.5	2450517.434046
91	9	33	0.6925	16	46	22.106	12.6	2450518.430891
91	9	32	25.4546	16	47	53.115	12.5	2450519.427753
91	9	29	53.4093	16	53	21.297	12.9	2450524.412345
91	9	27	21.9283	16	34	51.614	13.2	2450547.347794
93	10	55	50.0979	13	44	26.971	13.5	2450786.753777
93	10	57	7.2419	13	38	11.961	13.6	2450788.749207
93	10	37	54.3698	15	17	15.221	11.8	2450871.509297
93	22	25	42.1181	-11	13	37.960	12.6	2453334.258271
94	12	0	54.5079	3	30	28.524	13.3	2451197.673952
94	11	59	23.4651	3	29	49.919	13.1	2451209.640140
94	13	8	57.2001	-10	24	35.631	12.5	2453461.523225
95	0	17	48.7953	19	34	11.285	12.8	2452126.642350
95	0	17	56.2518	19	55	13.234	12.7	2452131.628785
95	0	17	53.7241	19	58	53.441	13.0	2452132.626026
95	0	17	44.6151	20	5	40.218	12.9	2452134.620460
95	0	16	14.0429	20	24	41.803	12.9	2452142.597574
95	0	15	56.7347	20	26	6.240	12.5	2452143.594644
95	0	15	38.1353	20	27	17.183	12.4	2452144.591699
95	0	15	18.2659	20	28	14.327	12.3	2452145.588739
95	0	14	57.1412	20	28	57.699	12.5	2452146.585765
95	0	11	25.5227	20	26	8.754	12.6	2452154.561481
95	0	9	48.3109	20	21	1.755	12.2	2452157.552167
95	0	9	13.9840	20	18	49.635	12.3	2452158.549041
95	0	6	9.5642	20	4	0.755	12.0	2452163.533261
95	0	4	50.6106	19	56	19.472	12.0	2452165.526889
95	0	3	29.2697	19	47	38.742	11.9	2452167.520489
95	0	1	23.7195	19	32	48.379	12.2	2452170.510849
95	23	59	58.3116	19	21	44.151	12.0	2452172.504402
95	23	55	39.2169	18	43	20.277	12.0	2452178.485030
95	23	54	13.4467	18	28	57.560	12.0	2452180.478579
95	23	51	25.5259	17	58	10.317	12.0	2452184.465718
95	23	45	40.9517	16	41	15.626	11.8	2452193.437167
95	23	43	29.8863	16	4	56.140	12.0	2452197.424732
95	23	42	30.8157	15	46	32.908	11.8	2452199.418589
95	23	40	24.4593	15	0	32.869	12.2	2452204.403478
95	23	39	7.2414	14	24	18.019	12.2	2452208.391665
95	23	38	12.6417	13	49	5.909	12.2	2452212.380112
95	23	37	54.0841	13	32	1.831	12.6	2452214.374437
95	23	37	41.4479	13	15	22.746	12.5	2452216.368830
95	23	37	50.6747	12	13	48.428	12.7	2452224.347093
95	23	38	31.2266	11	46	31.512	12.6	2452228.336638
95	23	41	2.7747	11	0	1.050	13.1	2452236.316544
95	23	41	28.1055	10	54	59.822	13.1	2452237.314106
95	23	43	55.0181	10	32	36.687	13.2	2452242.302148
95	23	46	15.8769	10	17	56.708	13.0	2452246.292852
95	23	46	54.1965	10	14	43.576	12.7	2452247.290564
95	23	52	43.1365	9	55	18.683	12.8	2452255.272748
95	23	55	12.4611	9	50	52.404	13.1	2452258.266280
95	23	56	57.3055	9	48	45.346	13.1	2452260.262029
95	23	58	46.2107	9	47	17.553	13.2	2452262.257826
98	0	39	38.1175	17	8	50.231	13.7	2451123.404188
98	0	33	18.0767	16	40	23.986	13.7	2451133.372497
98	0	31	52.5412	16	32	52.900	13.7	2451136.363318
98	1	37	20.8103	16	13	30.820	14.2	2451042.665309
100	8	49	32.8943	19	55	4.608	13.6	2452359.360590
100	8	49	24.5991	19	56	10.165	13.7	2452360.357763
100	8	49	17.5202	19	57	10.102	13.6	2452361.354951
100	8	49	11.6357	19	58	4.885	13.5	2452362.352152
100	8	49	3.4579	19	59	38.005	13.7	2452364.346597
100	8	49	1.1603	20	0	16.563	13.7	2452365.343839
100	8	49	33.5726	20	2	10.474	13.7	2452374.319638
100	10	44	35.1449	13	47	26.913	13.1	2450539.423125
100	10	44	4.8327	13	50	27.530	13.2	2450540.420044
100	10	37	22.6603	14	23	20.334	13.5	2450562.355329
103	8	14	34.9009	17	46	9.740	11.5	2451201.506293
103	21	56	4.5049	-14	37	29.303	10.6	2452146.489590
103	21	53	43.7990	-14	57	2.267	10.4	2452149.479775
104	2	32	28.8301	15	41	50.386	12.4	2450785.407923
104	9	59	54.2399	16	7	26.087	13.2	2451254.434524
104	9	53	28.1619	16	21	39.210	13.4	2451270.386379
104	5	41	19.3463	26	19	49.059	13.6	2453067.291716
105	11	58	48.3675	2	3	2.207	11.2	2449822.437650
105	17	4	3.1975	15	12	48.317	11.7	2451371.408824
105	17	2	45.2228	13	39	52.369	12.1	2451380.383349
105	17	2	48.2607	13	16	30.406	11.9	2451382.377923
111	9	58	37.1818	12	31	14.201	12.4	2452255.692370
111	10	0	59.4187	12	3	39.364	12.2	2452262.674902
111	10	0	27.2721	12	10	55.272	12.3	2452260.679991
122	11	45	34.6566	1	54	11.943	12.3	2450559.410761
122	2	52	47.4443	15	27	42.079	13.3	2451792.664341
122	2	51	13.2491	15	9	40.175	13.0	2451810.614111
122	2	4	37.3375	11	3	27.608	13.6	2451911.306070
122	2	6	33.0594	11	15	24.267	13.8	2451918.288292
126	13	45	14.3188	-10	45	24.515	13.2	2453096.547655
126	22	39	48.4165	-9	57	43.938	12.8	2453683.312430
126	22	40	26.9509	-9	51	57.681	13.0	2453684.310144
130	11	57	49.5286	15	52	15.707	12.5	2451612.536001
130	11	49	38.9941	17	28	16.561	12.6	2451624.497575
130	15	33	15.6049	11	7	57.349	12.5	2452013.587599
130	15	32	44.7735	11	14	53.913	12.3	2452014.584513
137	3	50	0.0361	13	50	38.187	13.4	2450718.644536
137	3	49	54.4709	13	45	18.211	13.4	2450719.641742
137	3	48	50.9267	13	11	31.273	13.5	2450725.624628
139	10	51	31.6723	15	18	28.487	10.5	2450509.509846
139	10	50	30.0807	15	18	21.153	10.7	2450510.506405
139	10	28	46.3415	14	28	20.990	11.2	2450535.423094
139	10	28	11.2956	14	24	21.942	11.4	2450536.419959
139	10	27	37.9603	14	20	14.345	11.4	2450537.416843
139	10	27	6.3693	14	15	58.051	11.3	2450538.413748
142	6	52	19.3906	22	13	5.074	14.8	2451256.299142
142	20	36	12.4437	-16	53	0.778	14.1	2453245.425465
142	20	33	57.5943	-16	59	36.657	14.1	2453249.412987
142	20	32	33.7874	-17	3	38.959	13.9	2453252.403828
142	20	32	59.2209	-16	59	4.914	15.1	2453282.322205
142	20	33	25.6930	-16	57	31.904	14.8	2453283.319780
144	3	30	1.9461	13	16	46.382	11.0	2450720.625249
144	3	29	39.5245	13	17	8.337	10.9	2450725.611339
144	3	15	40.1623	12	57	49.466	10.4	2450750.533396
144	3	13	53.0031	12	55	32.382	10.3	2450752.526699
146	9	37	57.5603	32	25	58.918	12.4	2453059.477449
146	12	55	10.2240	11	6	56.068	12.6	2451685.376395
146	13	40	3.4869	10	51	2.368	12.2	2451621.582228
152	2	51	0.1759	16	34	3.158	12.4	2452937.528693
152	2	50	8.7508	16	34	3.464	12.3	2452938.525369
152	2	41	10.3984	16	31	53.497	12.2	2452948.491852
152	2	39	20.4298	16	31	5.892	11.9	2452950.485122
152	2	38	25.5374	16	30	40.324	12.1	2452951.481758

152	2	36	36.1876	16	29	46.477	12.0	2452953.475035
152	2	35	41.8445	16	29	18.518	12.2	2452954.471677
152	2	33	54.1125	16	28	21.668	12.2	2452956.464973
152	2	33	0.8215	16	27	53.057	12.4	2452957.461628
152	9	43	54.4348	32	37	23.145	12.7	2453394.564183
159	21	8	49.0632	-15	44	22.946	13.2	2453572.552504
159	21	7	27.1595	-15	53	1.146	13.1	2453574.546098
159	21	5	20.2813	-16	6	15.031	13.1	2453577.536443
162	13	46	50.9777	-10	46	9.411	12.7	2452401.451809
162	13	41	28.9522	-10	34	37.675	12.7	2452409.426248
162	13	39	15.0981	-10	30	53.073	12.9	2452413.413782
162	13	36	56.6455	-10	28	24.713	13.2	2452418.398531
162	13	34	39.7353	-10	29	21.713	13.7	2452425.377838
168	13	21	42.5895	-10	25	52.794	14.4	2453034.700631
168	13	22	51.1836	-10	30	51.266	14.3	2453040.685042
168	13	23	19.2851	-10	31	56.597	14.2	2453045.671716
183	8	54	1.7541	20	2	10.395	13.8	2453079.392405
183	8	53	50.5789	20	10	58.273	13.8	2453080.389546
183	12	47	26.1283	24	18	51.727	15.5	2451658.444761
183	13	26	24.1929	16	33	15.221	15.6	2451600.630105
183	13	26	3.2965	16	44	26.592	15.0	2451601.627134
184	9	7	47.8104	16	38	0.723	13.2	2450525.394313
184	5	35	0.1789	24	49	31.195	13.0	2452267.477060
184	22	40	44.1650	-8	30	59.957	13.9	2453571.618876
184	22	40	23.0785	-8	32	52.323	13.8	2453572.615902
184	22	39	37.7451	-8	36	54.894	13.5	2453574.609919
187	1	46	16.1039	11	19	11.668	13.5	2450724.542473
187	3	50	52.9298	25	54	20.326	13.8	2452546.640453
187	3	50	21.7132	25	59	28.649	13.8	2452548.634632
190	6	52	29.2725	15	34	25.964	13.1	2450854.399593
190	6	51	33.5518	15	42	23.625	13.1	2450857.390758
190	7	31	17.1766	14	47	46.042	13.5	2450751.707678
190	7	32	20.8836	13	47	30.975	13.0	2450786.612861
190	7	31	38.8071	13	46	32.510	13.0	2450788.606915
192	1	58	39.2827	16	40	41.797	9.9	2451784.648693
192	2	0	41.9142	17	21	38.162	9.8	2451788.639188
192	10	31	8.2975	13	44	38.190	12.0	2450786.736674
192	10	32	13.5855	13	38	5.501	11.9	2450788.731968
193	0	27	16.6825	16	46	59.319	12.1	2451478.423629
193	0	16	46.5742	17	14	24.850	13.2	2451513.320787
193	0	27	44.8360	18	11	10.330	13.1	2451529.284697
194	9	29	59.1864	12	53	14.481	13.2	2450543.360534
194	9	29	51.2775	12	58	12.132	13.5	2450544.357711
194	15	16	59.0571	11	9	40.063	11.4	2450951.484150
197	13	31	8.1191	3	15	45.032	14.2	2452000.538519
197	13	30	19.9094	3	20	29.461	13.9	2452001.535233
197	13	21	56.3735	4	3	53.781	14.3	2452011.502117
197	13	20	13.5359	4	11	26.547	14.3	2452013.495469
197	13	19	22.1903	4	15	2.615	14.2	2452014.492146
197	13	16	49.0296	4	25	6.460	14.1	2452017.482187
197	13	13	28.8451	4	36	38.445	14.1	2452021.468955
197	13	4	25.6458	4	56	27.773	14.4	2452033.429920
197	12	59	36.6464	4	56	21.367	14.4	2452041.404740
197	12	56	24.5870	4	47	29.826	14.6	2452048.383410
197	12	55	41.0655	4	43	29.323	14.7	2452050.377446
197	12	55	21.2593	4	41	14.959	14.1	2452051.374487
197	21	48	16.5475	-23	41	5.776	12.9	2452460.624135
197	21	48	2.6999	-23	55	22.199	13.1	2452462.618515
197	21	46	57.0302	-24	33	0.533	13.0	2452467.604107
197	21	46	18.5782	-24	48	42.298	12.6	2452469.598203
197	21	45	8.3996	-25	12	46.099	12.6	2452472.589203
197	21	44	41.7678	-25	20	53.225	12.7	2452473.586165
197	21	39	35.8105	-26	34	38.950	12.5	2452482.558064
197	21	38	55.1921	-26	42	44.994	12.4	2452483.554865
197	21	31	15.6610	-27	59	12.054	12.5	2452493.522260
197	21	27	54.6445	-28	26	8.718	12.5	2452497.509019
197	21	25	22.2817	-28	44	27.856	12.3	2452500.499069
197	21	24	31.6418	-28	50	10.906	12.2	2452501.495754
197	21	22	1.3109	-29	6	3.176	12.4	2452504.485829
197	21	19	35.0837	-29	19	55.627	12.5	2452507.475950
197	21	12	22.2651	-29	50	49.041	13.0	2452517.443651
197	21	11	9.6805	-29	54	5.835	12.9	2452519.437352
197	21	10	35.5255	-29	55	22.599	12.9	2452520.434228
197	21	10	2.8773	-29	56	24.527	12.8	2452521.431121
197	21	7	20.6637	-29	57	42.162	13.2	2452527.412865
197	21	6	59.6812	-29	57	6.472	13.1	2452528.409893
197	21	6	7.4859	-29	54	2.035	13.1	2452531.401099
197	21	5	53.7689	-29	52	34.956	13.1	2452532.398210
197	21	5	41.9008	-29	50	55.672	13.0	2452533.395342
197	21	5	13.1599	-29	42	18.383	13.2	2452537.384089
197	21	5	11.2945	-29	33	50.542	13.3	2452540.375875
197	21	5	26.2507	-29	23	46.728	13.3	2452543.367856
197	21	5	34.9413	-29	20	4.631	13.4	2452544.365225
197	21	5	45.4721	-29	16	13.290	13.4	2452545.362616
197	21	5	57.8231	-29	12	12.096	13.4	2452546.360028
197	21	6	11.9819	-29	8	1.015	13.3	2452547.357461
197	21	6	27.9717	-29	3	40.640	13.3	2452548.354915
197	21	7	49.6838	-28	44	49.469	13.6	2452552.344936
197	21	8	14.5055	-28	39	44.990	13.6	2452553.342491
197	21	8	41.0440	-28	34	32.057	13.5	2452554.340067
197	21	9	9.2832	-28	29	10.672	13.5	2452555.337662
197	5	5	43.4617	25	3	0.327	14.3	2453032.362628
197	5	5	18.7823	25	5	34.737	14.6	2453034.356882
197	5	4	49.4727	25	10	48.678	14.6	2453038.345622
199	12	59	0.6606	17	2	16.507	13.0	2450560.458891
199	13	22	31.4525	15	22	11.710	13.0	2450529.559817
199	13	21	51.3112	15	27	56.878	13.1	2450530.556624
202	8	37	53.6586	14	4	2.222	11.8	2451542.588661
202	8	19	7.5513	16	18	13.672	11.1	2451568.504677
202	8	11	1.6153	17	17	28.395	11.4	2451578.471765
203	10	48	57.0438	9	26	30.927	13.5	2451189.645962
203	10	46	44.2034	9	36	22.721	13.3	2451197.622588
203	10	8	10.5541	12	30	30.043	13.0	2451248.456637
203	10	0	19.4015	12	57	57.633	13.3	2451260.418432
203	9	56	30.5485	13	7	19.340	13.4	2451269.391216
203	9	54	46.8179	13	7	13.747	13.6	2451277.368174
203	23	19	11.4008	-5	41	52.713	13.4	2452116.629054
203	23	18	27.5879	-5	44	13.201	13.2	2452119.620358
203	23	18	10.1356	-5	45	16.198	13.2	2452120.617426
203	23	17	51.2779	-5	46	27.089	13.1	2452121.614478
203	23	15	56.1337	-5	54	17.996	12.8	2452126.599499
203	23	13	27.4723	-6	5	13.373	13.0	2452131.584132
203	23	6	16.2524	-6	38	29.439	12.8	2452142.549122
203	23	3	11.2051	-6	52	57.981	12.4	2452146.536065
203	22	56	34.1674	-7	23	50.807	12.3	2452154.509640
203	22	48	54.5001	-7	58	45.728	12.5	2452163.479761
203	22	45	36.4385	-8	13	21.270	12.5	2452167.466554
203	22	43	13.7631	-8	23	38.446	12.5	2452170.456715
203	22	37	30.2693	-8	47	15.094	13.0	2452178.430907
203	22	35	4.2175	-8	56	31.709	13.1	2452182.418299
203	22	30	51.9601	-9	10	14.107	13.2	2452191.390813
203	22	30	31.0151	-9	11	6.425	13.3	2452192.387840
203	22	30	11.5247	-9	11	51.062	13.2	2452193.384885
203	22	29	53.5615	-9	12	27.308	13.3	2452194.381947
203	22	29	8.7381	-9	13	27.626	13.6	2452197.373238
203	22	28	56.8634	-9	13	30.901	13.3	2452198.370371
203	22	28	46.5541	-9	13	26.214	13.2	2452199.367521
203	22	28	30.5675	-9	12	51.549	13.4	2452201.361875
203	22	28	18.3142	-9	10	57.831	13.4	2452204.353542
203	22	28	17.9000	-9	9	0.601	13.5	2452206.348076
203	22	28	23.6322	-9	6	30.266	13.6	2452208.342682
203	22	28	28.7851	-9	5	3.005	13.3	2452209.340010
203	22	28	43.5937	-9	1	44.330	13.6	2452211.334720
203	22	28	53.2439	-8	59	52.920	13.3	2452212.332101
203	22	29	4.3533	-8	57	53.434	13.6	2452213.329498
203	22	29	16.9469	-8	55	46.494	13.5	2452214.326913
203	22	29	30.9682	-8	53	31.636	13.5	2452215.324344
203	22	29	46.4357	-8	51	8.980	13.6	2452216.321792
203	22	30	3.3121	-8	48	38.589	13.8	2452217.319257
203	22	32	40.1599	-8	27	36.884	13.9	2452224.301953
203	22	33	7.9347	-8	24	6.156	13.8	2452225.299543
203	22	34	38.9941	-8	12	53.617	14.1	2452228.292403
203	22	35	11.8749	-8	8	55.376	13.8	2452229.290052
203	22	40	18.0033	-7	33	2.257	13.7	2452237.271741
203	22	44	5.3946	-7	7	5.061	13.9	2452242.260712
203	22	48	17.7774	-6	38	36.432	14.0	2452247.249973
203	13	26	59.0637	-10	27	23.884	13.7	2453045.674252
203	13	27	15.6457	-10	32	56.319	13.8	2453048.666253
203	2	15	47.2533	18	7	34.242	12.9	2450786.393631
203	2	12	9.6905	17	40	14.005	13.1	2450798.358354
203	2	14	54.2742	18	1	54.585	13.0	2450788.387559
203	2	12	41.2951	17	45	30.303	13.2	2450795.366911
203	2	12	29.0657	17	43	37.555	13.1	2450796.364039
203	2	24	35.9903	18	4	39.078	13.8	2450834.268668
203	2	25	22.9156	18	7	24.298	13.9	2450835.266479
203	2	26	11.0367	18	10	15.129	13.8	2450836.264304
203	2	27	0.3439	18	13	11.232	13.8	2450837.262143
203	2	29	35.2780	18	22	30.216	13.8	2450840.255740
206	8	35	59.1267	16	53	36.164	12.2	2451211.493813
206	21	38	44.4267	-15	21	4.031	14.4	2452229.250951
209	22	12	25.8459	-18	34	55.474	13.3	2452106.610127
209	22	8	13.6787	-18	56	10.156	12.9	2452114.585376
209	22	3	37.7504	-19	16	25.383	12.8	2452121.563080
209	21	30	56.5122	-20	32	8.700	13.2	2452164.423038
209	21	29	19.2319	-20	30	54.045	13.3	2452167.413724
209	21	27	52.6782	-20	28	39.118	13.5	2452170.404534
209	21	27	1.2044	-20	26	36.230	13.6	2452172.398478
209	21	24	58.2293	-20	17	52.230	13.8	2452178.380675
209	21	24	42.4287	-20	16	2.400	13.7	2452179.377763
209	21	24	3.1504	-20	9	58.857	14.0	2452182.369118
209	21	23	29.8577	-20	0	30.300	14.0	2452186.357810
209	21	23	18.7021	-19	46	34.311	13.7	2452191.344029
209	21	23	20.4986	-19	43	30.440	14.1	2452192.341319
209	21	23	23.6405	-19	40	21.926	13.7	2452193.338625
209	21	23	28.0836	-19	37	7.811	13.9	2452194.335946
209	21	23	49.3614	-19	26	55.468	14.0	2452197.327999
209	21	23	59.0187	-19	23	21.221	14.2	2452198.325380
209	21	24	10.0120	-19	19	42.294	14.0	2452199.322776
209	21	24	35.8721	-19	12	9.793	14.0	2452201.317614
209	21	26	2.1611	-18	51	55.260	14.4	2452206.304957
209	21	28	24.6945	-18	25	9.723	14.2	2452212.290218
209	21	29	21.1093	-18	15	40.744	14.5	2452214.285408
209	21	30	21.8108	-18	5	55.556	14.1	2452216.280647
209	21	35	4.7675	-17	24	15.178	15.1	2452224.262069
209	21	35	44.4537	-17	18	44.802	14.3	2452225.259796
209	21	37	48.8731	-17	1	52.120	14.6	2452228.253040
209	2	45	31.1963	20	17	14.227	14.0	2452520.666166
209	2	44	58.7175	20	40	45.283	13.9	2452530.638490
209	2	42	16.4800	20	55	6.125	13.5	2452540.609316
209	2	41	53.2315	20	55	59.612	13.4	2452541.606318

209	2	41	3.0026	20	57	28.362	13.5	2452543.600278
209	2	40	7.8783	20	58	32.065	13.5	2452545.594181
209	2	36	18.2111	20	58	53.881	13.6	2452552.572419
209	2	34	23.6597	20	57	25.519	13.4	2452555.562906
209	9	40	6.5293	17	49	36.996	13.8	2451278.355281
209	10	22	55.0034	16	2	44.161	14.8	2451141.758975
209	10	14	42.9143	17	4	4.603	13.0	2451220.537615
213	12	27	44.2043	3	24	7.624	14.2	2451197.692531
213	8	48	6.4078	20	3	32.820	13.4	2452686.464054
213	8	47	17.9161	20	8	12.095	13.8	2452687.460764
216	11	33	34.2631	-11	31	29.338	12.8	2451960.566315
216	11	32	12.5012	-11	22	34.148	12.5	2451962.559911
216	11	29	21.1793	-11	2	33.751	12.0	2451966.547012
216	11	15	33.0713	-9	3	4.738	11.7	2451984.488307
216	11	14	2.5692	-8	47	39.589	11.7	2451986.481802
216	4	17	28.7417	18	10	3.273	9.8	2451460.632195
216	4	3	51.6873	11	22	16.114	9.2	2451498.519017
216	15	42	13.2279	-17	55	26.531	14.4	2452342.692797
221	9	29	19.1769	16	35	20.499	12.9	2450519.425603
221	9	26	55.8527	16	57	16.313	12.9	2450524.410296
221	18	17	14.1978	-15	18	26.786	12.2	2453232.364714
221	18	24	8.0757	-13	37	56.970	12.1	2453213.421368
221	18	23	34.4416	-13	43	7.552	12.3	2453214.418250
226	1	43	47.5379	-7	14	34.210	14.4	2452873.656869
226	1	43	56.3857	-7	23	46.861	14.6	2452874.654241
226	11	1	57.3483	15	55	48.966	14.6	2450498.547102
236	8	2	30.0811	11	51	25.051	13.4	2451605.392138
236	8	1	16.5625	12	8	26.463	13.2	2451609.380367
236	17	37	20.5801	-11	36	26.666	12.5	2452475.409397
245	11	24	46.8775	11	21	55.585	12.8	2451610.518577
245	11	20	57.6941	11	43	53.189	12.8	2451615.502280
245	11	17	11.8357	12	3	59.247	13.1	2451620.486021
248	3	12	35.2464	17	34	30.920	15.5	2451561.311489
248	4	46	16.9670	22	26	7.603	14.2	2452961.543015
248	4	44	22.5799	22	19	44.449	14.4	2452963.536234
253	3	50	47.7677	13	53	50.228	14.2	2450718.645087
253	3	50	54.1107	13	49	7.710	14.4	2450719.642430
253	3	50	48.7635	13	18	34.750	14.0	2450725.625988
257	2	42	50.6590	16	27	54.462	13.0	2453309.504634
257	2	41	8.9429	16	23	0.952	13.0	2453311.497999
257	2	30	29.1374	16	42	48.249	14.7	2453398.253063
257	15	49	18.0950	-22	51	40.168	15.1	2452447.411027
257	15	47	6.9860	-22	45	28.002	15.1	2452451.398592
257	15	45	39.9575	-22	41	9.451	14.7	2452454.389397
258	23	13	32.7140	14	42	12.271	11.8	2450649.641484
258	23	13	32.6983	15	26	10.450	11.3	2450675.570498
258	23	11	38.5653	15	8	32.097	11.3	2450680.555530
269	5	2	56.1160	16	23	49.308	15.6	2451209.351721
269	17	25	20.9110	-14	49	12.409	12.9	2453571.400473
269	17	25	7.7525	-14	53	38.601	12.8	2453572.397591
269	17	24	56.5097	-14	58	8.354	12.6	2453573.394731
269	17	24	47.2038	-15	2	42.040	13.1	2453574.391893
269	17	24	31.0023	-15	16	42.221	13.2	2453577.383515
269	21	37	48.7970	-15	15	4.360	14.9	2452229.250308
275	8	37	53.2513	19	54	39.494	12.8	2452715.377792
275	8	37	52.0653	19	56	26.143	12.9	2452716.375048
275	8	37	52.7253	19	58	4.274	12.9	2452717.372325
275	8	37	59.5953	20	0	55.093	12.9	2452719.366943
275	8	38	13.8189	20	3	12.391	13.1	2452721.361646
275	8	38	23.6576	20	4	8.519	13.1	2452722.359029
275	8	42	39.7790	20	4	45.337	13.1	2452734.329218
287	7	29	48.0851	17	42	50.422	11.8	2452692.393438
287	7	29	8.4187	17	55	5.424	12.0	2452694.387520
288	3	45	50.8883	14	2	2.215	15.1	2451128.519497
288	10	31	35.8040	13	1	3.657	12.9	2451584.552733
288	10	23	0.5951	14	18	21.792	12.7	2451595.516753
288	10	18	48.4303	14	52	57.825	13.2	2451600.500191
288	10	17	57.8826	14	59	41.636	13.1	2451601.496877
289	3	7	42.9425	12	49	9.128	13.4	2451809.628264
289	3	5	30.4841	11	29	56.719	13.1	2451824.585782
289	8	42	36.0714	13	13	3.839	15.3	2450542.330444
289	18	5	35.5383	-14	26	56.849	14.1	2453231.359379
289	18	6	7.8291	-15	13	41.744	14.1	2453245.321525
289	18	59	30.5282	-13	30	11.740	13.9	2453143.636984
301	3	51	14.9761	13	49	7.660	15.4	2451078.659747
301	9	44	15.2099	12	40	6.015	14.8	2451563.577282
301	9	25	47.7085	14	47	41.670	14.4	2451586.501702
301	20	20	11.7687	-19	27	34.952	15.3	2450716.338480
301	20	20	44.0278	-19	29	9.083	15.2	2450718.333391
301	20	21	43.7940	-19	30	41.097	15.0	2450721.325889
301	20	22	56.9481	-19	31	16.479	15.8	2450724.318541
301	20	23	52.9613	-19	31	8.838	15.5	2450726.313727
301	20	26	1.7389	-19	29	39.301	15.3	2450730.304291
305	2	44	20.0577	13	54	30.707	12.4	2451125.485088
305	2	41	55.5915	13	38	41.015	12.7	2451128.475229
305	2	25	10.3623	11	46	25.438	13.1	2451154.392636
305	2	26	11.7213	11	33	56.378	13.7	2451189.297775
305	3	0	35.5601	15	44	27.365	13.4	2451103.556413
306	6	24	41.3075	16	46	1.761	13.0	2451202.427455
306	6	20	28.3899	17	9	14.054	13.2	2451208.408153
306	7	19	24.5400	14	38	9.428	13.3	2451124.678309
306	7	19	38.5949	14	35	0.066	13.4	2451126.673011
306	20	39	21.4531	-19	45	52.185	11.8	2450707.376326
306	20	39	46.5044	-19	52	49.495	12.0	2450709.371154
310	2	52	31.4225	16	47	35.840	13.9	2452953.486062
310	2	51	38.7581	16	42	51.158	13.9	2452954.482724
310	2	49	53.9695	16	33	20.539	14.1	2452956.476054
310	2	49	1.9195	16	28	34.856	14.0	2452957.472722
316	2	46	38.0683	12	27	5.960	14.5	2451458.574745
316	2	44	30.6613	12	14	25.520	14.3	2451462.562354
316	22	37	26.6536	-11	0	6.916	14.8	2453270.441157
317	10	0	2.8975	12	51	59.329	14.0	2450543.381355
317	20	55	16.1255	-15	40	37.189	12.4	2453563.567693
317	20	54	33.1957	-15	44	12.645	12.2	2453564.564468
318	12	53	41.8282	1	54	1.560	14.0	2450895.537813
318	18	45	37.7375	-9	32	19.802	14.7	2453539.543435
318	18	44	55.3053	-9	33	0.424	14.5	2453540.540215
321	15	26	12.0839	-20	4	45.684	15.3	2452427.449634
321	15	19	9.5691	-19	43	55.077	15.1	2452437.417453
321	2	52	1.0967	17	24	19.509	14.2	2451513.428307
344	3	57	17.2007	31	17	47.451	13.4	2452268.406656
344	3	55	40.1803	31	15	57.009	13.5	2452270.400075
344	3	48	11.1416	31	3	37.916	13.7	2452282.362125
348	14	22	43.6209	-0	40	41.348	14.3	2452361.585866
348	14	3	47.7541	0	55	14.158	13.9	2452387.501768
348	13	46	56.2291	1	22	18.042	14.1	2452410.427293
348	13	44	41.0208	1	19	7.210	14.4	2452414.414811
348	13	40	20.1579	1	0	51.635	14.5	2452424.384495
348	13	39	42.0653	0	55	32.058	14.4	2452426.378594
348	13	39	24.8327	0	52	39.656	14.4	2452427.375665
356	22	31	22.6390	-9	22	7.829	12.7	2452204.355670
356	22	31	7.1425	-9	16	57.572	12.7	2452206.350030
356	22	30	58.5193	-9	11	14.367	12.8	2452208.344469
356	22	30	56.7765	-9	8	10.417	12.6	2452209.341719
356	22	30	58.3955	-9	1	38.650	12.8	2452211.336276
356	22	31	1.7327	-8	58	10.423	12.8	2452212.333584
356	22	31	6.7485	-8	54	34.775	12.7	2452213.330911
356	22	31	13.4330	-8	50	50.811	12.7	2452214.328258
356	22	31	21.7625	-8	46	59.246	12.9	2452215.325623
356	22	31	31.7395	-8	42	59.881	12.7	2452216.323008
356	22	31	43.3379	-8	38	52.935	12.9	2452217.320411
360	11	24	55.2419	14	29	5.112	13.0	2450516.513861
360	11	16	6.2976	15	48	32.436	12.8	2450528.474990
360	11	2	35.1855	17	18	0.611	13.4	2450555.391903
360	11	2	20.5585	17	18	46.817	13.7	2450556.389004
360	18	43	30.5871	-13	55	55.006	13.4	2453186.508507
368	8	3	16.2318	9	57	0.665	15.4	2453040.463731
368	8	2	32.5808	9	59	52.698	15.8	2453041.460497
368	8	1	6.9841	10	5	41.759	15.4	2453043.454048
368	5	25	54.4443	16	0	35.559	16.1	2450837.386048
377	1	59	16.2721	13	12	29.197	12.5	2451459.539215
377	2	10	31.1124	15	21	42.382	13.1	2451431.623451
377	2	10	27.2519	15	19	22.265	13.0	2451432.620676
381	8	45	50.4300	19	57	10.818	13.1	2452678.484327
381	8	45	4.7992	20	2	49.803	13.5	2452679.481070
381	12	16	59.6055	14	18	57.718	13.6	2450953.354026
387	8	40	3.5090	18	7	50.586	11.9	2450842.506858
387	14	29	9.8852	16	5	41.116	11.1	2451322.435341
387	14	27	52.8465	15	57	48.741	11.1	2451324.428991
389	0	35	21.0151	15	28	14.189	12.6	2450675.627146
389	0	21	17.4744	15	36	16.927	12.2	2450702.543694
389	0	16	26.3875	15	18	47.543	11.9	2450708.523952
389	0	8	39.3352	14	40	39.769	11.8	2450717.493988
389	0	3	25.4689	14	8	38.363	11.9	2450723.473983
395	7	58	40.9182	16	57	11.258	15.2	2450868.407211
395	7	55	37.5179	17	8	9.938	15.6	2450875.385980
395	7	53	14.2823	17	22	19.252	15.4	2450890.343367
395	8	25	47.2001	15	39	31.117	14.7	2450834.518818
397	5	50	49.9674	10	9	33.514	12.6	2452257.515317
397	5	27	58.0807	8	51	36.949	13.0	2452282.431223
397	5	27	17.6654	8	50	44.906	13.0	2452283.428026
397	5	22	53.0008	8	49	27.271	13.4	2452291.403127
397	5	19	51.9264	9	1	44.329	13.2	2452302.371002
404	11	47	54.4558	24	10	51.575	12.5	2452678.610403
404	11	47	39.6157	24	22	34.692	12.3	2452679.607502
404	3	24	39.3523	2	35	58.274	13.6	2453667.553392
404	5	15	16.4237	14	5	30.524	14.5	2450718.703585
404	5	16	41.7239	14	5	18.810	14.3	2450723.690919
404	5	12	10.9494	14	5	18.275	13.9	2450754.603160
404	13	10	47.5225	12	58	44.310	12.6	2451325.372868
410	4	24	37.9458	17	46	9.173	13.8	2451201.347037
410	4	24	4.5311	17	53	43.583	13.6	2451204.338459
410	5	12	52.9760	16	27	38.580	13.2	2451136.557927
412	9	20	24.1683	29	28	26.876	13.8	2452354.395616
412	9	19	52.5143	29	29	23.902	13.8	2452356.389789
412	9	19	39.1993	29	29	34.824	13.8	2452357.386905
412	9	19	27.5571	29	29	34.565	13.8	2452358.384040
412	9	19	17.5886	29	29	22.984	14.0	2452359.381195
412	9	19	9.3079	29	29	0.417	14.0	2452360.378369
412	9	19	2.6846	29	28	27.163	13.9	2452361.375561
412	9	18	57.7477	29	27	43.268	14.0	2452362.372774
412	9	18	54.4585	29	26	48.826	13.8	2452363.370005
412	9	18	52.8287	29	25	44.232	14.1	2452364.367256
412	9	18	52.8561	29	24	29.652	13.9	2452365.364526
414	8	51	48.0337	20	5	45.531	14.9	2451909.593530
414	16	15	57.3185	-14	3	29.016	15.7	2452830.381036
414	16	15	36.5717	-14	5	23.810	15.5	2452831.378066
419	13	32	1.1327	-10	44	5.766	11.1	2453145.404711
419	3	37	55.3352	17	56	54.994	13.1	2450798.417748
419	3	27	11.5958	17	8	8.812	13.9	2450824.339325

420	7	40	55.4975	13	33	0.281	13.3	2451572.467300
420	7	27	44.8401	14	12	22.787	13.6	2451595.395373
420	7	27	23.7019	14	14	4.144	13.6	2451596.392398
432	11	40	37.8513	24	18	34.280	12.1	2452000.461991
432	11	39	45.2015	24	20	10.550	12.1	2452001.458653
432	11	34	9.6487	24	21	58.493	12.5	2452008.435667
432	6	58	54.6231	25	10	51.886	12.8	2452989.558423
432	4	52	23.7099	14	5	41.261	13.2	2451485.588120
454	11	8	14.7598	13	8	50.707	13.9	2452257.735124
454	11	10	38.1795	13	0	23.308	14.0	2452260.728589
454	10	40	13.4171	16	26	34.021	12.7	2452356.445428
454	10	38	46.1481	16	27	18.804	12.6	2452358.438960
454	10	36	45.5521	16	26	59.795	12.8	2452361.429377
454	10	35	32.4471	16	25	49.782	12.8	2452363.423072
454	10	34	25.4844	16	23	54.782	12.8	2452365.416838
454	10	30	45.5105	16	6	11.427	13.2	2452374.389724
454	10	30	27.0304	14	50	30.396	13.7	2452392.340360
454	10	30	41.9757	14	44	56.038	13.5	2452393.337802
458	5	18	35.6718	5	12	13.364	12.5	2453352.495089
458	5	17	42.9604	5	16	2.736	12.6	2453353.491751
458	5	16	50.4722	5	20	4.349	13.1	2453354.488415
458	6	47	50.3821	14	35	29.265	13.3	2451569.438726
466	8	43	32.7461	11	39	56.137	13.0	2451554.559813
466	22	51	23.0131	18	30	9.638	14.3	2450726.415903
466	22	42	15.1801	16	7	56.137	14.0	2450753.335853
467	12	30	33.0568	-11	26	47.045	15.8	2452782.355975
467	7	10	53.3973	25	15	49.176	15.6	2452337.352337
467	7	11	30.4378	25	1	21.250	15.4	2452342.339112
474	4	48	19.6217	12	52	54.459	15.6	2451595.284958
474	5	42	36.3781	12	30	15.388	15.4	2451458.696605
474	9	23	58.3385	13	41	9.227	15.9	2450539.367290
474	9	23	47.5603	13	44	40.033	16.3	2450540.364435
479	10	19	11.9931	15	5	46.576	14.1	2450510.484725
479	10	11	40.9699	16	7	59.756	14.2	2450520.452214
479	10	8	31.4035	16	33	16.608	14.6	2450525.436373
479	10	1	1.7338	17	36	41.089	14.6	2450553.354727
484	4	52	21.5202	5	21	42.340	14.3	2453309.594319
484	4	50	39.1404	5	12	5.976	14.0	2453312.584947
484	7	16	0.7631	12	24	51.214	14.9	2451859.663702
484	20	54	11.2525	-16	59	36.149	13.3	2452842.540966
496	2	45	27.5655	16	48	9.338	15.7	2452885.666824
496	2	49	21.6426	16	47	56.070	15.3	2452896.639494
496	2	49	32.0830	16	46	56.574	14.8	2452897.636885
496	2	49	40.5794	16	45	46.705	14.9	2452898.634253
496	2	49	47.1591	16	44	26.275	15.0	2452899.631599
496	2	49	55.1608	16	39	23.343	15.3	2452902.623501
496	2	49	53.8343	16	37	22.015	15.4	2452903.620755
496	2	49	37.8219	16	30	12.816	16.1	2452906.612380
496	8	52	31.1178	11	27	52.386	14.8	2450878.417195
496	8	49	39.3892	12	29	52.958	15.1	2450893.374254
498	1	43	21.2864	-7	17	27.105	11.9	2452163.600568
498	1	43	2.8180	-7	23	58.652	11.9	2452164.597625
498	1	42	42.4676	-7	30	31.559	11.9	2452165.594660
498	3	49	39.8827	15	45	8.993	13.6	2450834.327583
498	3	50	21.4885	16	0	25.585	13.5	2450837.319872
498	4	1	15.7336	17	53	27.573	14.0	2450858.270080
498	4	2	47.2758	18	4	27.316	14.2	2450860.265676
498	1	2	10.9307	-9	25	54.062	12.5	2452224.405504
499	2	35	0.4102	16	42	57.358	14.5	2453331.439138
499	8	50	29.4539	15	12	33.192	14.3	2450846.503163
499	8	42	55.7031	15	41	3.212	14.8	2450857.467891
509	10	28	48.0875	-10	48	3.482	13.3	2453047.545391
509	10	28	7.0668	-10	44	31.656	13.4	2453048.542187
509	10	27	25.5764	-10	40	48.088	13.8	2453049.538978
509	10	26	1.3402	-10	32	46.219	13.8	2453051.532545
516	1	27	11.2351	22	30	55.455	13.7	2453252.607859
516	1	24	58.4120	22	38	44.796	13.4	2453256.595406
516	1	23	5.9957	22	42	56.779	13.8	2453259.585917
516	1	19	36.0752	22	46	37.505	13.6	2453264.569843
516	1	18	4.8891	22	46	54.547	13.4	2453266.563330
516	1	14	51.6728	22	45	25.253	13.7	2453270.550178
516	10	34	20.2392	10	56	27.215	11.9	2450840.591465
516	10	22	8.2113	10	38	26.921	11.2	2450854.544793
517	1	39	47.7755	15	32	14.113	12.9	2451103.500461
517	1	23	54.4397	13	40	25.115	13.2	2451125.429388
517	9	15	48.8267	12	9	33.116	14.1	2451609.431990
524	9	39	23.8819	14	30	45.284	13.4	2450862.493349
524	9	17	6.6929	14	47	24.850	14.1	2450892.395999
524	9	16	3.7523	14	44	42.510	14.3	2450895.387081
530	10	59	26.9740	12	32	46.186	15.1	2451959.545416
530	21	1	43.6233	-17	0	28.523	12.4	2452848.529806
530	21	1	2.7709	-17	7	35.314	12.4	2452849.526605
530	20	58	15.1305	-17	36	18.686	12.4	2452853.513749
532	14	50	4.4515	11	56	17.547	9.5	2452000.593185
532	14	49	35.2429	12	3	9.659	9.4	2452001.590118
532	14	43	24.8308	13	2	34.030	9.4	2452011.558540
532	14	41	56.0987	13	11	57.687	9.5	2452013.552055
532	14	41	10.2433	13	16	17.614	9.4	2452014.548795
532	14	38	47.5387	13	27	43.782	9.4	2452017.538958
532	14	35	27.7489	13	39	4.206	9.3	2452021.525730
532	14	25	8.4068	13	43	16.686	9.0	2452033.485817
532	14	18	44.5217	13	20	16.326	9.4	2452041.459543
532	14	18	0.1108	13	15	59.410	9.3	2452042.456301
532	14	13	55.7091	12	44	4.083	9.5	2452048.437097
532	14	13	19.0712	12	37	45.173	9.5	2452049.433944
532	14	12	43.7078	12	31	10.106	9.6	2452050.430805
532	14	12	9.6573	12	24	19.049	9.6	2452051.427681
532	14	9	14.6985	11	37	56.490	9.7	2452057.409279
532	14	8	28.1358	11	20	37.678	9.8	2452059.403281
532	14	45	13.1490	7	7	58.817	10.0	2451960.699030
532	14	46	34.2861	7	19	35.336	10.1	2451962.694506
532	14	53	56.2993	9	55	16.012	9.9	2451984.639544
532	14	6	23.2367	10	3	29.775	9.9	2452067.379996
532	22	7	2.7793	-22	47	27.549	10.7	2452467.618022
532	22	6	12.8629	-23	4	26.415	10.4	2452469.611985
532	22	4	48.3541	-23	30	24.251	10.5	2452472.602820
532	22	4	17.6886	-23	39	9.529	10.7	2452473.599736
532	21	58	8.3903	-25	8	3.452	10.3	2452483.568173
532	21	50	27.5060	-26	34	33.346	10.3	2452493.535552
532	21	47	6.8331	-27	6	54.192	10.5	2452497.522316
532	21	43	41.9166	-27	37	19.853	10.3	2452501.509029
532	21	41	7.5873	-27	58	39.926	10.3	2452504.499058
532	21	30	29.3535	-29	13	43.239	10.7	2452517.456197
532	21	29	0.0597	-29	22	31.466	10.8	2452519.449706
532	21	28	16.6744	-29	26	38.327	10.6	2452520.446475
532	21	27	34.1919	-29	30	33.493	10.8	2452521.443254
532	21	23	40.5164	-29	50	4.569	10.9	2452527.424175
532	21	23	5.4651	-29	52	39.397	10.9	2452528.421039
532	21	22	31.6039	-29	55	3.380	11.0	2452529.417918
532	21	21	58.9749	-29	57	15.936	11.1	2452530.414811
532	21	21	27.5779	-29	59	17.734	11.0	2452531.411718
532	21	20	57.4583	-30	1	8.888	11.3	2452532.408640
532	21	20	28.6281	-30	2	48.702	11.1	2452533.405577
532	21	17	26.2449	-30	9	55.084	11.0	2452541.381628
536	3	54	36.7755	13	29	48.362	13.8	2451078.662077
536	3	31	24.4188	14	49	57.991	12.9	2451124.520417
536	3	29	39.6993	14	53	1.388	12.8	2451126.513748
540	19	13	29.1322	-13	30	26.869	14.4	2452871.392043
540	19	12	50.3491	-13	38	34.996	14.8	2452873.386135
540	19	12	33.7599	-13	42	36.753	14.7	2452874.383213
540	19	12	6.2167	-13	50	34.051	14.2	2452876.377434
540	19	11	55.2899	-13	54	29.606	14.1	2452877.374577
541	2	22	40.6331	20	26	28.739	14.4	2453330.433331
541	0	58	36.1737	15	40	36.910	14.3	2451456.505392
541	0	38	33.3967	12	57	59.557	14.7	2451483.417787
542	6	10	16.1977	12	40	40.896	14.4	2451595.341713
542	6	14	6.0239	14	0	32.132	14.3	2451610.303406
542	6	15	58.2374	14	20	5.665	14.8	2451614.293779
551	21	23	43.2551	-15	47	11.861	14.8	2453562.590125
551	21	23	10.0464	-15	49	49.735	14.8	2453563.587012
551	21	22	35.7862	-15	52	32.072	15.2	2453564.583886
565	3	4	0.6582	21	3	54.761	15.3	2452543.616179
565	3	3	32.4551	20	56	44.903	15.4	2452545.610393
565	1	17	37.6714	15	45	42.281	14.3	2451101.490569
565	1	10	41.1624	14	31	21.380	14.6	2451109.463918
566	10	43	19.1564	15	5	25.668	13.6	2450533.438630
566	10	42	46.4587	15	7	41.126	13.5	2450534.435522
566	11	21	34.0542	10	26	46.549	14.1	2450462.658972
566	11	21	26.8007	10	29	19.503	14.2	2450463.656158
575	0	0	9.1683	13	22	10.266	15.4	2451519.292890
575	23	59	36.0228	12	48	56.997	14.2	2451483.390807
575	23	55	42.0569	12	55	51.848	14.7	2451507.322573
575	23	56	26.9453	13	0	52.280	15.0	2451510.314900
582	23	0	24.2703	-2	42	45.905	13.8	2452115.618775
582	22	58	48.5041	-3	28	52.799	13.7	2452120.604019
582	22	52	57.7186	-5	41	8.597	13.5	2452132.567208
582	22	50	26.6163	-6	31	10.604	13.5	2452136.554543
582	22	45	29.3977	-8	4	10.011	13.5	2452143.532001
582	22	43	58.4147	-8	31	40.466	13.2	2452145.525490
582	22	43	12.1423	-8	45	32.661	13.2	2452146.522226
582	22	29	36.7396	-12	42	45.019	13.4	2452163.466398
582	22	26	32.9160	-13	35	59.879	13.3	2452167.453355
582	22	24	21.5360	-14	14	31.665	13.5	2452170.443648
582	22	22	57.7911	-14	39	26.093	13.6	2452172.437220
582	22	19	9.1801	-15	49	49.556	13.5	2452178.418199
582	22	18	1.5483	-16	11	43.145	13.9	2452180.411957
582	22	16	58.6553	-16	32	45.260	13.6	2452182.405771
582	22	15	8.0067	-17	12	12.825	13.7	2452186.393571
582	22	12	32.0442	-18	20	16.896	14.1	2452194.369927
582	22	11	48.8349	-18	48	47.094	14.1	2452198.358506
582	22	11	29.4057	-19	24	40.662	14.0	2452204.341899
582	22	11	35.0611	-19	34	51.641	14.2	2452206.336503
582	22	11	54.8682	-19	48	29.142	13.8	2452209.328540
582	22	12	15.4878	-19	56	30.555	14.0	2452211.323317
582	22	12	28.0485	-20	0	13.623	14.1	2452212.320731
582	22	12	57.3929	-20	7	1.843	14.1	2452214.315608
582	22	13	14.2373	-20	10	7.716	14.1	2452215.313072
582	22	13	32.5180	-20	13	1.484	14.4	2452216.310553
582	22	13	52.1939	-20	15	44.079	13.9	2452217.308049
582	22	33	33.7935	-20	17	11.908	14.3	2452247.239771
582	22	17	18.9943	-20	30	37.434	14.4	2452225.288592
582	18	26	38.1392	15	26	14.739	14.6	2451687.600493
591	9	57	58.2121	16	42	54.938	13.2	2450855.525324
591	9	24	58.9277	15	6	38.414	14.2	2450889.409642
591	9	23	23.3915	14	52	28.677	14.1	2450892.400348
591	9	22	6.1709	14	37	28.451	14.4	2450895.391265
591	10	4	25.3897	16	49	40.116	13.6	2450849.546174
600	6	25	26.8601	17	37	21.964	15.0	2451600.338571
600	7	21	55.9685	12	7	44.497	15.2	2451510.623422
600	7	18	27.6457	12	11	26.287	14.9	2451518.599176

600	16	24	9.2731	-8	16	7.352	14.8	2450638.387988
602	21	38	9.1609	-15	1	15.774	12.2	2452157.447144
602	21	37	17.4324	-14	58	12.026	12.1	2452158.443816
602	21	36	26.7966	-14	55	3.235	12.3	2452159.440501
602	21	35	37.2989	-14	51	49.930	12.4	2452160.437199
607	8	41	45.1125	11	26	26.826	14.0	2451575.501235
607	8	18	18.7143	11	52	42.587	14.8	2451605.403088
607	8	15	28.6535	11	57	24.015	14.7	2451612.382011
624	11	57	10.6106	-8	34	16.767	14.3	2452359.490528
624	11	56	3.9048	-8	30	57.870	14.4	2452361.484297
624	11	53	52.4837	-8	24	3.463	14.3	2452365.471858
630	4	45	28.2018	16	35	28.919	15.6	2451564.367628
630	5	30	24.0585	11	56	57.913	14.8	2451510.546185
630	5	5	13.0254	13	36	22.718	14.4	2451535.460487
634	1	43	21.4447	-7	23	19.129	13.5	2453268.575362
634	8	50	6.9605	20	1	14.447	15.3	2451985.384856
634	8	49	50.3357	20	4	5.554	15.4	2451986.381934
636	2	36	28.7321	16	36	45.244	13.3	2453309.500225
636	2	34	33.3109	16	34	15.783	13.1	2453311.493432
636	1	51	1.3422	14	15	18.815	14.8	2451542.306877
636	1	56	40.0233	15	0	44.972	14.5	2451554.278019
636	2	36	10.9819	14	15	35.862	13.6	2451457.570238
638	11	45	10.6393	10	12	42.306	15.1	2450462.675322
638	11	32	20.1861	15	9	11.851	13.3	2450509.538109
638	11	31	33.2932	15	16	55.220	13.4	2450510.534838
638	11	25	0.2534	16	15	17.347	13.3	2450518.508458
642	11	57	13.4369	2	6	44.886	13.9	2449799.499355
642	2	38	39.8868	20	7	54.870	15.4	2453270.608221
642	2	32	24.7904	20	19	28.912	15.0	2453283.568399
643	0	15	32.8853	14	55	2.103	16.0	2451519.303553
643	0	25	49.1967	13	58	33.862	15.6	2451542.247864
644	10	21	46.5515	11	26	39.243	16.2	2450563.341793
644	22	19	10.3925	-11	57	12.791	13.6	2452892.463299
644	22	16	54.9346	-12	10	32.360	13.5	2452895.453544
644	22	15	29.3997	-12	18	50.401	13.8	2452897.447096
644	22	14	8.2305	-12	26	37.616	14.0	2452899.440699
655	9	49	14.6819	12	44	10.471	15.1	2452255.685879
655	9	58	57.3691	16	56	55.841	15.4	2450560.334177
655	10	44	58.1480	10	24	23.016	15.2	2450462.633627
655	10	44	43.5229	10	28	20.369	14.9	2450463.630728
655	10	44	27.5823	10	32	26.231	15.0	2450464.627813
655	10	15	21.1175	15	0	55.890	14.5	2450510.482060
655	10	14	36.5283	15	6	29.019	14.8	2450511.478815
655	10	8	23.7262	15	51	29.749	15.1	2450520.449937
656	8	57	21.4866	16	34	55.145	13.6	2450849.499727
656	9	9	31.0607	15	41	28.952	13.8	2450834.549103
656	9	7	12.7522	15	51	44.660	13.8	2450837.539316
670	6	59	56.1300	12	4	56.030	13.7	2451135.634793
670	6	58	46.2853	11	54	46.602	13.4	2451139.623067
670	6	49	54.5428	11	29	36.475	13.6	2451155.573247
673	1	52	30.4569	13	35	50.440	14.4	2451078.577521
673	7	51	14.8133	16	58	14.019	15.2	2451608.376151
673	1	9	18.5876	8	7	40.233	15.3	2451155.337364
683	5	36	8.5421	16	26	30.930	13.6	2451564.402723
683	5	34	9.9227	16	13	36.774	13.8	2451568.390432
683	22	31	51.7697	16	6	0.248	13.9	2452845.600399
684	12	39	24.0966	-11	36	3.253	14.2	2452760.422175
684	12	38	6.6753	-11	28	20.903	14.5	2452762.415821
684	12	37	30.2597	-11	24	37.037	14.7	2452763.412670
690	5	24	21.3761	17	17	41.545	13.3	2451578.356333
690	5	28	54.4828	17	8	42.682	13.8	2451601.296681
690	5	32	32.4454	17	9	33.667	14.0	2451608.280083
690	13	56	45.7805	-23	24	15.912	13.6	2452360.570623
693	0	29	40.1796	14	34	19.313	15.2	2451900.270340
693	1	20	32.4164	15	33	59.224	14.5	2451792.600457
693	1	17	46.4591	15	46	46.969	14.1	2451797.584891
712	18	59	46.2319	-5	23	52.949	13.2	2451781.366788
712	18	59	5.7380	-5	36	3.908	13.0	2451784.358129
712	18	58	55.4877	-5	40	10.462	13.1	2451785.355280
726	21	37	57.4393	14	54	0.185	12.8	2450649.575292
726	21	18	48.3178	17	47	49.676	12.3	2450678.482852
726	21	5	1.4006	15	39	55.318	12.5	2450702.407775
727	12	52	18.9553	15	41	56.616	13.5	2451277.491134
727	12	33	39.0594	16	48	50.310	14.8	2451307.396293
727	12	30	58.7285	16	3	55.928	14.6	2451322.353484
732	2	48	52.2706	8	58	19.742	15.5	2452519.671212
732	2	50	45.1918	8	6	30.588	15.0	2452529.645214
732	8	26	25.5485	10	51	48.063	14.8	2451617.375940
737	5	29	38.2174	5	10	1.136	13.0	2453374.442669
737	5	26	35.7995	5	19	40.502	13.5	2453378.429642
737	5	23	52.3257	5	31	21.452	13.4	2453382.416834
742	9	39	14.6790	29	32	53.589	14.9	2452354.408664
742	9	38	20.1457	29	30	24.035	15.0	2452356.402574
742	9	37	54.8065	29	28	55.619	15.4	2452357.399551
742	9	37	30.7768	29	27	18.596	14.8	2452358.396543
742	9	37	8.0420	29	25	32.427	15.1	2452359.393550
742	9	36	46.6398	29	23	38.323	14.9	2452360.390573
742	9	36	26.5751	29	21	35.324	15.4	2452361.387611
745	1	45	14.8202	-7	20	44.929	16.0	2453264.587591
745	1	44	48.7756	-7	27	28.145	15.8	2453265.584560
745	1	44	21.7601	-7	34	11.718	15.3	2453266.581518
755	13	53	32.1603	-10	44	33.446	15.3	2453040.706291
755	7	28	50.4784	17	44	33.677	14.5	2452664.469226
761	9	55	0.3490	15	35	50.527	15.1	2450857.517810
761	9	30	35.7723	17	16	10.905	15.6	2450890.410799
761	10	7	50.3964	14	28	18.210	15.5	2450841.570383
765	8	57	19.7359	20	3	19.185	15.8	2453034.517560
765	8	52	49.6285	20	10	24.014	15.9	2453038.503521
765	8	51	43.0945	20	11	59.785	15.4	2453039.500023
765	8	50	37.0735	20	13	30.710	15.5	2453040.496531
765	8	47	23.1835	20	17	32.982	15.8	2453043.486102
765	8	45	18.1425	20	19	48.047	16.0	2453045.479198
772	4	18	37.0795	27	55	16.308	13.1	2452258.448732
772	4	17	32.5577	27	59	2.667	13.1	2452259.445257
772	4	15	25.8501	28	6	23.071	13.3	2452261.438334
772	4	9	28.6630	28	26	51.513	13.4	2452267.417828
772	4	8	33.0027	28	30	4.266	13.2	2452268.414455
773	8	58	48.3736	15	23	13.776	14.5	2450529.377164
773	8	58	27.7098	15	20	55.800	14.6	2450530.374195
773	9	23	22.4693	16	2	45.772	13.8	2450495.487016
773	9	17	37.4855	16	0	55.912	13.9	2450501.466652
774	3	5	4.1647	18	1	44.729	14.9	2451201.291932
774	7	30	15.9959	16	26	48.953	14.1	2451564.481762
774	7	8	25.9845	17	14	27.428	14.7	2451601.365612
774	8	5	7.1397	16	40	39.777	14.9	2451493.699739
780	10	43	37.6834	14	57	4.123	13.9	2450510.501644
780	10	42	55.5205	15	5	22.817	13.7	2450511.498427
780	10	38	6.4192	16	0	57.317	14.0	2450518.475977
784	1	51	24.2517	13	33	10.157	14.6	2451078.576757
784	1	2	30.3895	11	28	13.238	15.6	2451154.335382
784	2	2	4.5301	13	16	19.188	14.7	2451052.655131
790	1	32	22.3485	32	0	48.956	13.8	2452873.648975
790	1	32	21.6873	32	4	8.464	13.9	2452874.646238
790	1	23	3.0047	32	23	26.572	13.5	2452903.560614
790	1	21	13.5238	32	15	38.292	13.6	2452906.551159
790	1	20	35.4461	32	12	35.235	13.8	2452907.547989
790	1	19	56.6367	32	9	18.633	13.6	2452908.544811
790	1	17	56.2875	31	58	8.501	13.3	2452911.535230
790	6	53	38.5563	14	55	4.609	14.3	2451124.660466
790	6	17	46.2043	11	25	36.003	13.7	2451184.471813
790	6	14	3.3454	11	16	52.684	13.7	2451189.455588
797	2	46	7.2849	16	35	10.237	14.6	2452978.413368
797	2	45	29.0946	16	30	35.324	14.3	2452979.410197
797	3	1	14.5593	16	10	25.112	15.2	2451571.276325
799	17	39	40.1980	-14	49	35.061	14.0	2453539.497764
799	17	34	58.3169	-14	50	26.461	13.9	2453544.480859
799	17	27	0.9612	-14	56	34.280	14.4	2453553.450776
799	17	26	11.8297	-14	57	36.838	14.5	2453554.447478
799	17	20	18.3309	-15	8	33.914	14.5	2453562.421555
799	17	19	39.7960	-15	10	14.823	14.3	2453563.418380
808	3	27	15.2287	12	6	26.193	14.3	2450812.372135
808	3	44	49.1889	14	21	36.102	15.0	2450855.266886
808	20	18	50.1789	-16	21	52.009	15.5	2453667.258497
847	13	0	46.3479	-10	21	51.058	14.5	2450537.522907
847	1	54	57.6461	15	32	25.305	14.2	2451431.612677
847	1	54	45.5897	15	32	13.947	14.0	2451432.609808
847	1	12	3.4947	11	9	54.878	14.4	2451498.400033
847	9	23	43.7420	12	10	19.300	14.1	2451956.487317
857	11	43	37.1389	11	36	13.054	14.8	2451605.545275
857	11	35	43.9275	12	33	45.529	14.8	2451613.517970
857	1	50	2.7519	7	53	45.965	15.5	2451184.286392
886	11	49	19.2247	24	10	16.769	15.4	2453039.623003
886	11	48	52.5723	24	16	18.743	15.1	2453040.619965
886	11	48	24.8653	24	22	20.831	15.5	2453041.616915
893	11	48	12.9828	14	39	50.882	14.7	2450535.478118
893	11	39	12.5259	15	55	54.463	15.0	2450550.430922
893	11	34	29.1831	16	27	19.374	15.2	2450561.397615
895	21	10	41.3132	12	57	52.556	14.1	2451376.565980
895	21	6	23.2761	13	23	13.986	13.9	2451382.546620
895	18	43	5.2734	-15	16	54.213	14.0	2453173.543710
925	9	10	24.5511	11	2	32.746	11.8	2451558.567495
925	9	9	23.8368	10	56	47.701	11.8	2451559.564064
925	9	8	21.9561	10	51	6.687	11.7	2451560.560620
932	13	1	9.0307	-10	49	25.422	14.3	2452787.363516
932	1	36	50.8160	14	30	48.477	12.7	2450751.462229
932	2	9	21.4437	14	37	22.359	13.2	2450717.577573
939	21	6	48.3334	-16	45	35.930	13.8	2453245.446655
939	21	4	51.2833	-16	46	20.954	13.8	2453248.437113
939	21	4	15.8693	-16	46	21.665	13.8	2453249.433974
939	21	2	41.1504	-16	45	41.243	13.9	2453252.424689
939	21	1	24.7763	-16	43	54.659	14.0	2453255.415616
939	21	1	3.5640	-16	43	4.403	14.2	2453256.412641
971	17	24	43.2913	-20	41	5.538	14.8	2452057.544668
971	17	22	51.7884	-20	46	7.259	14.9	2452059.537920
971	17	10	6.5449	-21	18	26.454	14.4	2452072.493594
975	10	41	4.6283	12	13	45.616	14.6	2450844.585211
975	10	30	1.6006	13	21	23.119	14.3	2450859.536604
975	10	5	59.5265	15	15	43.373	14.9	2450889.438046
988	6	31	14.1547	25	7	40.813	15.6	2452261.532386
988	6	30	18.4419	25	8	47.242	15.1	2452262.529012
988	6	29	22.3053	25	9	51.636	15.6	2452263.525634
988	6	24	37.7063	25	14	41.658	15.3	2452268.508698
1021	13	57	29.3125	11	36	53.421	14.3	2450549.529425
1021	13	33	28.5447	12	52	17.806	14.9	2450581.425422
1021	7	50	51.6057	21	11	22.500	11.5	2453387.505001
1041	2	43	6.0485	16	30	54.544	14.3	2453011.321170
1041	12	27	10.1819	16	32	8.029	15.6	2451600.589086
1041	12	26	33.2303	16	37	29.999	15.2	2451601.585929
1041	12	21	49.4756	17	13	49.112	15.4	2451608.563542
1043	8	31	19.9689	11	6	20.173	14.7	2451558.540434

1043	8	30	34.4869	11	10	20.229	14.7	2451559.537179
1043	8	29	48.5613	11	14	24.639	14.6	2451560.533918
1043	8	11	16.3013	13	7	35.695	14.7	2451584.455552
1043	8	3	57.7057	14	5	34.956	15.3	2451596.417724
1044	9	48	4.2610	19	10	7.009	15.5	2452374.360162
1044	10	57	38.6247	13	32	59.661	15.1	2450889.473820
1044	11	18	58.2471	11	26	43.974	14.5	2450865.554119
1055	3	56	55.3152	11	43	47.618	15.5	2451899.416615
1055	6	26	37.5578	17	3	12.906	15.4	2450822.469055
1055	6	14	10.2521	17	43	43.939	16.1	2450835.424934
1055	6	9	16.4159	18	5	57.663	16.3	2450842.402429
1082	22	25	10.4682	-10	29	21.932	14.0	2453256.470886
1082	22	24	30.0129	-10	34	3.162	13.9	2453257.467689
1082	22	23	10.9623	-10	43	12.444	14.2	2453259.461316
1082	22	24	28.5619	-11	3	22.677	15.3	2453322.290188
1082	22	25	12.7044	-10	59	19.440	15.2	2453323.287967
1107	11	36	28.3387	12	47	43.130	14.3	2450543.448141
1107	11	35	53.6733	12	50	28.325	14.2	2450544.445010
1107	20	58	1.7845	-18	52	53.863	15.1	2451353.620001
1110	2	53	43.0384	16	44	41.833	14.4	2452257.392653
1110	2	53	22.2061	16	40	1.017	14.6	2452258.389683
1110	2	52	32.0601	16	27	7.729	14.8	2452261.380912
1110	2	52	46.7227	16	31	13.664	14.5	2452260.383812
1111	3	41	50.8464	14	13	43.315	15.9	2450718.638891
1111	3	41	20.6732	14	3	40.316	15.2	2450723.624891
1111	3	28	15.3855	12	44	22.789	15.1	2450750.542113
1127	8	23	57.6980	16	15	23.069	13.0	2451564.518948
1127	8	21	4.2484	16	50	59.041	13.3	2451567.508755
1127	8	17	15.0734	17	37	58.281	13.7	2451571.495188
1128	22	55	24.2896	-8	27	40.618	16.1	2453571.629033
1128	22	55	11.3694	-8	29	27.972	15.9	2453572.626154
1128	22	53	45.6412	-8	40	28.267	15.1	2453577.611514
1136	5	21	0.8406	11	16	44.484	15.5	2451575.362209
1136	6	20	58.3490	14	5	54.420	14.9	2451485.649460
1136	16	27	45.7499	-15	51	5.955	15.6	2452387.601478
1136	16	26	48.0274	-15	40	41.228	15.5	2452389.595351
1137	3	27	7.3395	13	53	9.095	14.8	2450718.628694
1137	3	27	1.6241	13	52	37.779	14.2	2450719.625898
1137	3	6	52.6955	12	55	40.136	13.5	2450752.521847
1147	12	39	37.2497	-11	40	46.579	13.9	2453108.469444
1147	1	48	28.7033	15	59	8.598	15.0	2451134.421831
1147	8	34	31.2060	14	34	11.215	15.6	2451569.512608
1156	22	28	16.4418	-12	4	55.809	15.7	2452907.428645
1156	22	25	44.5336	-12	17	37.531	15.5	2452911.415970
1156	22	22	23.6203	-12	32	41.216	15.4	2452918.394538
1157	10	26	14.1644	13	23	28.056	15.8	2451900.683495
1157	21	25	22.9920	-17	18	4.671	14.7	2452892.426052
1157	21	39	36.4733	-12	44	11.572	15.6	2452962.244761
1163	9	7	54.3804	20	1	28.529	15.3	2453444.402720
1163	9	7	32.1715	20	4	10.640	15.8	2453445.399733
1163	9	7	11.1560	20	6	45.482	16.2	2453446.396760
1201	8	3	27.3144	9	53	58.798	15.1	2453046.447476
1201	8	2	43.6249	9	58	33.843	16.0	2453047.444242
1201	8	2	0.9748	10	3	10.000	15.7	2453048.441019
1224	0	38	8.3531	18	21	22.920	14.4	2450673.634537
1224	0	7	12.0499	15	45	14.083	13.5	2450746.413798
1224	0	5	55.2455	14	54	29.965	13.5	2450751.399259
1244	23	10	3.0950	9	34	20.408	15.1	2452167.483481
1244	23	8	9.9318	9	23	22.874	15.7	2452169.476714
1244	23	7	13.9702	9	17	43.676	15.3	2452170.473337
1244	23	5	23.4839	9	6	2.963	15.2	2452172.466601
1256	20	33	21.0963	-13	47	20.784	15.5	2452088.590658
1256	20	32	24.3155	-13	48	25.902	15.4	2452090.584542
1256	20	31	54.7101	-13	49	5.050	15.3	2452091.581470
1271	4	29	27.7109	16	7	45.761	15.8	2451209.328537
1271	5	16	25.9687	14	37	55.203	15.3	2451124.593149
1271	10	43	31.9325	12	59	24.901	15.1	2451597.525505
1271	10	33	15.9241	14	17	39.395	15.2	2451611.480170
1292	1	27	1.5964	12	22	19.264	15.7	2451054.625400
1292	1	16	32.8459	11	37	49.424	15.8	2451077.555349
1292	9	10	19.7451	13	22	12.183	14.9	2451596.463688
1313	22	58	47.5071	11	54	30.160	14.5	2451062.500906
1313	23	13	46.4116	11	8	50.391	15.5	2451045.557696
1313	23	5	26.3931	11	44	7.765	14.8	2451055.524622
1334	8	31	59.4551	20	8	46.252	15.4	2450516.394085
1334	8	38	58.8455	20	12	11.627	15.1	2452343.396960
1334	8	38	36.9154	20	16	4.645	15.6	2452344.393976
1336	8	42	12.0456	20	13	59.093	15.0	2451189.558183
1336	9	4	15.9145	20	4	57.888	15.6	2453092.363997
1336	2	54	12.7144	12	18	2.084	15.4	2450714.616825
1336	2	46	52.7466	11	35	43.597	15.3	2450730.568064
1363	20	40	17.4311	-16	46	15.649	15.7	2453259.390066
1363	20	39	10.8760	-16	53	18.104	15.3	2453264.375645
1363	20	39	2.2010	-16	54	26.383	15.2	2453265.372815
1390	1	42	43.6814	18	1	6.942	15.5	2451559.254712
1390	1	43	11.2697	18	5	11.660	15.9	2451560.252300
1390	2	28	3.3180	15	48	36.934	14.7	2451456.567340
1390	2	2	41.2729	16	11	33.201	14.1	2451486.467863
1409	6	48	8.8911	13	40	39.666	15.2	2450843.426624
1409	18	0	22.5873	-14	46	29.141	15.6	2453120.658829
1409	18	0	23.0772	-14	43	11.467	15.5	2453121.656105
1411	0	16	44.6397	14	59	4.537	15.6	2450709.521433
1411	4	59	56.3755	25	10	31.111	16.4	2453034.353160
1417	11	37	50.0332	14	14	56.449	15.5	2450858.586294
1417	11	35	32.8475	14	41	43.739	15.6	2450862.573790
1417	11	14	46.5912	17	31	0.489	15.5	2450890.482954
1417	11	9	36.6527	17	58	32.207	16.0	2450897.460264
1428	13	36	2.8701	14	30	31.069	15.5	2450515.607407
1428	13	35	36.2323	14	38	58.217	15.4	2450516.604369
1428	20	40	52.3861	-17	26	35.775	14.6	2452811.616383
1428	20	40	35.9095	-17	33	50.238	14.5	2452812.613463
1498	22	40	6.1082	15	5	2.525	15.4	2451075.452468
1498	23	3	26.7895	15	48	43.154	15.4	2451042.558737
1498	19	10	56.4053	-13	46	33.329	15.7	2452838.480385
1498	19	10	2.8343	-13	44	3.763	15.6	2452839.477036
1498	19	7	24.5793	-13	36	56.285	15.6	2452842.467018
1498	19	6	32.8795	-13	34	40.872	15.8	2452843.463691
1498	19	4	51.2885	-13	30	20.250	15.5	2452845.457057
1502	6	54	9.0975	17	5	15.401	15.7	2450868.362517
1502	7	31	37.9684	15	7	18.016	15.0	2450811.544110
1502	7	10	23.5068	15	45	4.040	15.1	2450834.466602
1502	7	7	50.5411	15	51	53.845	15.1	2450837.456645
1506	21	54	27.7474	12	30	54.382	15.1	2450662.551227
1506	17	59	55.6325	-15	8	15.291	14.8	2453510.590970
1506	17	58	34.7121	-14	18	34.645	14.4	2453514.579114
1520	22	34	19.1587	16	18	59.781	14.2	2452896.462855
1520	22	33	37.0444	16	13	8.848	14.4	2452897.459638
1520	22	32	55.5220	16	7	7.877	14.3	2452898.456428
1520	22	32	14.6419	16	0	56.955	14.2	2452899.453226
1520	23	4	40.1530	15	58	25.724	15.3	2452842.631310
1520	23	4	11.3811	16	16	25.039	15.2	2452845.622787
1528	19	58	33.3335	-15	46	10.283	15.2	2452116.490115
1528	19	55	46.8127	-16	6	38.080	14.7	2452119.480002
1532	9	2	24.9619	20	5	36.462	14.8	2452687.471233
1532	8	58	15.6773	20	6	21.513	15.6	2452692.454703
1532	8	53	49.5327	20	4	22.135	15.4	2452698.435249
1532	8	50	41.4777	20	0	14.279	15.7	2452703.419425
1532	8	48	36.0635	19	55	20.086	15.4	2452707.407056
1532	8	48	8.3947	19	53	53.519	15.3	2452708.404006
1532	8	47	42.2291	19	52	21.976	15.5	2452709.400973
1533	22	31	42.3009	-10	33	19.554	15.4	2453264.453565
1533	22	31	5.1698	-10	39	48.165	15.5	2453265.450406
1533	22	29	17.9639	-10	58	40.632	16.0	2453268.440978
1603	8	41	21.1067	19	57	12.979	15.3	2451966.430667
1603	20	44	38.7384	-17	4	57.309	14.6	2452845.526168
1603	20	42	10.8089	-17	24	19.928	14.3	2452848.516270
1606	4	42	15.5829	15	24	54.866	15.8	2451456.660276
1606	4	34	29.3143	12	52	50.553	15.6	2451483.581180
1606	4	21	36.2437	11	27	5.187	15.6	2451498.531304
1631	4	12	29.9159	26	57	17.249	15.7	2452923.623368
1631	4	12	12.3148	27	2	52.747	15.9	2452924.620435
1631	4	11	3.8893	27	19	3.588	15.1	2452927.611455
1642	22	35	34.0389	-11	50	43.358	15.7	2452131.557893
1642	22	25	59.9687	-12	10	52.320	15.2	2452142.521234
1642	22	22	18.1782	-12	18	15.192	14.7	2452146.507753
1642	22	1	40.3317	-12	46	46.133	15.4	2452170.427936
1650	19	50	58.3095	-15	42	59.548	13.9	2452116.484863
1650	8	38	27.2619	14	21	1.460	15.2	2451587.466186
1650	9	2	2.4164	12	38	1.974	15.6	2451563.548049
1664	2	50	24.0315	16	10	10.334	16.0	2451486.500906
1664	11	36	26.3319	14	38	55.950	14.2	2450515.524569
1664	11	35	29.4091	14	41	16.048	14.6	2450516.521181
1664	11	19	27.2993	14	43	20.440	14.3	2450534.460928
1664	11	18	43.6921	14	41	0.718	14.7	2450535.457694
1664	11	18	1.6914	14	38	25.734	14.9	2450536.454479
1687	2	47	23.8989	13	7	16.337	14.1	2451507.441489
1687	2	45	22.8041	13	2	14.614	14.1	2451510.431900
1687	2	38	6.1718	12	51	32.182	15.3	2451525.385903
1687	2	37	5.9685	12	53	16.532	14.6	2451529.374286
1687	3	19	40.9021	15	10	51.670	15.4	2451432.668615
1699	1	15	52.7988	12	15	28.189	14.7	2450714.548732
1699	1	9	53.0318	11	41	50.403	14.6	2450721.525468
1699	1	7	5.3042	11	24	53.220	14.4	2450724.515341
1704	8	44	38.4355	16	42	16.768	15.0	2451567.525078
1704	8	41	22.5433	16	53	15.690	15.6	2451570.514626
1704	8	32	34.3879	17	22	42.171	15.1	2451578.486687
1719	0	53	55.5519	18	5	24.114	14.8	2451769.644821
1719	20	41	32.5966	-16	55	35.190	15.2	2453264.377281
1719	20	41	13.2459	-16	49	44.743	14.6	2453265.374327
1755	9	41	22.6254	11	53	46.901	15.4	2450878.451034
1755	18	45	0.6491	-9	26	31.026	15.7	2453521.592150
1755	18	44	28.8813	-9	25	40.901	15.6	2453522.589054
1755	18	43	55.9949	-9	24	55.272	15.7	2453523.585944
1755	18	39	39.9459	-9	22	18.722	15.7	2453530.563877
1755	18	39	0.0404	-9	22	19.400	15.6	2453531.560687
1755	18	38	19.3578	-9	22	26.282	15.7	2453532.557487
1755	18	37	37.9852	-9	22	39.433	16.1	2453533.554279
1791	19	26	27.5659	-13	47	9.639	15.3	2452789.624912
1791	18	54	22.2043	-13	29	58.378	14.8	2452838.468909
1791	18	53	35.3661	-13	32	6.610	15.2	2452839.465638
1791	18	52	49.3207	-13	34	19.054	14.9	2452840.462376
1791	18	51	19.8979	-13	38	55.949	15.2	2452842.455883
1791	18	50	36.6601	-13	41	20.612	15.1	2452843.452653
1791	18	49	13.3394	-13	46	20.159	15.2	2452845.446231
1791	18	47	17.1555	-13	54	14.934	15.2	2452848.436699
1791	18	46	40.9730	-13	56	58.957	15.4	2452849.433551
1830	8	50	7.5318	13	55	36.237	15.7	2451542.597132
1830	8	27	36.8603	16	6	35.155	14.9	2451568.510556
1830	8	17	7.7147	17	9	35.250	15.3	2451578.475991
1848	21	40	0.2411	-14	22	50.097	14.5	2452136.505764

1848	21	34	12.8244	-14	47	38.476	14.9	2452143.482642
1848	21	33	24.2711	-14	51	1.937	14.8	2452144.479351
1848	21	32	36.2147	-14	54	22.525	15.4	2452145.476066
1856	17	36	24.7746	-14	57	5.276	15.2	2453515.561034
1856	17	35	37.1877	-14	53	41.474	15.4	2453516.557755
1856	17	33	57.9345	-14	47	5.779	15.4	2453518.551149
2036	21	12	0.6118	-17	45	26.617	15.6	2452900.394947
2036	21	11	54.4284	-17	38	15.458	15.0	2452902.389414
2036	21	11	54.6289	-17	34	29.871	15.4	2452903.386686
2036	21	12	8.2162	-17	22	31.171	15.7	2452906.378651
2043	21	31	23.0069	-14	33	44.899	15.1	2452142.483412
2043	21	30	35.8023	-14	36	30.406	15.1	2452143.480137
2043	21	29	48.9279	-14	39	14.010	15.0	2452144.476865
2043	21	29	2.5328	-14	41	53.803	14.7	2452145.473599
2043	21	28	16.5437	-14	44	31.280	15.1	2452146.470338
2271	22	20	45.5316	-11	41	1.221	14.3	2452870.524465
2271	22	18	23.9699	-11	58	54.846	14.3	2452873.514640
2271	22	17	36.2448	-12	4	52.928	14.6	2452874.511359
2284	7	22	25.9475	17	49	54.777	16.0	2453034.451840
2284	8	21	52.5346	16	50	32.087	16.0	2450486.468996
2337	2	32	37.1813	16	8	36.466	14.4	2450753.495392
2337	2	0	42.3031	18	5	8.094	15.5	2450786.383186
2393	2	41	11.5563	16	46	55.051	14.4	2452216.495925
2393	2	40	25.2518	16	39	56.519	14.3	2452217.492660
2393	2	38	53.0553	16	25	58.216	14.5	2452219.486135
2433	12	34	45.8829	1	55	43.924	15.3	2452408.382768
2433	12	34	41.7333	2	0	11.589	14.8	2452409.379990
2433	12	34	42.4640	2	15	22.181	15.0	2452413.369076
2507	10	27	10.3419	16	7	19.980	15.9	2450498.523011
2507	20	59	32.4076	-17	0	32.792	15.7	2452849.525561
2507	20	57	6.3859	-17	22	31.621	15.0	2452852.515686
2507	20	56	17.2855	-17	29	50.924	15.4	2452853.512389
2507	20	55	28.0550	-17	37	9.496	15.8	2452854.509090
2509	21	23	46.9161	-17	3	38.163	15.4	2453245.458412
2509	21	21	36.9472	-17	5	45.997	15.3	2453248.448720
2509	21	20	56.4207	-17	6	14.476	15.1	2453249.445522
2509	21	19	4.0508	-17	6	52.731	15.5	2453252.436034
2509	21	17	26.6434	-17	6	20.832	15.1	2453255.426718
2509	21	16	57.7792	-17	5	53.304	15.2	2453256.423654
2509	21	16	30.7499	-17	5	18.634	15.3	2453257.420612
2509	21	15	42.4271	-17	3	45.350	15.8	2453259.414593
2509	21	14	5.7819	-16	55	46.422	16.2	2453265.397094
2509	21	13	56.9241	-16	53	57.972	15.9	2453266.394262
2509	21	13	45.6331	-16	49	56.591	15.3	2453268.388670
2670	6	50	53.8563	24	40	34.181	15.6	2452267.529620
2670	6	50	53.8563	24	40	34.181	15.6	2452267.529620
2675	2	33	20.8914	16	28	45.101	14.9	2452906.601103
2675	2	33	1.7493	16	29	39.355	15.0	2452907.598152
2675	2	34	15.1530	16	23	30.964	14.9	2452902.612650
2802	11	56	32.4161	11	23	2.530	15.1	2451610.540572
2802	11	53	8.4074	12	2	6.722	15.0	2451615.524565
2802	11	40	1.5923	14	4	35.467	15.6	2451634.463606
2972	2	26	30.6101	14	28	54.571	16.0	2451457.563539
2972	20	47	55.9323	-15	34	17.010	15.2	2453553.589915
2972	20	36	3.2014	-16	9	49.758	14.9	2453571.532546
3044	20	55	1.8893	3	29	8.220	15.3	2452469.562680
3044	20	52	59.7471	3	40	54.446	15.6	2452472.553080
3044	20	52	17.1493	3	44	21.284	15.5	2452473.549858
3044	20	51	33.6833	3	47	33.288	15.4	2452474.546626
3581	16	39	1.2246	11	26	9.811	14.9	2451339.478859
3581	16	29	53.3860	13	59	48.507	15.2	2451349.445232
3581	16	21	15.8603	16	0	19.080	15.5	2451361.406494
3642	5	17	2.0568	5	11	8.762	15.0	2453330.554074
3642	5	16	15.7803	5	9	56.043	14.8	2453331.550810
3642	4	57	38.9531	5	19	15.683	15.6	2453352.480583
3642	4	56	43.9668	5	21	30.435	15.3	2453353.477218
3642	4	55	49.2776	5	23	54.784	15.1	2453354.473857
4031	0	36	32.3183	12	1	40.222	15.1	2450714.521488
4031	0	26	32.8570	12	58	30.215	15.0	2450720.498188
4031	23	46	38.5108	15	44	16.701	15.2	2450746.399561
4226	1	53	55.3766	13	15	0.728	14.6	2451459.535511
4226	2	4	19.0180	15	26	59.578	15.5	2451431.619156
4226	2	4	19.2395	15	24	51.762	15.7	2451432.616429
4375	17	59	19.0449	-14	28	40.014	15.7	2453526.546863
4375	17	55	32.4175	-14	32	53.909	16.2	2453530.533327
4375	17	54	33.7974	-14	34	12.876	15.7	2453531.529920
5392	14	59	31.7518	14	22	17.787	14.8	2450536.607887
5392	14	57	24.3353	14	5	34.818	14.3	2450538.600956
5392	14	56	16.5445	13	56	43.233	14.6	2450539.597443
5392	14	55	6.1402	13	47	30.454	14.4	2450540.593900
5392	14	53	53.1917	13	37	56.670	14.4	2450541.590328
5392	15	9	27.1546	16	4	39.284	15.0	2450518.663904
5847	1	22	17.3193	22	45	39.194	15.8	2452162.588715
5847	1	22	18.0611	22	51	5.236	15.1	2452163.585994
5847	1	8	49.4737	22	50	29.149	14.6	2452194.492022
14790	21	37	31.9203	-14	34	40.756	15.2	2452132.514973
14790	21	36	39.4517	-14	32	57.928	15.1	2452133.511637
14790	21	35	46.5795	-14	31	14.557	14.8	2452134.508297
14790	21	34	0.0586	-14	27	45.039	15.1	2452136.501607
20098	1	43	59.9015	-7	15	47.441	16.0	2452906.566916
20098	1	43	20.7363	-7	21	3.603	16.1	2452907.563734
20098	1	42	40.3080	-7	26	15.312	16.2	2452908.560537
20936	1	43	51.3025	-7	31	19.993	15.5	2452532.590691
20936	1	42	45.0400	-7	23	20.421	15.5	2452533.587196
20936	1	32	31.9101	14	32	11.673	15.5	2450751.459241