

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 42°41'N
 Län.: 86°38'41'O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
01-01-2010	19h21m28s	-20°28'56"	329°39'09"	-57°08'26"	2.70 m	0.703 AE	9.57"	+ 8.8°	99 %	+ 173.4°
02-01-2010	19h16m42s	-20°19'03"	333°19'55"	-57°38'45"	3.34 m	0.691 AE	9.74"	+ 6.8°	98 %	+ 169.8°
03-01-2010	19h11m26s	-20°10'39"	337°18'25"	-58°07'26"	4.02 m	0.682 AE	9.87"	+ 4.8°	93 %	+ 153.4°
04-01-2010	19h05m48s	-20°03'43"	341°30'59"	-58°32'49"	4.64 m	0.675 AE	9.96"	+ 3.2°	85 %	+ 137.1°
05-01-2010	19h00m00s	-19°58'15"	345°52'39"	-58°53'34"	4.81 m	0.672 AE	10.0"	+ 2.8°	76 %	+ 121.1°
06-01-2010	18h54m13s	-19°54'13"	350°17'41"	-59°08'45"	4.37 m	0.672 AE	10.0"	+ 4.0°	66 %	+ 105.6°
07-01-2010	18h48m38s	-19°51'37"	354°39'59"	-59°18'05"	3.74 m	0.675 AE	9.97"	+ 6.0°	55 %	+ 90.5°
08-01-2010	18h43m23s	-19°50'26"	358°53'54"	-59°21'49"	3.14 m	0.680 AE	9.89"	+ 8.0°	44 %	+ 75.9°
09-01-2010	18h38m38s	-19°50'39"	2°54'36"	-59°20'43"	2.59 m	0.688 AE	9.78"	+ 10.0°	34 %	+ 61.8°
10-01-2010	18h34m28s	-19°52'13"	6°38'33"	-59°15'50"	2.12 m	0.698 AE	9.63"	+ 11.9°	24 %	+ 48.2°
11-01-2010	18h30m57s	-19°55'04"	10°03'31"	-59°08'20"	1.72 m	0.711 AE	9.47"	+ 13.7°	16 %	+ 35.1°
12-01-2010	18h28m08s	-19°59'07"	13°08'26"	-58°59'22"	1.39 m	0.725 AE	9.29"	+ 15.4°	10 %	+ 22.4°
13-01-2010	18h26m01s	-20°04'15"	15°53'14"	-58°49'54"	1.11 m	0.740 AE	9.09"	+ 16.8°	4 %	+ 10.6°
14-01-2010	18h24m35s	-20°10'19"	18°18'31"	-58°40'46"	0.88 m	0.756 AE	8.89"	+ 18.1°	1 %	+ 5.7°
15-01-2010	18h23m49s	-20°17'10"	20°25'22"	-58°32'33"	0.69 m	0.774 AE	8.69"	+ 19.3°	0 %	+ 15.6°
16-01-2010	18h23m42s	-20°24'39"	22°15'02"	-58°25'40"	0.53 m	0.792 AE	8.49"	+ 20.3°	0 %	+ 27.1°
17-01-2010	18h24m09s	-20°32'35"	23°48'55"	-58°20'20"	0.41 m	0.811 AE	8.30"	+ 21.2°	2 %	+ 38.5°
18-01-2010	18h25m10s	-20°40'49"	25°08'24"	-58°16'39"	0.31 m	0.830 AE	8.11"	+ 22.0°	6 %	+ 49.9°
19-01-2010	18h26m42s	-20°49'12"	26°14'48"	-58°14'38"	0.23 m	0.849 AE	7.93"	+ 22.6°	11 %	+ 61.3°
20-01-2010	18h28m41s	-20°57'33"	27°09'18"	-58°14'12"	0.16 m	0.868 AE	7.75"	+ 23.2°	18 %	+ 72.6°
21-01-2010	18h31m05s	-21°05'46"	27°53'01"	-58°15'13"	0.11 m	0.887 AE	7.58"	+ 23.6°	26 %	+ 84.0°
22-01-2010	18h33m52s	-21°13'43"	28°26'55"	-58°17'32"	0.07 m	0.906 AE	7.42"	+ 24.0°	35 %	+ 95.6°
23-01-2010	18h37m01s	-21°21'15"	28°51'52"	-58°20'58"	0.03 m	0.925 AE	7.27"	+ 24.3°	45 %	+ 107.3°
24-01-2010	18h40m28s	-21°28'18"	29°08'39"	-58°25'21"	0.01 m	0.944 AE	7.13"	+ 24.5°	55 %	+ 119.4°
25-01-2010	18h44m12s	-21°34'45"	29°17'56"	-58°30'28"	-0.01 m	0.963 AE	6.99"	+ 24.6°	65 %	+ 131.8°
26-01-2010	18h48m12s	-21°40'31"	29°20'19"	-58°36'09"	-0.03 m	0.981 AE	6.86"	+ 24.7°	75 %	+ 144.7°
27-01-2010	18h52m25s	-21°45'31"	29°16'19"	-58°42'12"	-0.04 m	0.998 AE	6.74"	+ 24.8°	84 %	+ 158.1°
28-01-2010	18h56m52s	-21°49'43"	29°06'25"	-58°48'28"	-0.05 m	1.016 AE	6.62"	+ 24.7°	92 %	+ 171.8°
29-01-2010	19h01m30s	-21°53'01"	28°51'00"	-58°54'47"	-0.05 m	1.033 AE	6.51"	+ 24.7°	97 %	+ 173.8°
30-01-2010	19h06m18s	-21°55'23"	28°30'29"	-59°00'58"	-0.06 m	1.050 AE	6.41"	+ 24.6°	99 %	+ 159.5°

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 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
31-01-2010	19h11m16s	-21°56'45"	28°05'11"	-59°06'54"	-0.06 m	1.066 AE	6.31"	+24.4°	99 %	+145.1°
01-02-2010	19h16m23s	-21°57'06"	27°35'25"	-59°12'26"	-0.06 m	1.082 AE	6.22"	+24.3°	95 %	+130.9°
02-02-2010	19h21m37s	-21°56'23"	27°01'28"	-59°17'26"	-0.07 m	1.097 AE	6.13"	+24.1°	89 %	+117.0°
03-02-2010	19h26m59s	-21°54'35"	26°23'37"	-59°21'47"	-0.07 m	1.112 AE	6.05"	+23.9°	81 %	+103.6°
04-02-2010	19h32m27s	-21°51'38"	25°42'07"	-59°25'22"	-0.07 m	1.127 AE	5.97"	+23.6°	71 %	+90.8°
05-02-2010	19h38m01s	-21°47'32"	24°57'13"	-59°28'06"	-0.08 m	1.141 AE	5.90"	+23.4°	60 %	+78.4°
06-02-2010	19h43m40s	-21°42'16"	24°09'11"	-59°29'50"	-0.08 m	1.155 AE	5.83"	+23.1°	50 %	+66.6°
07-02-2010	19h49m25s	-21°35'48"	23°18'13"	-59°30'32"	-0.09 m	1.168 AE	5.76"	+22.8°	40 %	+55.3°
08-02-2010	19h55m13s	-21°28'07"	22°24'34"	-59°30'04"	-0.09 m	1.181 AE	5.70"	+22.4°	30 %	+44.2°
09-02-2010	20h01m06s	-21°19'13"	21°28'27"	-59°28'23"	-0.10 m	1.193 AE	5.64"	+22.1°	22 %	+33.5°
10-02-2010	20h07m03s	-21°09'04"	20°30'06"	-59°25'23"	-0.11 m	1.205 AE	5.58"	+21.7°	14 %	+23.0°
11-02-2010	20h13m04s	-20°57'40"	19°29'45"	-59°21'02"	-0.12 m	1.217 AE	5.53"	+21.3°	8 %	+12.7°
12-02-2010	20h19m07s	-20°44'59"	18°27'37"	-59°15'15"	-0.13 m	1.228 AE	5.48"	+20.9°	4 %	+2.8°
13-02-2010	20h25m14s	-20°31'03"	17°23'54"	-59°07'58"	-0.14 m	1.239 AE	5.43"	+20.4°	1 %	+8.2°
14-02-2010	20h31m23s	-20°15'49"	16°18'50"	-58°59'10"	-0.16 m	1.250 AE	5.38"	+20.0°	0 %	+18.3°
15-02-2010	20h37m34s	-19°59'19"	15°12'37"	-58°48'46"	-0.17 m	1.260 AE	5.34"	+19.6°	0 %	+28.6°
16-02-2010	20h43m48s	-19°41'30"	14°05'28"	-58°36'45"	-0.19 m	1.269 AE	5.30"	+19.1°	3 %	+38.9°
17-02-2010	20h50m04s	-19°22'24"	12°57'35"	-58°23'05"	-0.21 m	1.278 AE	5.26"	+18.6°	7 %	+49.3°
18-02-2010	20h56m22s	-19°01'59"	11°49'08"	-58°07'43"	-0.23 m	1.287 AE	5.23"	+18.1°	13 %	+59.8°
19-02-2010	21h02m42s	-18°40'16"	10°40'20"	-57°50'38"	-0.26 m	1.296 AE	5.19"	+17.6°	20 %	+70.5°
20-02-2010	21h09m04s	-18°17'15"	9°31'19"	-57°31'49"	-0.28 m	1.304 AE	5.16"	+17.0°	29 %	+81.5°
21-02-2010	21h15m27s	-17°52'54"	8°22'17"	-57°11'14"	-0.31 m	1.312 AE	5.13"	+16.5°	38 %	+92.7°
22-02-2010	21h21m52s	-17°27'15"	7°13'22"	-56°48'53"	-0.34 m	1.319 AE	5.10"	+15.9°	49 %	+104.3°
23-02-2010	21h28m19s	-17°00'17"	6°04'42"	-56°24'46"	-0.38 m	1.326 AE	5.08"	+15.3°	60 %	+116.2°
24-02-2010	21h34m47s	-16°31'59"	4°56'26"	-55°58'51"	-0.41 m	1.332 AE	5.05"	+14.7°	70 %	+128.6°
25-02-2010	21h41m16s	-16°02'23"	3°48'39"	-55°31'08"	-0.45 m	1.338 AE	5.03"	+14.1°	80 %	+141.3°
26-02-2010	21h47m47s	-15°31'27"	2°41'28"	-55°01'37"	-0.49 m	1.344 AE	5.01"	+13.5°	89 %	+154.3°
27-02-2010	21h54m20s	-14°59'12"	1°34'58"	-54°30'18"	-0.54 m	1.349 AE	4.99"	+12.8°	95 %	+167.1°
28-02-2010	22h00m53s	-14°25'39"	0°29'14"	-53°57'12"	-0.59 m	1.354 AE	4.97"	+12.2°	99 %	+173.8°
01-03-2010	22h07m29s	-13°50'46"	359°24'20"	-53°22'18"	-0.64 m	1.358 AE	4.96"	+11.5°	99 %	+163.1°

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	RA	Dek							Phase	Winkel
02-03-2010	22h14m05s	-13° 14 ' 35"	358° 20 ' 18"	-52° 45 ' 37"	-0.70 m	1.361 AE	4.94"	+ 10.8°	97 %	+ 150.1°
03-03-2010	22h20m44s	-12° 37 ' 05"	357° 17 ' 12"	-52° 07 ' 09"	-0.76 m	1.365 AE	4.93"	+ 10.1°	92 %	+ 137.3°
04-03-2010	22h27m24s	-11° 58 ' 18"	356° 15 ' 03"	-51° 26 ' 55"	-0.82 m	1.367 AE	4.92"	+ 9.3°	85 %	+ 124.8°
05-03-2010	22h34m05s	-11° 18 ' 12"	355° 13 ' 53"	-50° 44 ' 55"	-0.89 m	1.370 AE	4.91"	+ 8.6°	76 %	+ 112.9°
06-03-2010	22h40m48s	-10° 36 ' 49"	354° 13 ' 43"	-50° 01 ' 10"	-0.96 m	1.371 AE	4.91"	+ 7.8°	67 %	+ 101.4°
07-03-2010	22h47m33s	- 9° 54 ' 10"	353° 14 ' 34"	-49° 15 ' 42"	-1.04 m	1.372 AE	4.90"	+ 7.0°	57 %	+ 90.5°
08-03-2010	22h54m20s	- 9° 10 ' 15"	352° 16 ' 25"	-48° 28 ' 31"	-1.13 m	1.372 AE	4.90"	+ 6.2°	47 %	+ 80.0°
09-03-2010	23h01m09s	- 8° 25 ' 06"	351° 19 ' 18"	-47° 39 ' 39"	-1.22 m	1.372 AE	4.90"	+ 5.4°	37 %	+ 69.7°
10-03-2010	23h07m59s	- 7° 38 ' 43"	350° 23 ' 12"	-46° 49 ' 07"	-1.31 m	1.371 AE	4.91"	+ 4.6°	28 %	+ 59.8°
11-03-2010	23h14m51s	- 6° 51 ' 09"	349° 28 ' 08"	-45° 56 ' 57"	-1.41 m	1.369 AE	4.91"	+ 3.8°	20 %	+ 50.0°
12-03-2010	23h21m46s	- 6° 02 ' 25"	348° 34 ' 04"	-45° 03 ' 12"	-1.51 m	1.367 AE	4.92"	+ 3.0°	13 %	+ 40.3°
13-03-2010	23h28m42s	- 5° 12 ' 33"	347° 41 ' 02"	-44° 07 ' 53"	-1.62 m	1.363 AE	4.94"	+ 2.2°	7 %	+ 30.7°
14-03-2010	23h35m40s	- 4° 21 ' 37"	346° 49 ' 01"	-43° 11 ' 04"	-1.71 m	1.359 AE	4.95"	+ 1.7°	3 %	+ 21.1°
15-03-2010	23h42m40s	- 3° 29 ' 39"	345° 58 ' 03"	-42° 12 ' 49"	-1.76 m	1.354 AE	4.97"	+ 1.5°	0 %	+ 11.9°
16-03-2010	23h49m42s	- 2° 36 ' 43"	345° 08 ' 07"	-41° 13 ' 12"	-1.76 m	1.347 AE	4.99"	+ 1.9°	0 %	+ 5.5°
17-03-2010	23h56m46s	- 1° 42 ' 54"	344° 19 ' 17"	-40° 12 ' 19"	-1.74 m	1.340 AE	5.02"	+ 2.6°	1 %	+ 10.9°
18-03-2010	0h03m51s	- 0° 48 ' 18"	343° 31 ' 34"	-39° 10 ' 16"	-1.69 m	1.332 AE	5.05"	+ 3.5°	4 %	+ 20.4°
19-03-2010	0h10m57s	+ 0° 06 ' 59"	342° 45 ' 00"	-38° 07 ' 10"	-1.65 m	1.322 AE	5.09"	+ 4.4°	9 %	+ 30.6°
20-03-2010	0h18m04s	+ 1° 02 ' 51"	341° 59 ' 40"	-37° 03 ' 11"	-1.60 m	1.311 AE	5.13"	+ 5.4°	16 %	+ 41.2°
21-03-2010	0h25m11s	+ 1° 59 ' 09"	341° 15 ' 39"	-35° 58 ' 27"	-1.55 m	1.299 AE	5.18"	+ 6.4°	24 %	+ 52.0°
22-03-2010	0h32m18s	+ 2° 55 ' 44"	340° 33 ' 02"	-34° 53 ' 12"	-1.50 m	1.286 AE	5.23"	+ 7.4°	34 %	+ 63.2°
23-03-2010	0h39m24s	+ 3° 52 ' 26"	339° 51 ' 56"	-33° 47 ' 38"	-1.44 m	1.272 AE	5.29"	+ 8.4°	44 %	+ 74.7°
24-03-2010	0h46m28s	+ 4° 49 ' 03"	339° 12 ' 28"	-32° 42 ' 00"	-1.39 m	1.256 AE	5.36"	+ 9.4°	55 %	+ 86.5°
25-03-2010	0h53m30s	+ 5° 45 ' 22"	338° 34 ' 47"	-31° 36 ' 34"	-1.33 m	1.239 AE	5.43"	+ 10.4°	66 %	+ 98.7°
26-03-2010	1h00m28s	+ 6° 41 ' 12"	337° 59 ' 02"	-30° 31 ' 39"	-1.28 m	1.220 AE	5.51"	+ 11.3°	77 %	+ 111.2°
27-03-2010	1h07m22s	+ 7° 36 ' 17"	337° 25 ' 24"	-29° 27 ' 33"	-1.22 m	1.200 AE	5.60"	+ 12.3°	86 %	+ 124.0°
28-03-2010	1h14m09s	+ 8° 30 ' 24"	336° 54 ' 03"	-28° 24 ' 36"	-1.15 m	1.180 AE	5.70"	+ 13.2°	93 %	+ 137.0°
29-03-2010	1h20m32s	+ 9° 21 ' 07"	321° 02 ' 34"	-22° 28 ' 18"	-1.09 m	1.159 AE	5.81"	+ 14.0°	97 %	+ 149.7°
30-03-2010	1h27m04s	+10° 12 ' 38"	320° 47 ' 33"	-21° 25 ' 41"	-1.01 m	1.136 AE	5.92"	+ 14.9°	99 %	+ 162.6°
31-03-2010	1h33m26s	+11° 02 ' 28"	320° 34 ' 39"	-20° 25 ' 37"	-0.93 m	1.112 AE	6.05"	+ 15.6°	98 %	+ 174.1°

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	RA	Dek							Phase	Winkel
01-04-2010	1h39m36s	+11°50'25"	320°24'02"	-19°28'26"	-0.85 m	1.087 AE	6.19"	+16.4°	95 %	+170.3°
02-04-2010	1h45m33s	+12°36'16"	320°15'50"	-18°34'29"	-0.75 m	1.062 AE	6.34"	+17.0°	89 %	+158.7°
03-04-2010	1h51m16s	+13°19'50"	320°10'14"	-17°44'06"	-0.65 m	1.036 AE	6.49"	+17.6°	82 %	+147.0°
04-04-2010	1h56m43s	+14°00'56"	320°07'23"	-16°57'32"	-0.55 m	1.010 AE	6.66"	+18.1°	73 %	+135.6°
05-04-2010	2h01m53s	+14°39'27"	320°07'23"	-16°15'05"	-0.43 m	0.984 AE	6.84"	+18.5°	64 %	+124.5°
06-04-2010	2h06m45s	+15°15'14"	320°10'25"	-15°36'57"	-0.30 m	0.957 AE	7.03"	+18.9°	54 %	+113.6°
07-04-2010	2h11m19s	+15°48'11"	320°16'34"	-15°03'22"	-0.17 m	0.931 AE	7.22"	+19.1°	45 %	+102.9°
08-04-2010	2h15m32s	+16°18'13"	320°26'00"	-14°34'29"	-0.03 m	0.905 AE	7.43"	+19.3°	35 %	+92.3°
09-04-2010	2h19m23s	+16°45'14"	320°38'48"	-14°10'27"	0.13 m	0.880 AE	7.65"	+19.3°	27 %	+81.6°
10-04-2010	2h22m54s	+17°09'11"	320°55'05"	-13°51'23"	0.29 m	0.854 AE	7.87"	+19.3°	19 %	+70.8°
11-04-2010	2h26m01s	+17°30'01"	321°14'59"	-13°37'21"	0.46 m	0.830 AE	8.11"	+19.1°	12 %	+59.8°
12-04-2010	2h28m46s	+17°47'42"	321°38'34"	-13°28'25"	0.65 m	0.806 AE	8.35"	+18.9°	6 %	+48.6°
13-04-2010	2h31m07s	+18°02'10"	322°05'58"	-13°24'37"	0.84 m	0.783 AE	8.59"	+18.5°	2 %	+37.1°
14-04-2010	2h33m04s	+18°13'24"	322°37'16"	-13°25'56"	1.05 m	0.761 AE	8.84"	+18.1°	0 %	+25.3°
15-04-2010	2h34m38s	+18°21'24"	323°12'32"	-13°32'21"	1.28 m	0.739 AE	9.10"	+17.5°	0 %	+13.1°
16-04-2010	2h35m47s	+18°26'08"	323°51'51"	-13°43'48"	1.51 m	0.719 AE	9.36"	+16.8°	2 %	+0.9°
17-04-2010	2h36m33s	+18°27'37"	324°35'16"	-14°00'10"	1.76 m	0.700 AE	9.61"	+16.0°	6 %	+12.3°
18-04-2010	2h36m56s	+18°25'51"	325°22'50"	-14°21'18"	2.03 m	0.682 AE	9.87"	+15.1°	12 %	+25.5°
19-04-2010	2h36m56s	+18°20'54"	326°14'33"	-14°47'01"	2.32 m	0.665 AE	10.1"	+14.1°	20 %	+39.0°
20-04-2010	2h36m35s	+18°12'47"	327°10'24"	-15°17'04"	2.62 m	0.649 AE	10.4"	+13.0°	29 %	+52.9°
21-04-2010	2h35m54s	+18°01'38"	328°10'19"	-15°51'10"	2.95 m	0.634 AE	10.6"	+11.8°	40 %	+67.0°
22-04-2010	2h34m53s	+17°47'32"	329°14'14"	-16°28'57"	3.29 m	0.621 AE	10.8"	+10.6°	51 %	+81.4°
23-04-2010	2h33m35s	+17°30'38"	330°21'59"	-17°10'01"	3.66 m	0.609 AE	11.0"	+9.2°	63 %	+96.1°
24-04-2010	2h32m02s	+17°11'10"	331°33'24"	-17°53'53"	4.04 m	0.598 AE	11.2"	+7.8°	73 %	+111.0°
25-04-2010	2h30m16s	+16°49'20"	332°48'14"	-18°40'04"	4.45 m	0.589 AE	11.4"	+6.3°	83 %	+126.0°
26-04-2010	2h28m20s	+16°25'25"	334°06'11"	-19°28'01"	4.88 m	0.581 AE	11.6"	+4.8°	91 %	+141.1°
27-04-2010	2h26m15s	+15°59'45"	335°26'55"	-20°17'08"	5.33 m	0.575 AE	11.7"	+3.2°	96 %	+156.0°
28-04-2010	2h24m05s	+15°32'39"	336°49'59"	-21°06'50"	5.76 m	0.569 AE	11.8"	+1.7°	99 %	+170.3°
29-04-2010	2h21m52s	+15°04'30"	338°14'59"	-21°56'31"	5.99 m	0.566 AE	11.9"	+1.0°	99 %	+172.5°
30-04-2010	2h19m40s	+14°35'43"	339°41'23"	-22°45'35"	5.67 m	0.563 AE	12.0"	+2.1°	97 %	+159.2°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 4°20'41"N
 Län.: 86°38'41"O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
01-05-2010	2h17m30s	+14°06' 39"	341°08' 40"	-23°33' 29"	5.26 m	0.562 AE	12.0"	+ 3.6°	93 %	+ 145.4°
02-05-2010	2h15m24s	+13°37' 45"	342°36' 17"	-24°19' 41"	4.85 m	0.562 AE	12.0"	+ 5.2°	87 %	+ 131.9°
03-05-2010	2h13m26s	+13°09' 22"	344°03' 40"	-25°03' 45"	4.47 m	0.563 AE	12.0"	+ 6.8°	79 %	+ 118.8°
04-05-2010	2h11m37s	+12°41' 52"	345°30' 16"	-25°45' 17"	4.11 m	0.565 AE	11.9"	+ 8.4°	71 %	+ 106.0°
05-05-2010	2h09m59s	+12°15' 35"	346°55' 32"	-26°23' 55"	3.78 m	0.569 AE	11.8"	+ 9.9°	62 %	+ 93.5°
06-05-2010	2h08m34s	+11°50' 49"	348°18' 57"	-26°59' 26"	3.48 m	0.573 AE	11.7"	+ 11.3°	52 %	+ 81.3°
07-05-2010	2h07m22s	+11°27' 50"	349°40' 02"	-27°31' 36"	3.20 m	0.579 AE	11.6"	+ 12.7°	43 %	+ 69.2°
08-05-2010	2h06m25s	+11°06' 51"	350°58' 21"	-28°00' 20"	2.95 m	0.585 AE	11.5"	+ 14.0°	33 %	+ 57.1°
09-05-2010	2h05m43s	+10°48' 01"	352°13' 31"	-28°25' 33"	2.71 m	0.593 AE	11.4"	+ 15.3°	25 %	+ 45.2°
10-05-2010	2h05m17s	+10°31' 28"	353°25' 12"	-28°47' 15"	2.50 m	0.601 AE	11.2"	+ 16.5°	17 %	+ 33.2°
11-05-2010	2h05m07s	+10°17' 20"	354°33' 07"	-29°05' 28"	2.30 m	0.610 AE	11.0"	+ 17.6°	10 %	+ 21.2°
12-05-2010	2h05m14s	+10°05' 38"	355°37' 03"	-29°20' 17"	2.12 m	0.620 AE	10.9"	+ 18.6°	5 %	+ 10.1°
13-05-2010	2h05m37s	+ 9°56' 26"	356°36' 50"	-29°31' 47"	1.96 m	0.630 AE	10.7"	+ 19.5°	1 %	+ 8.3°
14-05-2010	2h06m17s	+ 9°49' 43"	357°32' 21"	-29°40' 06"	1.80 m	0.642 AE	10.5"	+ 20.4°	0 %	+ 19.1°
15-05-2010	2h07m13s	+ 9°45' 27"	358°23' 32"	-29°45' 22"	1.67 m	0.653 AE	10.3"	+ 21.2°	0 %	+ 31.9°
16-05-2010	2h08m24s	+ 9°43' 38"	359°10' 20"	-29°47' 45"	1.54 m	0.666 AE	10.1"	+ 21.9°	4 %	+ 45.0°
17-05-2010	2h09m51s	+ 9°44' 11"	359°52' 45"	-29°47' 24"	1.42 m	0.679 AE	9.91"	+ 22.5°	9 %	+ 58.4°
18-05-2010	2h11m34s	+ 9°47' 03"	0°30' 50"	-29°44' 28"	1.31 m	0.692 AE	9.72"	+ 23.1°	17 %	+ 71.9°
19-05-2010	2h13m31s	+ 9°52' 09"	1°04' 37"	-29°39' 06"	1.21 m	0.706 AE	9.52"	+ 23.6°	27 %	+ 85.4°
20-05-2010	2h15m43s	+ 9°59' 24"	1°34' 11"	-29°31' 27"	1.11 m	0.721 AE	9.33"	+ 24.0°	37 %	+ 99.0°
21-05-2010	2h18m08s	+10°08' 44"	1°59' 36"	-29°21' 41"	1.02 m	0.736 AE	9.14"	+ 24.3°	49 %	+ 112.4°
22-05-2010	2h20m48s	+10°20' 02"	2°20' 59"	-29°09' 55"	0.94 m	0.751 AE	8.96"	+ 24.6°	60 %	+ 125.8°
23-05-2010	2h23m41s	+10°33' 14"	2°38' 24"	-28°56' 17"	0.86 m	0.767 AE	8.77"	+ 24.8°	71 %	+ 138.9°
24-05-2010	2h26m47s	+10°48' 13"	2°51' 59"	-28°40' 55"	0.78 m	0.783 AE	8.59"	+ 25.0°	81 %	+ 151.7°
25-05-2010	2h30m06s	+11°04' 54"	3°01' 50"	-28°23' 56"	0.71 m	0.799 AE	8.42"	+ 25.1°	89 %	+ 163.6°
26-05-2010	2h33m38s	+11°23' 12"	3°08' 01"	-28°05' 26"	0.64 m	0.816 AE	8.24"	+ 25.1°	94 %	+ 171.0°
27-05-2010	2h37m22s	+11°43' 01"	3°10' 40"	-27°45' 31"	0.57 m	0.833 AE	8.07"	+ 25.1°	98 %	+ 165.2°
28-05-2010	2h41m18s	+12°04' 15"	3°09' 52"	-27°24' 18"	0.50 m	0.851 AE	7.91"	+ 25.0°	99 %	+ 154.3°
29-05-2010	2h45m27s	+12°26' 49"	3°05' 43"	-27°01' 51"	0.43 m	0.868 AE	7.75"	+ 24.9°	98 %	+ 142.9°
30-05-2010	2h49m47s	+12°50' 37"	2°58' 16"	-26°38' 17"	0.37 m	0.886 AE	7.59"	+ 24.7°	95 %	+ 131.5°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 42°41'N
 Län.: 86°38'41"O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azm	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
31-05-2010	2h54m20s	+13°15'33"	2°47'37"	-26°13'38"	0.30 m	0.904 AE	7.44"	+24.5°	91 %	+120.4°
01-06-2010	2h59m04s	+13°41'32"	2°33'49"	-25°48'02"	0.24 m	0.922 AE	7.29"	+24.2°	84 %	+109.5°
02-06-2010	3h04m00s	+14°08'28"	2°16'57"	-25°21'30"	0.17 m	0.941 AE	7.15"	+23.9°	77 %	+98.8°
03-06-2010	3h09m08s	+14°36'15"	1°57'04"	-24°54'09"	0.11 m	0.960 AE	7.01"	+23.5°	68 %	+88.3°
04-06-2010	3h14m29s	+15°04'48"	1°34'11"	-24°26'01"	0.04 m	0.978 AE	6.88"	+23.1°	59 %	+78.0°
05-06-2010	3h20m01s	+15°34'00"	1°08'22"	-23°57'10"	-0.03 m	0.997 AE	6.75"	+22.6°	50 %	+67.7°
06-06-2010	3h25m45s	+16°03'46"	0°39'39"	-23°27'41"	-0.10 m	1.016 AE	6.62"	+22.1°	40 %	+57.3°
07-06-2010	3h31m43s	+16°33'58"	0°08'03"	-22°57'37"	-0.17 m	1.035 AE	6.50"	+21.5°	31 %	+46.8°
08-06-2010	3h37m52s	+17°04'29"	359°33'36"	-22°27'02"	-0.24 m	1.054 AE	6.38"	+20.9°	22 %	+36.1°
09-06-2010	3h44m14s	+17°35'14"	358°56'19"	-21°55'59"	-0.32 m	1.073 AE	6.27"	+20.3°	14 %	+25.2°
10-06-2010	3h50m50s	+18°06'03"	358°16'12"	-21°24'33"	-0.39 m	1.092 AE	6.16"	+19.6°	7 %	+14.2°
11-06-2010	3h57m38s	+18°36'50"	357°33'18"	-20°52'47"	-0.47 m	1.111 AE	6.06"	+18.8°	3 %	+4.7°
12-06-2010	4h04m40s	+19°07'26"	356°47'37"	-20°20'45"	-0.55 m	1.130 AE	5.96"	+18.0°	0 %	+11.0°
13-06-2010	4h11m55s	+19°37'40"	355°59'11"	-19°48'33"	-0.63 m	1.148 AE	5.86"	+17.2°	0 %	+22.8°
14-06-2010	4h19m23s	+20°07'25"	355°08'02"	-19°16'14"	-0.72 m	1.166 AE	5.77"	+16.3°	2 %	+35.2°
15-06-2010	4h27m05s	+20°36'30"	354°14'12"	-18°43'53"	-0.80 m	1.183 AE	5.69"	+15.4°	7 %	+47.7°
16-06-2010	4h35m01s	+21°04'43"	353°17'45"	-18°11'37"	-0.89 m	1.200 AE	5.61"	+14.5°	15 %	+60.3°
17-06-2010	4h43m09s	+21°31'55"	352°18'45"	-17°39'30"	-0.98 m	1.216 AE	5.53"	+13.5°	24 %	+72.8°
18-06-2010	4h51m31s	+21°57'53"	351°17'16"	-17°07'39"	-1.08 m	1.231 AE	5.46"	+12.4°	35 %	+85.3°
19-06-2010	5h00m04s	+22°22'25"	350°13'27"	-16°36'11"	-1.18 m	1.246 AE	5.40"	+11.4°	47 %	+97.5°
20-06-2010	5h08m50s	+22°45'19"	349°07'24"	-16°05'13"	-1.28 m	1.260 AE	5.34"	+10.3°	58 %	+109.5°
21-06-2010	5h17m47s	+23°06'23"	347°59'17"	-15°34'52"	-1.38 m	1.272 AE	5.29"	+9.2°	69 %	+121.3°
22-06-2010	5h26m53s	+23°25'27"	346°49'17"	-15°05'16"	-1.48 m	1.284 AE	5.24"	+8.0°	78 %	+132.8°
23-06-2010	5h36m09s	+23°42'18"	345°37'38"	-14°36'35"	-1.59 m	1.294 AE	5.20"	+6.8°	86 %	+144.1°
24-06-2010	5h45m31s	+23°56'46"	344°24'31"	-14°08'54"	-1.71 m	1.303 AE	5.16"	+5.6°	93 %	+155.2°
25-06-2010	5h55m00s	+24°08'44"	343°10'13"	-13°42'24"	-1.82 m	1.311 AE	5.13"	+4.5°	97 %	+166.0°
26-06-2010	6h04m34s	+24°18'04"	341°54'59"	-13°17'12"	-1.94 m	1.317 AE	5.11"	+3.3°	99 %	+176.6°
27-06-2010	6h14m10s	+24°24'40"	340°39'06"	-12°53'26"	-2.05 m	1.321 AE	5.09"	+2.2°	99 %	+172.8°
28-06-2010	6h23m48s	+24°28'29"	339°22'49"	-12°31'11"	-2.13 m	1.325 AE	5.08"	+1.4°	97 %	+162.7°
29-06-2010	6h33m24s	+24°29'28"	338°06'24"	-12°10'36"	-2.11 m	1.327 AE	5.07"	+1.4°	94 %	+152.7°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 42°41'N
 Län.: 86°38'41'O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
30-06-2010	6h42m59s	+24°27'39"	336°50'07"	-11°51'45"	-2.00 m	1.327 AE	5.07"	+ 2.2°	89 %	+ 142.8°
01-07-2010	6h52m30s	+24°23'02"	335°34'12"	-11°34'42"	-1.87 m	1.326 AE	5.07"	+ 3.3°	82 %	+ 133.0°
02-07-2010	7h01m56s	+24°15'41"	334°18'53"	-11°19'32"	-1.73 m	1.324 AE	5.08"	+ 4.4°	74 %	+ 123.3°
03-07-2010	7h11m15s	+24°05'42"	333°04'21"	-11°06'16"	-1.60 m	1.321 AE	5.09"	+ 5.6°	66 %	+ 113.6°
04-07-2010	7h20m27s	+23°53'10"	331°50'48"	-10°54'56"	-1.48 m	1.316 AE	5.11"	+ 6.7°	56 %	+ 103.8°
05-07-2010	7h29m30s	+23°38'13"	330°38'21"	-10°45'33"	-1.36 m	1.310 AE	5.13"	+ 7.8°	47 %	+ 93.8°
06-07-2010	7h38m24s	+23°20'57"	329°27'10"	-10°38'07"	-1.25 m	1.304 AE	5.16"	+ 8.9°	37 %	+ 83.5°
07-07-2010	7h47m08s	+23°01'31"	328°17'20"	-10°32'36"	-1.15 m	1.296 AE	5.19"	+ 10.0°	27 %	+ 72.9°
08-07-2010	7h55m42s	+22°40'04"	327°08'57"	-10°29'00"	-1.05 m	1.288 AE	5.22"	+ 11.0°	18 %	+ 61.9°
09-07-2010	8h04m05s	+22°16'44"	326°02'06"	-10°27'17"	-0.95 m	1.279 AE	5.26"	+ 12.0°	11 %	+ 50.4°
10-07-2010	8h12m16s	+21°51'39"	324°56'49"	-10°27'24"	-0.86 m	1.269 AE	5.30"	+ 13.0°	4 %	+ 38.5°
11-07-2010	8h20m17s	+21°24'58"	323°53'10"	-10°29'18"	-0.78 m	1.259 AE	5.35"	+ 13.9°	1 %	+ 26.3°
12-07-2010	8h28m06s	+20°56'49"	322°51'10"	-10°32'57"	-0.70 m	1.248 AE	5.39"	+ 14.9°	0 %	+ 14.0°
13-07-2010	8h35m43s	+20°27'20"	321°50'52"	-10°38'17"	-0.62 m	1.236 AE	5.44"	+ 15.8°	1 %	+ 4.9°
14-07-2010	8h43m10s	+19°56'38"	320°52'16"	-10°45'16"	-0.55 m	1.224 AE	5.49"	+ 16.6°	6 %	+ 13.8°
15-07-2010	8h50m25s	+19°24'50"	319°55'24"	-10°53'49"	-0.49 m	1.212 AE	5.55"	+ 17.4°	13 %	+ 26.3°
16-07-2010	8h57m28s	+18°52'04"	319°00'16"	-11°03'55"	-0.42 m	1.200 AE	5.61"	+ 18.2°	22 %	+ 39.0°
17-07-2010	9h04m21s	+18°18'26"	318°06'54"	-11°15'29"	-0.36 m	1.187 AE	5.67"	+ 19.0°	33 %	+ 51.5°
18-07-2010	9h11m03s	+17°44'02"	317°15'16"	-11°28'28"	-0.30 m	1.174 AE	5.73"	+ 19.7°	44 %	+ 63.9°
19-07-2010	9h17m35s	+17°08'59"	316°25'24"	-11°42'49"	-0.25 m	1.160 AE	5.80"	+ 20.4°	55 %	+ 75.9°
20-07-2010	9h23m55s	+16°33'21"	315°37'19"	-11°58'29"	-0.20 m	1.147 AE	5.87"	+ 21.1°	66 %	+ 87.6°
21-07-2010	9h30m06s	+15°57'15"	314°51'01"	-12°15'25"	-0.15 m	1.133 AE	5.94"	+ 21.7°	75 %	+ 99.1°
22-07-2010	9h36m06s	+15°20'45"	314°06'31"	-12°33'34"	-0.10 m	1.119 AE	6.01"	+ 22.3°	84 %	+ 110.4°
23-07-2010	9h41m56s	+14°43'56"	313°23'50"	-12°52'53"	-0.06 m	1.105 AE	6.09"	+ 22.9°	90 %	+ 121.5°
24-07-2010	9h47m36s	+14°06'54"	312°42'59"	-13°13'19"	-0.02 m	1.091 AE	6.17"	+ 23.4°	95 %	+ 132.4°
25-07-2010	9h53m07s	+13°29'43"	312°03'59"	-13°34'50"	0.02 m	1.077 AE	6.25"	+ 23.9°	98 %	+ 143.3°
26-07-2010	9h58m28s	+12°52'27"	311°26'52"	-13°57'23"	0.06 m	1.063 AE	6.33"	+ 24.4°	99 %	+ 153.9°
27-07-2010	10h03m39s	+12°15'11"	310°51'41"	-14°20'56"	0.10 m	1.048 AE	6.42"	+ 24.8°	99 %	+ 164.4°
28-07-2010	10h08m40s	+11°37'58"	310°18'26"	-14°45'27"	0.13 m	1.034 AE	6.51"	+ 25.3°	96 %	+ 174.3°
29-07-2010	10h13m32s	+11°00'54"	309°47'12"	-15°10'53"	0.17 m	1.019 AE	6.60"	+ 25.6°	92 %	+ 173.3°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 4°20'41"N
 Län.: 86°38'41"O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
30-07-2010	10h18m14s	+10°24' 03"	309°18' 01"	-15°37' 13"	0.20 m	1.005 AE	6.69"	+ 26.0°	87 %	+ 163.3°
31-07-2010	10h22m47s	+ 9°47' 27"	308°50' 58"	-16°04' 24"	0.23 m	0.990 AE	6.79"	+ 26.3°	80 %	+ 152.8°
01-08-2010	10h27m10s	+ 9°11' 13"	308°26' 05"	-16°32' 25"	0.26 m	0.976 AE	6.90"	+ 26.6°	71 %	+ 142.1°
02-08-2010	10h31m23s	+ 8°35' 25"	308°03' 28"	-17°01' 14"	0.29 m	0.961 AE	7.00"	+ 26.8°	62 %	+ 131.2°
03-08-2010	10h35m26s	+ 8°00' 05"	307°43' 12"	-17°30' 50"	0.32 m	0.946 AE	7.11"	+ 27.0°	53 %	+ 120.0°
04-08-2010	10h39m19s	+ 7°25' 20"	307°25' 24"	-18°01' 11"	0.35 m	0.932 AE	7.22"	+ 27.1°	42 %	+ 108.5°
05-08-2010	10h43m02s	+ 6°51' 14"	307°10' 10"	-18°32' 15"	0.39 m	0.917 AE	7.34"	+ 27.3°	32 %	+ 96.6°
06-08-2010	10h46m34s	+ 6°17' 52"	306°57' 37"	-19°04' 01"	0.42 m	0.903 AE	7.45"	+ 27.3°	22 %	+ 84.2°
07-08-2010	10h49m55s	+ 5°45' 18"	306°47' 55"	-19°36' 28"	0.45 m	0.888 AE	7.58"	+ 27.4°	14 %	+ 71.3°
08-08-2010	10h53m06s	+ 5°13' 39"	306°41' 12"	-20°09' 33"	0.49 m	0.873 AE	7.70"	+ 27.3°	7 %	+ 58.0°
09-08-2010	10h56m04s	+ 4°43' 00"	306°37' 39"	-20°43' 16"	0.52 m	0.859 AE	7.83"	+ 27.3°	2 %	+ 44.2°
10-08-2010	10h58m51s	+ 4°13' 26"	306°37' 28"	-21°17' 35"	0.56 m	0.844 AE	7.97"	+ 27.1°	0 %	+ 30.1°
11-08-2010	11h01m25s	+ 3°45' 05"	306°40' 51"	-21°52' 27"	0.61 m	0.830 AE	8.11"	+ 27.0°	1 %	+ 15.9°
12-08-2010	11h03m46s	+ 3°18' 04"	306°48' 03"	-22°27' 52"	0.65 m	0.816 AE	8.25"	+ 26.8°	5 %	+ 3.3°
13-08-2010	11h05m54s	+ 2°52' 28"	306°59' 18"	-23°03' 45"	0.70 m	0.802 AE	8.39"	+ 26.5°	11 %	+ 13.3°
14-08-2010	11h07m47s	+ 2°28' 27"	307°14' 52"	-23°40' 04"	0.76 m	0.788 AE	8.54"	+ 26.1°	20 %	+ 27.1°
15-08-2010	11h09m26s	+ 2°06' 09"	307°35' 05"	-24°16' 46"	0.82 m	0.774 AE	8.69"	+ 25.7°	30 %	+ 40.6°
16-08-2010	11h10m48s	+ 1°45' 41"	308°00' 14"	-24°53' 45"	0.88 m	0.760 AE	8.85"	+ 25.2°	41 %	+ 53.9°
17-08-2010	11h11m55s	+ 1°27' 14"	308°30' 39"	-25°30' 57"	0.96 m	0.747 AE	9.01"	+ 24.7°	51 %	+ 66.9°
18-08-2010	11h12m45s	+ 1°10' 56"	309°06' 42"	-26°08' 15"	1.05 m	0.734 AE	9.17"	+ 24.0°	62 %	+ 79.6°
19-08-2010	11h13m17s	+ 0°56' 59"	309°48' 44"	-26°45' 31"	1.14 m	0.721 AE	9.33"	+ 23.3°	71 %	+ 92.1°
20-08-2010	11h13m31s	+ 0°45' 32"	310°37' 06"	-27°22' 34"	1.25 m	0.709 AE	9.49"	+ 22.5°	80 %	+ 104.5°
21-08-2010	11h13m26s	+ 0°36' 45"	311°32' 10"	-27°59' 14"	1.37 m	0.697 AE	9.65"	+ 21.6°	87 %	+ 116.7°
22-08-2010	11h13m02s	+ 0°30' 50"	312°34' 15"	-28°35' 17"	1.51 m	0.686 AE	9.80"	+ 20.6°	93 %	+ 128.9°
23-08-2010	11h12m18s	+ 0°27' 55"	313°43' 40"	-29°10' 26"	1.66 m	0.676 AE	9.96"	+ 19.6°	97 %	+ 141.1°
24-08-2010	11h11m14s	+ 0°28' 11"	315°00' 38"	-29°44' 22"	1.84 m	0.666 AE	10.1"	+ 18.4°	99 %	+ 153.3°
25-08-2010	11h09m50s	+ 0°31' 46"	316°25' 19"	-30°16' 46"	2.04 m	0.657 AE	10.2"	+ 17.2°	99 %	+ 165.5°
26-08-2010	11h08m07s	+ 0°38' 45"	317°57' 46"	-30°47' 13"	2.26 m	0.649 AE	10.4"	+ 15.9°	98 %	+ 177.8°
27-08-2010	11h06m05s	+ 0°49' 13"	319°37' 53"	-31°15' 18"	2.51 m	0.642 AE	10.5"	+ 14.4°	95 %	+ 169.6°
28-08-2010	11h03m45s	+ 1°03' 10"	321°25' 23"	-31°40' 36"	2.79 m	0.636 AE	10.6"	+ 12.9°	90 %	+ 157.0°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 42°41'N
 Län.: 86°38'41"O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
29-08-2010	11h01m09s	+ 1° 20 ' 35"	323° 19 ' 48"	-32° 02 ' 41"	3.11 m	0.631 AE	10.7"	+ 11.4°	84 %	+ 144.2°
30-08-2010	10h58m19s	+ 1° 41 ' 21"	325° 20 ' 25"	-32° 21 ' 08"	3.45 m	0.627 AE	10.7"	+ 9.8°	77 %	+ 131.2°
31-08-2010	10h55m17s	+ 2° 05 ' 14"	327° 26 ' 20"	-32° 35 ' 37"	3.81 m	0.626 AE	10.8"	+ 8.2°	68 %	+ 117.9°
01-09-2010	10h52m07s	+ 2° 32 ' 00"	329° 36 ' 20"	-32° 45 ' 50"	4.20 m	0.625 AE	10.8"	+ 6.6°	58 %	+ 104.3°
02-09-2010	10h48m52s	+ 3° 01 ' 14"	331° 49 ' 03"	-32° 51 ' 39"	4.56 m	0.627 AE	10.7"	+ 5.2°	48 %	+ 90.4°
03-09-2010	10h45m35s	+ 3° 32 ' 31"	334° 02 ' 56"	-32° 53 ' 03"	4.83 m	0.630 AE	10.7"	+ 4.2°	37 %	+ 76.1°
04-09-2010	10h42m22s	+ 4° 05 ' 19"	336° 16 ' 17"	-32° 50 ' 10"	4.89 m	0.635 AE	10.6"	+ 3.9°	27 %	+ 61.4°
05-09-2010	10h39m17s	+ 4° 39 ' 01"	338° 27 ' 26"	-32° 43 ' 19"	4.67 m	0.642 AE	10.5"	+ 4.5°	17 %	+ 46.2°
06-09-2010	10h36m24s	+ 5° 13 ' 02"	340° 34 ' 39"	-32° 32 ' 59"	4.28 m	0.651 AE	10.3"	+ 5.6°	9 %	+ 30.8°
07-09-2010	10h33m46s	+ 5° 46 ' 43"	342° 36 ' 24"	-32° 19 ' 47"	3.82 m	0.662 AE	10.2"	+ 7.0°	3 %	+ 15.2°
08-09-2010	10h31m30s	+ 6° 19 ' 26"	344° 31 ' 16"	-32° 04 ' 25"	3.35 m	0.674 AE	9.98"	+ 8.4°	0 %	+ 2.5°
09-09-2010	10h29m37s	+ 6° 50 ' 33"	346° 18 ' 02"	-31° 47 ' 42"	2.88 m	0.689 AE	9.76"	+ 9.9°	0 %	+ 16.8°
10-09-2010	10h28m12s	+ 7° 19 ' 32"	347° 55 ' 46"	-31° 30 ' 26"	2.44 m	0.706 AE	9.53"	+ 11.3°	3 %	+ 32.2°
11-09-2010	10h27m16s	+ 7° 45 ' 52"	349° 23 ' 46"	-31° 13 ' 27"	2.03 m	0.725 AE	9.29"	+ 12.5°	9 %	+ 47.2°
12-09-2010	10h26m52s	+ 8° 09 ' 06"	350° 41 ' 32"	-30° 57 ' 31"	1.64 m	0.745 AE	9.03"	+ 13.7°	17 %	+ 61.8°
13-09-2010	10h27m02s	+ 8° 28 ' 52"	351° 48 ' 51"	-30° 43 ' 20"	1.30 m	0.767 AE	8.77"	+ 14.7°	26 %	+ 75.8°
14-09-2010	10h27m46s	+ 8° 44 ' 53"	352° 45 ' 40"	-30° 31 ' 30"	0.98 m	0.790 AE	8.51"	+ 15.6°	36 %	+ 89.1°
15-09-2010	10h29m04s	+ 8° 56 ' 54"	353° 32 ' 05"	-30° 22 ' 32"	0.69 m	0.815 AE	8.26"	+ 16.3°	46 %	+ 101.9°
16-09-2010	10h30m55s	+ 9° 04 ' 46"	354° 08 ' 24"	-30° 16 ' 49"	0.44 m	0.841 AE	8.00"	+ 16.9°	56 %	+ 114.2°
17-09-2010	10h33m19s	+ 9° 08 ' 24"	354° 34 ' 57"	-30° 14 ' 38"	0.21 m	0.867 AE	7.76"	+ 17.4°	66 %	+ 126.0°
18-09-2010	10h36m15s	+ 9° 07 ' 46"	354° 52 ' 14"	-30° 16 ' 09"	0.01 m	0.895 AE	7.52"	+ 17.6°	75 %	+ 137.4°
19-09-2010	10h39m41s	+ 9° 02 ' 54"	355° 00 ' 46"	-30° 21 ' 26"	-0.17 m	0.923 AE	7.29"	+ 17.8°	83 %	+ 148.6°
20-09-2010	10h43m34s	+ 8° 53 ' 53"	355° 01 ' 09"	-30° 30 ' 30"	-0.32 m	0.951 AE	7.07"	+ 17.9°	89 %	+ 159.3°
21-09-2010	10h47m52s	+ 8° 40 ' 50"	354° 54 ' 00"	-30° 43 ' 13"	-0.46 m	0.979 AE	6.87"	+ 17.8°	94 %	+ 169.6°
22-09-2010	10h52m34s	+ 8° 23 ' 55"	354° 39 ' 56"	-30° 59 ' 27"	-0.57 m	1.007 AE	6.68"	+ 17.6°	97 %	+ 174.9°
23-09-2010	10h57m36s	+ 8° 03 ' 21"	354° 19 ' 36"	-31° 18 ' 59"	-0.67 m	1.035 AE	6.50"	+ 17.3°	99 %	+ 166.9°
24-09-2010	11h02m56s	+ 7° 39 ' 21"	353° 53 ' 38"	-31° 41 ' 34"	-0.75 m	1.063 AE	6.33"	+ 16.9°	99 %	+ 156.6°
25-09-2010	11h08m31s	+ 7° 12 ' 12"	353° 22 ' 38"	-32° 06 ' 55"	-0.82 m	1.089 AE	6.18"	+ 16.4°	97 %	+ 146.1°
26-09-2010	11h14m19s	+ 6° 42 ' 09"	352° 47 ' 10"	-32° 34 ' 45"	-0.88 m	1.115 AE	6.03"	+ 15.9°	93 %	+ 135.5°
27-09-2010	11h20m18s	+ 6° 09 ' 28"	352° 07 ' 48"	-33° 04 ' 44"	-0.93 m	1.140 AE	5.90"	+ 15.3°	88 %	+ 124.8°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 4°20'41"N
 Län.: 86°38'41"O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azim	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
28-09-2010	11h26m26s	+ 5°34' 28"	351°25' 02"	-33°36' 36"	-0.97 m	1.164 AE	5.78"	+ 14.7°	81 %	+ 113.9°
29-09-2010	11h32m41s	+ 4°57' 24"	350°39' 18"	-34°10' 03"	-1.01 m	1.187 AE	5.67"	+ 14.0°	72 %	+ 102.8°
30-09-2010	11h39m01s	+ 4°18' 33"	349°51' 02"	-34°44' 49"	-1.04 m	1.209 AE	5.56"	+ 13.3°	63 %	+ 91.6°
01-10-2010	11h45m25s	+ 3°38' 09"	349°00' 36"	-35°20' 38"	-1.06 m	1.230 AE	5.47"	+ 12.6°	52 %	+ 80.0°
02-10-2010	11h51m52s	+ 2°56' 26"	348°08' 18"	-35°57' 16"	-1.09 m	1.250 AE	5.38"	+ 11.8°	41 %	+ 68.3°
03-10-2010	11h58m21s	+ 2°13' 39"	347°14' 25"	-36°34' 30"	-1.11 m	1.268 AE	5.31"	+ 11.0°	30 %	+ 56.1°
04-10-2010	12h04m50s	+ 1°29' 59"	346°19' 12"	-37°12' 08"	-1.14 m	1.285 AE	5.23"	+ 10.2°	20 %	+ 43.8°
05-10-2010	12h11m20s	+ 0°45' 38"	345°22' 49"	-37°50' 00"	-1.16 m	1.301 AE	5.17"	+ 9.4°	12 %	+ 31.3°
06-10-2010	12h17m49s	+ 0°00' 44"	344°25' 27"	-38°27' 56"	-1.18 m	1.316 AE	5.11"	+ 8.6°	5 %	+ 18.9°
07-10-2010	12h24m18s	- 0°44' 31"	343°27' 15"	-39°05' 48"	-1.20 m	1.330 AE	5.06"	+ 7.8°	1 %	+ 8.6°
08-10-2010	12h30m45s	- 1°30' 01"	342°28' 18"	-39°43' 28"	-1.22 m	1.343 AE	5.01"	+ 7.0°	0 %	+ 11.4°
09-10-2010	12h37m12s	- 2°15' 39"	341°28' 43"	-40°20' 50"	-1.24 m	1.355 AE	4.97"	+ 6.3°	2 %	+ 22.8°
10-10-2010	12h43m36s	- 3°01' 17"	340°28' 32"	-40°57' 49"	-1.26 m	1.366 AE	4.93"	+ 5.5°	6 %	+ 34.9°
11-10-2010	12h49m59s	- 3°46' 51"	339°27' 50"	-41°34' 17"	-1.29 m	1.376 AE	4.89"	+ 4.7°	13 %	+ 46.8°
12-10-2010	12h56m21s	- 4°32' 14"	338°26' 40"	-42°10' 12"	-1.31 m	1.385 AE	4.86"	+ 4.0°	21 %	+ 58.4°
13-10-2010	13h02m40s	- 5°17' 24"	337°25' 01"	-42°45' 28"	-1.34 m	1.393 AE	4.83"	+ 3.3°	30 %	+ 69.6°
14-10-2010	13h08m59s	- 6°02' 15"	336°22' 57"	-43°20' 03"	-1.36 m	1.400 AE	4.81"	+ 2.5°	40 %	+ 80.5°
15-10-2010	13h15m15s	- 6°46' 44"	335°20' 28"	-43°53' 52"	-1.38 m	1.406 AE	4.78"	+ 1.9°	50 %	+ 91.1°
16-10-2010	13h21m30s	- 7°30' 48"	334°17' 34"	-44°26' 52"	-1.40 m	1.412 AE	4.76"	+ 1.3°	59 %	+ 101.5°
17-10-2010	13h27m44s	- 8°14' 23"	333°14' 15"	-44°59' 01"	-1.40 m	1.417 AE	4.75"	+ 0.9°	69 %	+ 111.7°
18-10-2010	13h33m57s	- 8°57' 29"	332°10' 32"	-45°30' 15"	-1.36 m	1.421 AE	4.73"	+ 1.0°	77 %	+ 121.8°
19-10-2010	13h40m08s	- 9°40' 02"	331°06' 26"	-46°00' 33"	-1.30 m	1.425 AE	4.72"	+ 1.5°	84 %	+ 132.0°
20-10-2010	13h46m19s	-10°21' 59"	330°01' 55"	-46°29' 52"	-1.22 m	1.428 AE	4.71"	+ 2.0°	90 %	+ 142.2°
21-10-2010	13h52m29s	-11°03' 20"	328°57' 01"	-46°58' 10"	-1.15 m	1.430 AE	4.70"	+ 2.7°	95 %	+ 152.5°
22-10-2010	13h58m38s	-11°44' 03"	327°51' 44"	-47°25' 25"	-1.08 m	1.432 AE	4.70"	+ 3.3°	98 %	+ 162.9°
23-10-2010	14h04m46s	-12°24' 05"	326°46' 04"	-47°51' 34"	-1.02 m	1.433 AE	4.70"	+ 4.0°	99 %	+ 172.8°
24-10-2010	14h10m54s	-13°03' 25"	325°40' 02"	-48°16' 36"	-0.96 m	1.433 AE	4.69"	+ 4.6°	99 %	+ 173.6°
25-10-2010	14h17m02s	-13°42' 02"	324°33' 39"	-48°40' 30"	-0.90 m	1.433 AE	4.70"	+ 5.2°	96 %	+ 163.4°
26-10-2010	14h23m09s	-14°19' 55"	323°26' 57"	-49°03' 12"	-0.85 m	1.432 AE	4.70"	+ 5.8°	91 %	+ 152.3°
27-10-2010	14h29m16s	-14°57' 02"	322°19' 56"	-49°24' 43"	-0.80 m	1.431 AE	4.70"	+ 6.4°	85 %	+ 140.9°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 42°41'N
 Län.: 86°38'41'O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azm	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
28-10-2010	14h35m24s	-15°33' 21"	321°12' 39"	-49°45' 00"	-0.75 m	1.429 AE	4.71"	+ 7.0°	77 %	+ 129.3°
29-10-2010	14h41m31s	-16°08' 52"	320°05' 08"	-50°04' 02"	-0.71 m	1.426 AE	4.72"	+ 7.6°	67 %	+ 117.4°
30-10-2010	14h47m39s	-16°43' 33"	318°57' 26"	-50°21' 47"	-0.67 m	1.423 AE	4.73"	+ 8.2°	56 %	+ 105.3°
31-10-2010	14h53m47s	-17°17' 23"	317°49' 36"	-50°38' 15"	-0.63 m	1.420 AE	4.74"	+ 8.8°	45 %	+ 93.0°
01-11-2010	15h00m11s	-17°51' 42"	339°10' 35"	-55°59' 39"	-0.59 m	1.416 AE	4.75"	+ 9.3°	34 %	+ 79.8°
02-11-2010	15h06m20s	-18°23' 44"	338°01' 43"	-56°23' 02"	-0.56 m	1.411 AE	4.77"	+ 9.9°	23 %	+ 67.0°
03-11-2010	15h12m29s	-18°54' 52"	336°51' 57"	-56°44' 59"	-0.53 m	1.406 AE	4.79"	+ 10.5°	14 %	+ 54.1°
04-11-2010	15h18m39s	-19°25' 03"	335°41' 23"	-57°05' 31"	-0.50 m	1.400 AE	4.81"	+ 11.0°	7 %	+ 41.1°
05-11-2010	15h24m50s	-19°54' 17"	334°30' 04"	-57°24' 33"	-0.48 m	1.394 AE	4.83"	+ 11.5°	2 %	+ 28.2°
06-11-2010	15h31m01s	-20°22' 33"	333°18' 07"	-57°42' 06"	-0.46 m	1.387 AE	4.85"	+ 12.1°	0 %	+ 15.4°
07-11-2010	15h37m13s	-20°49' 49"	332°05' 40"	-57°58' 08"	-0.44 m	1.380 AE	4.88"	+ 12.6°	0 %	+ 3.4°
08-11-2010	15h43m25s	-21°16' 03"	330°52' 48"	-58°12' 38"	-0.42 m	1.372 AE	4.90"	+ 13.1°	4 %	+ 9.8°
09-11-2010	15h49m38s	-21°41' 15"	329°39' 42"	-58°25' 35"	-0.40 m	1.364 AE	4.93"	+ 13.6°	9 %	+ 21.6°
10-11-2010	15h55m51s	-22°05' 23"	328°26' 30"	-58°36' 58"	-0.39 m	1.355 AE	4.97"	+ 14.1°	16 %	+ 33.1°
11-11-2010	16h02m05s	-22°28' 26"	327°13' 24"	-58°46' 47"	-0.37 m	1.345 AE	5.00"	+ 14.6°	24 %	+ 44.3°
12-11-2010	16h08m19s	-22°50' 22"	326°00' 34"	-58°55' 03"	-0.36 m	1.335 AE	5.04"	+ 15.1°	33 %	+ 55.2°
13-11-2010	16h14m33s	-23°11' 10"	324°48' 12"	-59°01' 44"	-0.36 m	1.325 AE	5.08"	+ 15.6°	43 %	+ 65.9°
14-11-2010	16h20m48s	-23°30' 49"	323°36' 32"	-59°06' 53"	-0.35 m	1.314 AE	5.12"	+ 16.0°	52 %	+ 76.4°
15-11-2010	16h27m02s	-23°49' 17"	322°25' 46"	-59°10' 31"	-0.34 m	1.302 AE	5.17"	+ 16.5°	61 %	+ 86.8°
16-11-2010	16h33m15s	-24°06' 32"	321°16' 09"	-59°12' 38"	-0.34 m	1.290 AE	5.22"	+ 16.9°	70 %	+ 97.2°
17-11-2010	16h39m28s	-24°22' 33"	320°07' 55"	-59°13' 17"	-0.34 m	1.277 AE	5.27"	+ 17.4°	79 %	+ 107.7°
18-11-2010	16h45m39s	-24°37' 19"	319°01' 20"	-59°12' 31"	-0.33 m	1.263 AE	5.33"	+ 17.8°	86 %	+ 118.4°
19-11-2010	16h51m49s	-24°50' 49"	317°56' 40"	-59°10' 22"	-0.33 m	1.249 AE	5.39"	+ 18.2°	92 %	+ 129.3°
20-11-2010	16h57m58s	-25°03' 00"	316°54' 11"	-59°06' 56"	-0.34 m	1.234 AE	5.45"	+ 18.6°	96 %	+ 140.4°
21-11-2010	17h04m03s	-25°13' 52"	315°54' 11"	-59°02' 16"	-0.34 m	1.219 AE	5.52"	+ 19.0°	99 %	+ 151.8°
22-11-2010	17h10m06s	-25°23' 24"	314°56' 56"	-58°56' 28"	-0.34 m	1.203 AE	5.59"	+ 19.4°	99 %	+ 163.5°
23-11-2010	17h16m05s	-25°31' 34"	314°02' 45"	-58°49' 38"	-0.34 m	1.186 AE	5.67"	+ 19.7°	98 %	+ 175.3°
24-11-2010	17h22m00s	-25°38' 22"	313°11' 57"	-58°41' 53"	-0.34 m	1.169 AE	5.76"	+ 20.0°	94 %	+ 171.9°
25-11-2010	17h27m49s	-25°43' 45"	312°24' 53"	-58°33' 21"	-0.35 m	1.151 AE	5.85"	+ 20.3°	88 %	+ 159.6°
26-11-2010	17h33m32s	-25°47' 45"	311°41' 55"	-58°24' 11"	-0.35 m	1.132 AE	5.94"	+ 20.6°	80 %	+ 147.1°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 42°41'N
 Län.: 86°38'41'O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azm	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
27-11-2010	17h39m07s	-25° 50 ' 20"	311° 03 ' 24"	-58° 14 ' 34"	-0.35 m	1.113 AE	6.04"	+ 20.9°	71 %	+ 134.3°
28-11-2010	17h44m34s	-25° 51 ' 29"	310° 29 ' 47"	-58° 04 ' 42"	-0.35 m	1.093 AE	6.15"	+ 21.1°	60 %	+ 121.5°
29-11-2010	17h49m50s	-25° 51 ' 14"	310° 01 ' 31"	-57° 54 ' 47"	-0.34 m	1.073 AE	6.27"	+ 21.2°	48 %	+ 108.6°
30-11-2010	17h54m55s	-25° 49 ' 33"	309° 39 ' 05"	-57° 45 ' 04"	-0.33 m	1.051 AE	6.40"	+ 21.4°	37 %	+ 95.6°
01-12-2010	17h59m45s	-25° 46 ' 29"	309° 23 ' 04"	-57° 35 ' 50"	-0.32 m	1.030 AE	6.53"	+ 21.4°	26 %	+ 82.6°
02-12-2010	18h04m21s	-25° 42 ' 01"	309° 14 ' 06"	-57° 27 ' 22"	-0.30 m	1.007 AE	6.68"	+ 21.4°	17 %	+ 69.5°
03-12-2010	18h08m37s	-25° 36 ' 12"	309° 12 ' 54"	-57° 20 ' 00"	-0.28 m	0.985 AE	6.83"	+ 21.4°	9 %	+ 56.5°
04-12-2010	18h12m33s	-25° 29 ' 03"	309° 20 ' 17"	-57° 14 ' 04"	-0.24 m	0.961 AE	7.00"	+ 21.3°	3 %	+ 43.5°
05-12-2010	18h16m06s	-25° 20 ' 38"	309° 37 ' 10"	-57° 09 ' 57"	-0.19 m	0.938 AE	7.17"	+ 21.0°	0 %	+ 30.6°
06-12-2010	18h19m12s	-25° 10 ' 57"	310° 04 ' 39"	-57° 08 ' 02"	-0.13 m	0.914 AE	7.36"	+ 20.7°	0 %	+ 17.9°
07-12-2010	18h21m47s	-25° 00 ' 06"	310° 43 ' 56"	-57° 08 ' 41"	-0.05 m	0.890 AE	7.56"	+ 20.3°	1 %	+ 5.4°
08-12-2010	18h23m49s	-24° 48 ' 08"	311° 36 ' 22"	-57° 12 ' 16"	0.06 m	0.866 AE	7.77"	+ 19.7°	5 %	+ 7.3°
09-12-2010	18h25m13s	-24° 35 ' 06"	312° 43 ' 31"	-57° 19 ' 04"	0.20 m	0.843 AE	7.98"	+ 19.0°	11 %	+ 19.5°
10-12-2010	18h25m57s	-24° 21 ' 05"	314° 07 ' 02"	-57° 29 ' 19"	0.36 m	0.820 AE	8.21"	+ 18.1°	18 %	+ 31.6°
11-12-2010	18h25m56s	-24° 06 ' 08"	315° 48 ' 43"	-57° 43 ' 05"	0.58 m	0.797 AE	8.44"	+ 17.1°	26 %	+ 43.7°
12-12-2010	18h25m07s	-23° 50 ' 20"	317° 50 ' 23"	-58° 00 ' 12"	0.84 m	0.776 AE	8.67"	+ 15.9°	35 %	+ 55.8°
13-12-2010	18h23m30s	-23° 33 ' 46"	320° 13 ' 47"	-58° 20 ' 17"	1.16 m	0.756 AE	8.90"	+ 14.6°	44 %	+ 68.0°
14-12-2010	18h21m02s	-23° 16 ' 28"	323° 00 ' 21"	-58° 42 ' 37"	1.54 m	0.737 AE	9.13"	+ 13.0°	53 %	+ 80.3°
15-12-2010	18h17m46s	-22° 58 ' 32"	326° 10 ' 55"	-59° 06 ' 07"	2.01 m	0.720 AE	9.34"	+ 11.2°	63 %	+ 92.9°
16-12-2010	18h13m43s	-22° 40 ' 05"	329° 45 ' 24"	-59° 29 ' 23"	2.55 m	0.706 AE	9.53"	+ 9.3°	71 %	+ 105.9°
17-12-2010	18h09m00s	-22° 21 ' 15"	333° 42 ' 25"	-59° 50 ' 47"	3.19 m	0.694 AE	9.69"	+ 7.3°	80 %	+ 119.3°
18-12-2010	18h03m43s	-22° 02 ' 16"	337° 58 ' 56"	-60° 08 ' 35"	3.90 m	0.685 AE	9.82"	+ 5.1°	87 %	+ 133.1°
19-12-2010	17h58m02s	-21° 43 ' 23"	342° 30 ' 13"	-60° 21 ' 16"	4.63 m	0.680 AE	9.90"	+ 3.1°	93 %	+ 147.3°
20-12-2010	17h52m09s	-21° 24 ' 59"	347° 10 ' 02"	-60° 27 ' 42"	5.06 m	0.677 AE	9.94"	+ 2.0°	97 %	+ 161.9°
21-12-2010	17h46m16s	-21° 07 ' 28"	351° 51 ' 14"	-60° 27 ' 24"	4.64 m	0.677 AE	9.93"	+ 3.1°	99 %	+ 176.2°
22-12-2010	17h40m33s	-20° 51 ' 15"	356° 26 ' 38"	-60° 20 ' 37"	3.92 m	0.681 AE	9.88"	+ 5.2°	99 %	+ 167.3°
23-12-2010	17h35m12s	-20° 36 ' 45"	0° 49 ' 47"	-60° 08 ' 14"	3.24 m	0.688 AE	9.78"	+ 7.3°	96 %	+ 152.0°
24-12-2010	17h30m21s	-20° 24 ' 22"	4° 55 ' 42"	-59° 51 ' 38"	2.63 m	0.697 AE	9.65"	+ 9.4°	91 %	+ 136.5°
25-12-2010	17h26m08s	-20° 14 ' 22"	8° 41 ' 01"	-59° 32 ' 25"	2.10 m	0.709 AE	9.49"	+ 11.4°	83 %	+ 121.1°
26-12-2010	17h22m37s	-20° 06 ' 54"	12° 04 ' 06"	-59° 12 ' 10"	1.66 m	0.723 AE	9.31"	+ 13.2°	74 %	+ 106.0°

Sichtbarkeit

Datum/Standort

Datum: 01-01-2010
 Zeitraum: 1 Jahr
 Br.: 4°20'41"N
 Län.: 86°38'41"O

Objekt

Planet:
 Merkur

Datum (0:00 Ortszeit)	Scheinbarer Ort		Azm	Höhe	Helligkeit	Entf.	Winkeld.	Sonne Elong.	Mond	
	RA	Dek							Phase	Winkel
27-12-2010	17h19m49s	-20°02'03"	15°04'35"	-58°52'18"	1.30 m	0.739 AE	9.11"	+ 14.8°	63 %	+ 91.0°
28-12-2010	17h17m47s	-19°59'46"	17°43'06"	-58°33'56"	0.99 m	0.756 AE	8.90"	+ 16.3°	52 %	+ 76.4°
29-12-2010	17h16m29s	-19°59'54"	20°00'57"	-58°17'53"	0.74 m	0.775 AE	8.68"	+ 17.6°	41 %	+ 62.1°
30-12-2010	17h15m53s	-20°02'18"	21°59'42"	-58°04'41"	0.54 m	0.795 AE	8.47"	+ 18.7°	30 %	+ 48.3°
31-12-2010	17h15m58s	-20°06'41"	23°41'04"	-57°54'35"	0.38 m	0.815 AE	8.26"	+ 19.7°	20 %	+ 34.7°