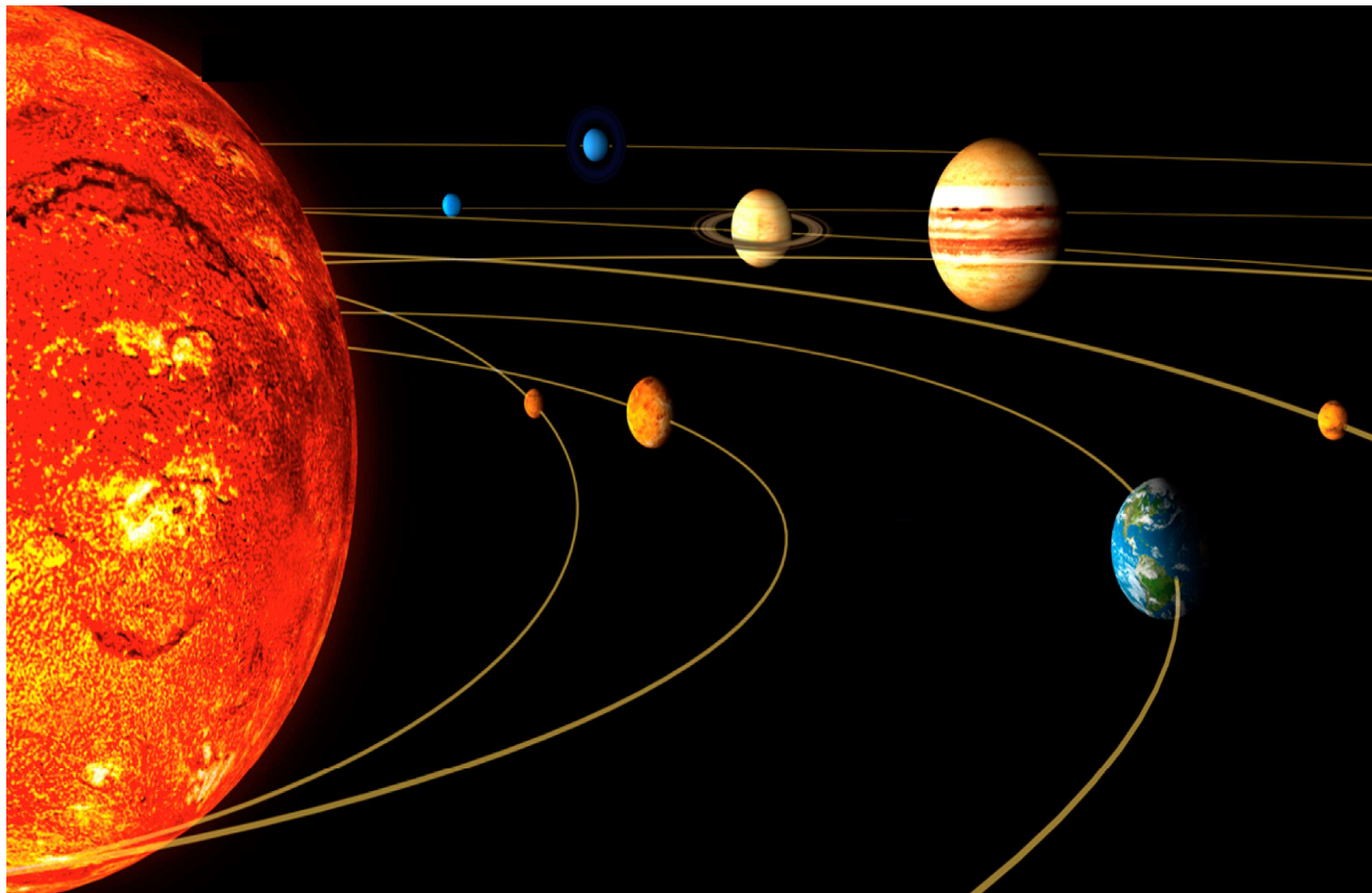


Navigational Planets
Planet Sight Reduction

Planet Sights

Practical Sextant Navigation – Planets, Stars and Moon



Apr 23 Tue	SHA	Mer.pass
Venus	339°07.8	11:18
Mars	4°55.2	09:34
Jupiter	309°56.2	13:12
Saturn	12°18.0	09:03

Horizontal parallax		
Venus:		0.1
Mars:		0.1

Planets are best sighted when on or about their Meridian Passages. The Mer Passes of the 4 best visible Planets are given on the Daily Pages for the Planets and Stars (opposite of the Sun & Moon Daily page).

On April 23rd, in our position, the meridian passages of none of the 4 planets are optimal for sight reductions. But, if they were,

A planet sight reduction works the same as for sun sight reductions, and so does the plotting, with some differences:

Correction for Venus and Mars
v-correction
Brightness

Navigational Planets

Planet Sights

April 21, 22, 23 UT (Sun., Mon., Tue.)

	Aries		Venus		Mars		Jupiter		Saturn	
Sun	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
Tue	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
0	211°31.8	N07°17.5	190°39.5	216°27.0	S03°30.5	161°28.0	N17°35.4	223°49.8	S07°08.7	
1	226°34.2	18.7	205°39.1	231°27.6	29.7	176°29.9	35.5	238°52.0	08.6	
2	241°36.7	19.9	220°38.7	246°28.3	28.9	191°31.8	35.7	253°54.3	08.6	
3	256°39.2	21.1	235°38.3	261°29.0	28.2	206°33.6	35.8	268°56.5	08.5	
4	271°41.6	22.3	250°37.9	276°29.7	27.4	221°35.5	36.0	283°58.7	08.4	
5	286°44.1	23.5	265°37.5	291°30.4	26.6	236°37.4	36.1	299°01.0	08.3	
6	301°46.5	N07°24.6	280°37.1	306°31.1	S03°25.9	251°39.3	N17°36.3	314°03.2	S07°08.2	
7	316°49.0	25.8	295°36.7	321°31.8	25.1	266°41.2	36.4	329°05.5	08.1	
8	331°51.5	27.0	310°36.3	336°32.4	24.3	281°43.0	36.6	344°07.7	08.0	
9	346°53.9	28.2	325°35.9	351°33.1	23.6	296°44.9	36.7	359°09.9	08.0	
10	1°56.4	29.4	340°35.5	6°33.8	22.8	311°46.8	36.9	14°12.2	07.9	
11	16°58.9	30.5	355°35.0	21°34.5	22.0	326°48.7	37.0	29°14.4	07.8	
12	32°01.3	N07°31.7	10°34.6	36°35.2	S03°21.3	341°50.6	N17°37.2	44°16.7	S07°07.7	
13	47°03.8	32.9	25°34.2	51°35.9	20.5	356°52.5	37.3	59°18.9	07.6	
14	62°06.3	34.1	40°33.8	66°36.6	19.7	11°54.3	37.5	74°21.1	07.5	
15	77°08.7	35.2	55°33.4	81°37.2	19.0	26°56.2	37.6	89°23.4	07.4	
16	92°11.2	36.4	70°33.0	96°37.9	18.2	41°58.1	37.8	104°25.6	07.4	
17	107°13.7	37.6	85°32.6	111°38.6	17.4	57°00.0	37.9	119°27.9	07.3	
18	122°16.1	N07°38.8	100°32.2	126°39.3	S03°16.7	72°01.9	N17°38.1	134°30.1	S07°07.2	
19	137°18.6	39.9	115°31.8	141°40.0	15.9	87°03.7	38.2	149°32.3	07.1	
20	152°21.0	41.1	130°31.4	156°40.7	15.1	102°05.6	38.4	164°34.6	07.0	
21	167°23.5	42.3	145°31.0	171°41.4	14.4	117°07.5	38.5	179°36.8	06.9	
22	182°26.0	43.5	160°30.5	186°42.0	13.6	132°09.4	38.7	194°39.1	06.8	
23	197°28.4	44.6	175°30.1	201°42.7	12.9	147°11.3	38.8	209°41.3	06.8	
Mer.pass.	09:52		ν -0.4' d 1.2' m -3.90			ν 0.7' d 0.8' m 1.14		ν 1.9' d 0.2' m -2.02		ν 2.2' d 0.1' m 1.07

For Venus and Mars only, an extra parallax correction on the Observed Altitude.

An additional 'v' correction* on the GHA.

*works the same as the d correction for minutes on the Declination

Note the m: this is the magnitude (or brightness) of the planet. A minus means a bright planet.

Planet Sight Reduction

Although not favourable, Jupiter is quite visible and we are going to do the observation, also because the planet is in a bright phase.

PLANET SIGHT PRO FORMA		De Zeezeilers Zeezeilschool	RVA
Planet: JUPITER			
Date: April 23, 2024	LMT Civil Twilight (1) Long Time UT Civil Twilight	h m s 18 39 08 30 0 10 09	
EP/DR: 16° 58' N / 127° 30' E	Greenwich Date: April 23, 2024	m d m d	
Sextant Reading: (lower / upper)	Chronometer Correction		
Height of Eye: 4.0 m	UT Sight	10 00	
Index Error: 3.0 on/off			
Sex. Alt. 15° 27' .0 I.E. -3' .0 (off +, on -)	(4) GHA h 311° 46' .8 (5) + Incr m 0° 00' .0 (5) v' 0° 0' .0 (+/-) GHA 311° 46' .8	v = 1.9 (+/-)	
(2) DIP -3' .5 (+/-) Apparent Alt. 15° 20' .5 (3) Alt. corr. -3' .5 (+/-) (4) Add. corr. True Alt. (Ho) 15° 17'	Ass. Long 127° 13' .2 W/E LHA 439° 00' .0 439° - 360° = 79°		
Assumed Latitude 17° N	(4) Decl. 17° 36' .9 N / s (5) d' 0° 0' .0 (+/-) Decl. 17° 36' .9 N / s	d = 0.2 (+/-)	

Altitude Corrections: use the column for Stars & Planets

In this case no correction for horizontal parallax needed. Only for Venus or Mars, given on the Daily Pages

The 'v' correction is found in the same table Increments & Corrections (3) and column as the 'd' correction.

