



Aspect of the sky from 50° 45' N : 2° 00' W at 21:00 UTC

Chart from www.fourmilab.ch

Earth: The Sun is at Autumnal Equinox on 22nd at 12:44 UTC - the Sun dips below the Celestial Equator. Sun at 150.1 M km.

Lunar Phases: New: Sept. 3rd at 01:56; First Qtr: Sept. 11th at 06:06; Full Sept. 18th at 02:35; Last Qtr: Sept. 24th at 18:50.

Apsides: Apogee (futhest) Sept. 5th at 14:55, 406211 Km (29' 40"); Perigee (closest) Sept. 21st at 05:03, 360196 Km, (33' 17").

Mercury (☿): reaches max elongation west on the 3rd, mag -0.6 and 9° above the eastern horizon at dawn on this date. Mercury reaches Superior Conjunction on the 30th.

Venus (♀): reaches 30 eastern elongation on the 31st, but will be very close to the horizon, and therefore not be easily seen as the ecliptic is shallow, but look at the western horizon soon after sunset, there may be a chance of a glimpse, mag -3.9.

Mars (♂): is a few degrees east of Jupiter, for the rest of the year, the distance changes from 8° at month's start, mag 0.7, to 20° by the 31st. mag 0.5.

Jupiter (♃): is well seen in the morning sky at mag. -2.5 The Moon will be close on the 23rd.

Saturn (♄): comes to opposition on the 8th and is therefore seen all night mag.0.6. Moon is close on the 17th and 18th.

Uranus (♅): is now well visible in the morning sky, being about 22° west of Jupiter, 3.6 arc seconds in diameter, mag. 5.7.

Neptune (♆): is 14° east of Saturn all month and comes to opposition on the 31st and thus is visible all night, diameter 2.3 arc seconds, mag. 7.8. Moon close on the 18th.

Pluto (♇) is between Sagittarius and Capricorn as shown on the above chart, mag. 14.4. A waxing gibbous Moon will be 2° below Pluto on the 14th before daybreak.

The full moon on the 18th, is being billed as a supermoon, though it's at perihelion on the 21st. Keep watch over the 3 days for a big moon.

Sunrise set times:

Date	Rise	Transit	Set	Date	Rise	Transit	Set
01 Sep 2024	05:22:25	12:07:50	18:52:13	21 Sep 2024	05:53:15	12:00:53	18:07:32
06 Sep 2024	05:30:08	12:06:11	18:41:13	26 Sep 2024	06:01:03	11:59:08	17:56:17
11 Sep 2024	05:37:49	12:04:27	18:30:04	01 Oct 2024	06:08:56	11:57:29	17:45:08
16 Sep 2024	05:45:32	12:02:40	18:18:49				

Moonrise set times:

Date	Rise	Transit	Set	Date	Rise	Transit	Set
01 Sep 2024	03:08:42	11:04:20	18:41:12	21 Sep 2024	19:19:03	02:35:55	10:36:40
06 Sep 2024	09:01:28	14:25:07	19:36:14	26 Sep 2024	23:41:35	07:24:01	16:06:15
11 Sep 2024	15:02:05	18:22:44	21:41:42	01 Oct 2024	04:33:40	11:06:54	17:24:44
16 Sep 2024	17:57:59	23:06:21	02:59:02				

B Persei, (Algol) (Mag 2.1 to 3.4) – the 3 visible minima are
3rd at 21:40; 23rd at 23:19; ,26th at 20:10. (low in the NE sky).

RZ Cassiopeiae (mag6.2 to 7.7) - No reliable info.

Lambda Tauri (mag 3.4 to 3.9) – No reliable info.

For observation of the ISS during the month, log-in to <http://www.heavens-above.com>. I have also included a list of sightings of the solar sail in this month's round-up, which follow the ISS list.

The next Durlston event will be on the 7th of September at 7:45pm, when Saturn will be the main object being at opposition on the 8th also the Autumn constellations.

Solar news

There have been several periods of strong magnetic field disturbance during August, with aurora seen in the south on the 11th at 12th.

Timings for Jupiter's **Great Red Spot (GRS)**: Jupiter rises 21:40 mid-month. The red spot sightings are:

1st at 01:15; 3rd at 02:55 and 22:45; 5th at 04:35; 8th at 02:05; 10th at 03:45 and 23:35; 13th at 01:15; 15th at 02:55 and 22:45; 17th at 04:30; 10th at 00:25; 20th at 02:00; 22nd at 03:40 and 23:30; 25th at 01:10 and 21:05; 27th at 02:50; 29th at 04:30 and 30th at 00:20 .

Meteor Activity: The September Perseids peek on the 9th a minor shower – 1-2 mph. The sporadic count is likely to be higher! The lunar phase is waxing crescent.

Good observing Robert Hatch. 08 September 2024.

Page 3 Passes of the ISS for September

Date	Brightness (mag)	Time	-----Start-----		---- Highest point--			-----End-----			Pass type
			Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	

Evening passes:

11 Sep	-1.7	20:21:27	10°	SSE	20:22:38	11°	SE	20:23:01	11°	SE	visible
11 Sep	-1.2	21:55:32	10°	SW	21:55:59	13°	SW	21:55:59	13°	SW	visible
12 Sep	-3.0	21:07:39	10°	SW	21:10:24	33°	SSE	21:10:24	33°	SSE	visible
13 Sep	-2.5	20:19:54	10°	SSW	20:22:39	24°	SE	20:24:33	15°	E	visible
13 Sep	-2.1	21:55:44	10°	WSW	21:57:29	28°	WSW	21:57:29	28°	WSW	visible
14 Sep	-3.8	21:07:34	10°	WSW	21:10:52	62°	SSE	21:11:25	52°	ESE	visible
14 Sep	-0.5	22:44:17	10°	W	22:44:20	10°	W	22:44:20	10°	W	visible
15 Sep	-3.4	20:19:26	10°	SW	20:22:38	45°	SSE	20:25:10	15°	E	visible
15 Sep	-2.3	21:55:58	10°	W	21:58:05	36°	W	21:58:05	36°	W	visible
16 Sep	-3.9	21:07:37	10°	WSW	21:10:58	87°	N	21:11:41	53°	ENE	visible
16 Sep	-0.5	22:44:27	10°	W	22:44:35	11°	W	22:44:35	11°	W	visible
17 Sep	-3.8	20:19:15	10°	WSW	20:22:36	78°	SSE	20:25:11	16°	ENE	visible
17 Sep	-2.1	21:56:03	10°	W	21:58:05	33°	WNW	21:58:05	33°	WNW	visible
18 Sep	-3.7	21:07:36	10°	W	21:10:57	74°	N	21:11:29	57°	ENE	visible
19 Sep	-3.7	20:19:06	10°	W	20:22:27	78°	N	20:24:49	18°	ENE	visible
19 Sep	-1.8	21:55:55	10°	WNW	21:57:42	29°	WNW	21:57:42	29°	WNW	visible
20 Sep	-3.9	21:07:24	10°	W	21:10:45	79°	N	21:10:59	73°	ENE	visible
21 Sep	-3.7	20:18:50	10°	W	20:22:10	74°	N	20:24:12	22°	E	visible
21 Sep	-1.5	21:55:36	10°	WNW	21:57:05	24°	W	21:57:05	24°	W	visible
22 Sep	-3.8	21:06:59	10°	WNW	21:10:16	76°	SSW	21:10:16	76°	SSW	visible
23 Sep	-3.8	20:18:20	10°	WNW	20:21:41	88°	N	20:23:26	26°	ESE	visible
23 Sep	-1.1	21:55:12	10°	W	21:56:18	18°	W	21:56:18	18°	W	visible
24 Sep	-3.7	19:29:38	10°	W	19:32:58	78°	N	19:36:20	10°	E	visible
24 Sep	-3.0	21:06:25	10°	W	21:09:27	44°	SW	21:09:27	44°	SW	visible
25 Sep	-3.5	20:17:38	10°	WNW	20:20:57	61°	SSW	20:22:35	26°	SE	visible
25 Sep	-0.7	21:55:02	10°	W	21:55:28	12°	WSW	21:55:28	12°	WSW	visible
26 Sep	-3.7	19:28:51	10°	WNW	19:32:11	79°	SSW	19:35:32	10°	ESE	visible
26 Sep	-2.0	21:05:51	10°	W	21:08:35	23°	SW	21:08:37	23°	SW	visible
27 Sep	-2.5	20:16:51	10°	W	20:19:54	33°	SSW	20:21:47	19°	SSE	visible
28 Sep	-3.0	19:27:53	10°	W	19:31:07	47°	SSW	19:34:21	10°	SE	visible
28 Sep	-1.0	21:06:02	10°	WSW	21:07:12	11°	SW	21:07:51	11°	SSW	visible
29 Sep	-1.3	20:16:13	10°	W	20:18:31	17°	SW	20:20:49	10°	S	visible
30 Sep	-1.8	19:26:55	10°	W	19:29:45	25°	SW	19:32:33	10°	SSE	visible
02 Oct	-0.8	19:26:30	10°	WSW	19:28:01	13°	SW	19:29:33	10°	SSW	visible

ACS3 SOLAR SAIL TIMES.

This is an interesting object as it has an orbital inclination of 97.4° to the equator. This means that the orbit is slightly retrograde and is almost locked i.e. it precesses very slowly (eastward and is almost solar synchronous). Other satellites, including the ISS precess at different rates according to their inclinations. The ISS with an inclination of 51.5° precesses at 7° westward per day, for example, hence it (the ISS) sometimes passes over in daylight-and is not visible. **ACS3** will be visible every night (until April next year) and goes

PTO

Page 4

through a repeating pattern of passes w.r.t the altitude (every 7 visible passes) but continues to be observable night after night without any interruptions. However, the passes do happen slightly earlier night on night and so eventually the object will pass over in daylight (after mid April next year.) It is possible that solar wind pressure is affecting its orbit which is probably the whole point of this experiment! So here are the passes for now. More next month!

Date	Brightness (mag)	-----Start-----		---- Highest point-----			-----End-----		Pass type		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	
07 Sep	1.9	21:16:23	10°	SSE	21:22:44	87°	ENE	21:29:10	10°	NNW	visible
07 Sep	4.0	23:03:11	10°	SW	23:07:39	20°	W	23:12:08	10°	NW	visible
08 Sep	2.7	20:07:12	10°	ESE	20:12:47	33°	ENE	20:18:22	10°	N	visible
08 Sep	2.4	21:50:36	11°	S	21:56:34	57°	W	22:02:52	10°	NNW	visible
08 Sep	4.5	23:40:51	10°	W	23:42:05	11°	WNW	23:43:19	10°	WNW	visible
09 Sep	2.1	20:40:01	10°	SE	20:46:11	54°	ENE	20:52:21	10°	N	visible
09 Sep	3.3	22:24:49	10°	SSW	22:30:30	34°	W	22:36:14	10°	NNW	visible
10 Sep	1.9	21:13:32	11°	SSE	21:19:41	87°	ENE	21:26:06	10°	NNW	visible
10 Sep	4.0	23:00:06	10°	SW	23:04:35	20°	W	23:09:05	10°	NW	visible
11 Sep	2.7	20:03:59	10°	ESE	20:09:32	33°	ENE	20:15:06	10°	N	visible
11 Sep	2.4	21:47:34	12°	S	21:53:18	57°	W	21:59:36	10°	NNW	visible
11 Sep	4.5	23:37:26	10°	W	23:38:48	11°	WNW	23:40:08	10°	WNW	visible
12 Sep	2.1	20:36:37	10°	SE	20:42:45	53°	ENE	20:48:53	10°	N	visible
12 Sep	3.3	22:21:31	11°	SSW	22:27:02	34°	W	22:32:47	10°	NNW	visible
13 Sep	1.8	21:10:06	12°	SSE	21:16:03	86°	ENE	21:22:27	10°	NNW	visible
13 Sep	4.0	22:56:23	10°	SW	23:00:54	20°	W	23:05:26	10°	NW	visible
14 Sep	2.7	20:00:13	10°	ESE	20:05:44	32°	ENE	20:11:14	10°	N	visible
14 Sep	2.4	21:43:56	14°	S	21:49:28	58°	W	21:55:45	10°	NNW	visible
14 Sep	4.4	23:33:19	10°	W	23:34:54	11°	WNW	23:36:29	10°	WNW	visible
15 Sep	2.1	20:32:36	10°	SE	20:38:43	52°	ENE	20:44:50	10°	N	visible
15 Sep	3.2	22:17:41	12°	SSW	22:22:59	35°	W	22:28:44	10°	NNW	visible
16 Sep	1.8	21:06:06	13°	SSE	21:11:48	84°	ENE	21:18:12	10°	NNW	visible
16 Sep	3.9	22:52:02	10°	SW	22:56:37	21°	W	23:01:14	10°	NW	visible
17 Sep	2.7	19:55:52	10°	ESE	20:01:20	32°	ENE	20:06:46	10°	N	visible
17 Sep	2.3	21:39:43	15°	S	21:45:01	60°	W	21:51:18	10°	NNW	visible
17 Sep	4.4	23:28:32	10°	W	23:30:24	11°	WNW	23:32:16	10°	WNW	visible
18 Sep	2.1	20:28:02	10°	SE	20:34:06	50°	ENE	20:40:11	10°	N	visible
18 Sep	3.2	22:13:11	13°	SSW	22:18:17	36°	W	22:24:05	10°	NNW	visible
19 Sep	1.8	21:01:26	14°	SSE	21:06:57	81°	ENE	21:13:20	10°	NNW	visible
19 Sep	3.9	22:47:00	10°	SW	22:51:42	21°	W	22:56:26	10°	NW	visible
20 Sep	2.7	19:50:54	10°	ESE	19:56:18	31°	ENE	20:01:43	10°	N	visible
20 Sep	2.3	21:34:52	16°	S	21:39:57	62°	W	21:46:16	10°	NNW	visible
20 Sep	4.4	23:23:02	10°	W	23:25:17	12°	WNW	23:27:32	10°	WNW	visible
21 Sep	2.2	20:22:59	11°	SE	20:28:54	48°	ENE	20:34:57	10°	N	visible
21 Sep	3.1	22:08:14	15°	SSW	22:13:03	37°	W	22:18:54	10°	NNW	visible
22 Sep	1.8	20:56:18	16°	SSE	21:01:35	78°	ENE	21:07:56	10°	N	visible
22 Sep	3.8	22:41:32	10°	SW	22:46:17	22°	W	22:51:06	10°	NW	visible
23 Sep	2.8	19:45:28	10°	ESE	19:50:47	29°	ENE	19:56:05	10°	N	visible
23 Sep	2.2	21:29:32	18°	S	21:34:22	65°	W	21:40:41	10°	NNW	visible
23 Sep	4.4	23:17:03	10°	WSW	23:19:38	13°	W	23:22:13	10°	NW	visible

Page 5

24 Sep 2.2	20:17:29	11°	SE	20:23:10	46°	ENE	20:29:09	10°	N	visible
24 Sep 3.0	22:02:42	16°	SSW	22:07:15	39°	W	22:13:09	10°	NNW	visible
25 Sep 1.8	20:50:35	17°	SSE	20:55:38	75°	ENE	21:01:57	10°	N	visible
25 Sep 3.8	22:35:48	12°	SW	22:40:16	23°	W	22:45:12	10°	NW	visible
26 Sep 2.8	19:39:29	10°	ESE	19:44:41	28°	ENE	19:49:53	10°	N	visible
26 Sep 2.1	21:23:37	20°	S	21:28:12	69°	W	21:34:31	10°	NNW	visible
26 Sep 4.3	23:10:28	10°	WSW	23:13:23	13°	W	23:16:19	10°	NW	visible
27 Sep 2.2	20:11:23	12°	SE	20:16:51	44°	ENE	20:22:46	10°	N	visible
27 Sep 2.9	21:56:36	18°	SSW	22:00:53	41°	W	22:06:50	10°	NNW	visible
28 Sep 1.8	20:44:17	18°	SSE	20:49:06	71°	ENE	20:55:23	10°	N	visible
28 Sep 3.7	22:29:30	13°	SW	22:33:39	25°	W	22:38:44	10°	NW	visible
29 Sep 2.9	19:32:57	10°	ESE	19:38:01	26°	ENE	19:43:05	10°	N	visible
29 Sep 2.0	21:17:08	22°	S	21:21:28	73°	WSW	21:27:47	10°	NNW	visible
29 Sep 4.3	23:03:18	10°	WSW	23:06:33	14°	W	23:09:49	10°	NW	visible
30 Sep 2.3	20:04:43	13°	SE	20:09:58	41°	ENE	20:15:47	10°	N	visible
30 Sep 2.8	21:49:54	20°	SSW	21:53:55	44°	W	21:59:55	10°	NNW	visible
01 Oct 1.8	20:37:26	19°	SSE	20:42:01	66°	ENE	20:48:15	10°	N	visible
01 Oct 3.6	22:22:37	15°	SW	22:26:28	26°	W	22:31:41	10°	NNW	visible
02 Oct 2.9	19:25:53	10°	ESE	19:30:48	25°	ENE	19:35:42	10°	N	visible
02 Oct 1.9	21:10:04	24°	S	21:14:10	78°	WSW	21:20:28	10°	NNW	visible