



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

Map from www.fourmilab.ch

British Summer Time (aka DST) ends on Sunday 29th October at 02:00, when clocks **go back 1 hour to GMT.**

Lunar Phases: Full: Oct. 5th at 18:40; Last Qtr: Oct. 12th at 12:25; New: Oct. 19th at 19:12; and 1st Qtr: Oct. 27th at 22:22.

Apsides Perigee (closest), Oct. 9th at 05:54, 366855 km, (32' 34"); Apogee (furthest), Oct. 25th at 02:25, 405154 km, (29' 29").

Mercury (♿): is in solar conjunction on the 18th and will not be visible.

Venus (♀): is in conjunction with Mars on the morning of the 5th. The planets will be 15° above the eastern horizon half an hour before sunrise. Moon near on the 17th.

Mars (♂): is moving out from the Sun in the morning sky. See above for the conjunction event with Venus.

Jupiter (♃): will be lost in the solar glare by mid month, and in conjunction with the Sun on the 26th. No GRS timings this month.

Saturn (♄): lingers low down in the SW sky, mag. 0.6, setting at 18:30 UT by month's end. The Moon is near on the 24th.

Uranus (♅): is at opposition on the 19th mag. 5.8, in Pisces, see above chart. Moon is near on the 6th.

Neptune (♆): is well placed mid evening at mag. 7.5 a small blue disk, 2.5" in diameter, in Aquarius. Moon near on the 3rd & 30th.

Meteors The October offering is the **Orionid** shower, best seen on the morning of the 21st. when up to 25 m.p.h may be seen, theoretically anyway. The moon is 2 days past New so will not interfere.

Keep a look out also for the **Draconids**, a 'minor' shower of bright slow meteors peaking on the 9th, and the Southern Taurids on the 10th, both are not favourable, re the Moon phase, which is 4 days past Full.

Sunrise - set times			Transit	Times in UTC			Transit			
Oct. 01	Rise: 06:08:29	11:57:36	Set: 17:45:47	Oct. 16	Rise: 06:32:47	11:53:31	Set: 17:13:25	Oct. 31	Rise: 06:58:10	
Oct. 06	Rise: 06:16:28	11:56:03	Set: 17:34:45	Oct. 21	Rise: 06:41:09	11:52:36	Set: 17:03:16		Transit: 11:51:37	
Oct. 11	Rise: 06:24:33	11:54:41	Set: 17:23:57	Oct. 26	Rise: 06:49:37	11:51:58	Set: 16:53:33		Set: 16:44:22	

Moonrise - set times			Transit	Times in UTC			:	Transit			
Oct. 01	Rise: 16:04:38	20:57:04	Set: 00:51:45	Oct. 16	Rise: 02:23:39	09:25:11	Set: 16:14:14	Oct. 31	Rise: 15:29:20		
Oct. 06	Rise: 18:22:37	00:13:42	Set: 06:44:44	Oct. 21	Rise: 08:07:22	13:17:03	Set: 18:19:08		Transit: 21:11:20		
Oct. 11	Rise: 21:48:39	04:51:09	Set: 12:52:14	Oct. 26	Rise: 12:47:40	17:12:42	Set: 21:39:42		Set: 01:52:37		

B Persei. (Algol) (mag 2.1 to 3.4) - the minima visible this month are 2nd at 21:57; 19th at 02:49; 21st at 23:38; 24th at 20:27. (The duration of the event is 9.6 hours and the period between events is 2.866 days.)

RZ Cassiopeiae (mag 6.2 - 7.7) - the minima visible from Britain are 2nd at 02:15; 6th at 21:00; 8th at 01:41; 12th at 21:25; 14th at 01:06; 18th at 19:50; 20th at 00:32; 24th at 19:16; 25th at 23:57 and 31st at 23:23. The duration of the event is 4.8 hours and the period between events is 28.7 hours.)

Lambda Tauri: (mag 3.37 - 3.91) - there are no visible minima this month. The duration of each event is 14.2 hours and the period between events is 3.9542 days for this star.

For observations of the **ISS** during the month, log-in to <http://www.heavens-above.com> October's timings follow on page 3.

Durlston Public events:

Firstly, the September 29th event was cancelled due to the forecast of rain by 9 pm that evening.

Our next event is on Saturday, October 7th, at 7:00 pm. when Saturn (very low down), galaxies, star clusters and Autumn constellations will be observed. Then again on Friday, October 27th, at 7.30 pm when the Moon, galaxies, star clusters and Autumn Constellations are on view. Hopefully, Bob or Alan will be on hand to give the customary talk on both evenings.

Solar news: Sunspot cycle 24 is deemed well over by now, but, despite that fact, September has had several days where the Kp index reached 5 or above with Scottish aurora being seen on the 8th/9th when the Kp reached 8 (max is 9!), 10th saw an X8.2 flare, 18th, Kp reached 4/5 for 12 hours, 27th, Kp6 for 9 hours and 28th, Kp7 for 6 hours. Two significant but inactive sunspots were also seen this date. So, keep your eye on <http://www.spaceweather.com> I have recently been shown another web site with more info on it, namely <http://www.spaceweathernews.com>. Check the auroral oval for Europe.

Aurora list members, again, please keep your list handy.

Activity generally so far this year has been relatively quiet, but the latest activity is mostly due to coronal holes.

The Kp index is an average of the magnetic field indices from 13 centres between 44 and 60 degrees northern or southern magnetic latitude. collated at the Space Weather Prediction Center (SWPC) in Boulder Colorado.

The Kp index is an excellent and reliable indicator of disturbances of the Earth's magnetic field and is used by the Boulder centre to issue warnings of geomagnetic disturbances to users who will be most affected by such disturbances. The range is 1-3 normal, green on the charts, 4, active, yellow bar on chart, and 5 through 9 storm - strong storm, red bars. Kp 8 or 9 will give auroras down to at least the midlands, and thence as far south as ourselves here at lat 50 degrees especially if the Bz component (of the overall magnetic field) in nano-Teslas goes negative. see <http://www.spaceweather.com>.

'K' comes from the German word 'Kennziffer' which means significant digit. (source SWPC/NOAA center)

Timings for the **Great Red Spot (GRS)** will be resumed when Jupiter is past solar conjunction! (on the 26th.)

Meteor activity: Watch out for the Orionids on the 21st. Keep your eye on the composite page including the Norman Lockyer Observatory scan at www.merriott-astro.co.uk/scan3d.htm for several folk receiving pings. Also try <http://www.topaz-streamguys.tv/~spaceweather/> (note the tilde character!) for live sound streaming from a Texas facility similar to the French one near Dijon. There is always some activity even when no showers are about. The Orionids should increase this activity early on the 21st. Also be aware of the Draconids around the 6th, 7th, and 8th, slow meteors visually. (8-10 per hour).

Passes for the ISS during October

Table generated from <http://www.heavens-above.com>

Date	Brightness (mag)	Start			Highest point			End			Pass type
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	
01 Oct	-3.8	19:53:05	10°	WSW	19:56:22	68°	SSE	19:58:25	21°	E	visible
01 Oct	-1.5	21:29:36	10°	W	21:31:04	24°	W	21:31:04	24°	W	visible
02 Oct	-3.9	20:37:25	10°	W	20:40:43	76°	N	20:40:58	70°	NE	visible
03 Oct	-3.8	19:45:15	10°	W	19:48:32	87°	NNW	19:50:48	19°	ENE	visible
03 Oct	-1.7	21:21:50	10°	W	21:23:27	27°	WNW	21:23:27	27°	WNW	visible
04 Oct	-3.9	20:29:39	10°	W	20:32:56	74°	N	20:33:16	65°	NE	visible
05 Oct	-3.7	19:37:26	10°	W	19:40:43	74°	N	19:43:03	18°	E	visible
05 Oct	-1.8	21:13:59	10°	WNW	21:15:42	28°	W	21:15:42	28°	W	visible
06 Oct	-4.0	20:21:47	10°	WNW	20:25:05	85°	NNE	20:25:29	67°	E	visible
07 Oct	-3.8	19:29:34	10°	W	19:32:51	75°	N	19:35:15	17°	E	visible
07 Oct	-1.8	21:06:05	10°	W	21:07:55	28°	W	21:07:55	28°	W	visible
08 Oct	-3.8	20:13:51	10°	WNW	20:17:08	71°	SSW	20:17:42	55°	SE	visible
09 Oct	-3.8	19:21:37	10°	WNW	19:24:55	90°	SW	19:27:32	15°	ESE	visible
09 Oct	-1.7	20:58:16	10°	W	21:00:11	24°	WSW	21:00:11	24°	WSW	visible
10 Oct	-3.0	20:05:55	10°	W	20:09:04	44°	SSW	20:10:03	33°	SSE	visible
11 Oct	-3.5	19:13:37	10°	WNW	19:16:53	63°	SSW	19:19:58	11°	ESE	visible
11 Oct	-1.3	20:50:44	10°	W	20:52:38	16°	SW	20:52:38	16°	SW	visible
12 Oct	-1.9	19:58:04	10°	W	20:00:51	25°	SSW	20:02:38	16°	SSE	visible
13 Oct	-2.5	19:05:37	10°	W	19:08:43	38°	SSW	19:11:47	10°	SE	visible
14 Oct	-1.0	19:50:38	10°	WSW	19:52:28	14°	SW	19:54:17	10°	S	visible
15 Oct	-1.4	18:57:46	10°	W	19:00:23	22°	SW	19:03:00	10°	SSE	visible
17 Oct	-0.7	18:50:34	10°	WSW	18:51:54	12°	SW	18:53:12	10°	SSW	visible
29 Oct	-0.3	05:47:25	10°	SE	05:47:51	10°	SE	05:48:17	10°	SE	visible