



Sun, Planets and Transitions

The **Sun** will be in Libra, the Scales (*Tula*) On 1 November, and its angular diameter will be 32'14". It moves to Scorpius, the Scorpion (*Vrushchika*) on 23 November and then to Ophiuchus, The Serpent Bearer (*Bhujangadhari* or *Sarpdhar* or *Naraturunga*) on 29 November. On 30 November its angular diameter will increase to 32'35".

Mercury (magnitude -0.3) will be in Libra on 1 November. It moves to Scorpius on 2 November, then to Ophiuchus on 29 November. It will be stationary on 26 November and then go into retrograde motion.

Ephemeris of Mercury:

Date	Alt*	Mag	Phase	diam"	El°	Const
01 Nov	+09°	-0.3	0.86	5.31	18.7 E	Lib
10 Nov	+11°	-0.3	0.75	5.95	21.8 E	Oph
20 Nov	+11°	-0.1	0.516	7.24	21.9 E	Oph
01 Dec	+02.0°	2.3	0.084	9.49	10.2 E	Oph

Venus will be in Ophiuchus on 1 November. It moves to Sagittarius, the Archer (*Dhanu*) on 9 November. It passes south of M8 between 12 and 14 November. On 17 November, Venus will be at the top of the 'teapot' asterism in Sagittarius, close to Lambda Sagittarii (Kaus Borealis).

Ephemeris of Venus:

Date	Alt*	Mag	Phase	Diam"	El°	Const
01 Nov	+24°	-4.0	0.769	14.23	38.2 E	Oph
10 Nov	+26°	-4.1	0.743	14.98	40.0 E	Sgr
20 Nov	+29°	-4.1	0.713	16.05	42.0 E	Sgr
30 Dec	+31°	-4.2	0.680	17.07	43.4 E	Sgr

* Altitude at the end of civil twilight

List of Events in November 2024 (Time in IST)

Dt	Dy	Time	Event
01	Fr	18:17	New Moon
02	Sa	19:42	Minimum of Algol
03	Su	11:52	Mercury 2.0° N of Moon
04	Mo	05:56	Moon-Antares: 0.1° N
05	Tu	05:46	Moon-Venus: 3.4° N
05	Tu	11:56	South Taurid shower: ZHR = 10
05	Tu	22:48	Moon south declination: 28.6° S
09	Sa	11:26	First quarter
10	Su	09:54	Mercury-Antares: 2° N
11	Mo	07:06	Moon-Saturn: 0.1° S
12	Tu	11:13	North Taurid shower: ZHR = 15
12	Tu	21:29	Moon ascending node
12	Tu	07:27	Neptune 0.6° S of Moon (Occn)
14	Th	16:48	Moon perigee: 360100 km
16	Fr	04:38	Uranus 4.2° S of Moon
16	Sa	02:59	Full Moon
16	Sa	12:29	Moon-Pleiades: 0.1° S
16	Sa	13:29	Mercury elongation: 22.5° E
16	Sa	11:26	Saturn stationary
17	Su	03:47	Minimum of Algol
17	Su	08:18	Uranus opposition
17	Su	19:22	Jupiter 5.6° S of Moon
17	Su	17:31	Leonid shower: ZHR = 15
18	We	00:36	Minimum of Algol
20	We	07:37	Moon-Pollux: 1.9° N
21	Th	02:37	Moon-Mars: 2.6° S
21	Th	07:18	Moon-Beehive: 3.1° S
22	Th	21:25	Minimum of Algol
23	Sa	02:18	Moon-Regulus: 3° S
23	Sa	06:58	Last quarter
25	Mo	18:14	Minimum of Algol
26	Tu	03:01	Moon descending node
26	Tu	09:41	Mercury stationary
26	Tu	17:26	Moon apogee: 405300 km
27	We	17:03	Moon-Spica: 0.5°



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Mars remains in Cancer throughout the month. It passes close to Mu Cancri on 3 November.

Date	Mag	Diam''	El°	Const
01 Nov	0.1	9.2	100.2 W	Cnc
10 Nov	-0.1	9.8	106.2 W	Cnc
20 Nov	-0.3	10.6	113.8 W	Cnc
30 Nov	-0.5	11.5	122.4 W	Cnc

Jupiter remains in Taurus.

Date	Mag	Diam''	El°	Const
01 Nov	-2.7	45.1	138.6 W	Tau
10 Nov	-2.7	45.9	148.4 W	Tau
20 Nov	-2.8	46.7	159.5 W	Tau
30 Nov	-2.8	47.1	170.9 W	Tau

Saturn remains in Aquarius.

Date	Mag	Diam''	El°	Const
01 Nov	0.8	18.3	123.8 E	Aqr
10 Nov	0.9	18.1	114.6 E	Aqr
20 Nov	0.9	17.8	104.5 E	Aqr
30 Nov	1.0	17.5	94.6 E	Aqr

(Disclaimer: we categorically mention here that we do not believe in astrology and believe that the only influence a planet has on us is to give us the viewing pleasure of its beauty. The sole purpose of giving the transition of planets and the Sun is to acquaint the reader with the Indian nomenclature of planets and constellations and also to show that the actual positions of the Sun and planets, which are based on modern computing, are very different from those given in astrology tables.)

March of the Moon

New Moon occurs on 1 November. The next day the Moon will be east of the Sun and will be difficult to spot above the western horizon after the end of civil twilight. On 3 November, look for a thin lunar crescent and Mercury. The Moon will be 4.1% illuminated, with a magnitude of -6.2. Mercury will be to its north, with a magnitude of -0.3.

The lunar view will be better on 4 and 5 November. On 4 November, a slightly bigger lunar crescent will be seen below Venus. The

next day, the Moon will shift to the east of Venus, with a nearly 15% illuminated crescent. It will be at the spout of the teapot asterism of Sagittarius, almost in the direction of the centre of the Milky Way.

On 9 November, the Moon will be west of Deneb Algedi (Delta Capricorni). The name originates from the Arabic *danab al-jady*, which means 'the tail of the goat', (i.e. Capricornus, the Sea Goat). There are other stars containing the name Deneb, which means 'the tail', such as Deneb in Cygnus or Denebola in Leo.

Between 10 and 12 November, the Moon passes south of Saturn. Recall that in October, the Moon had occulted Saturn, but the skies were overcast almost all over India. People in Delhi were fortunate to witness the event, which was webcast live by Captain Anil.

On 16 November, the near Full Moon will be right below the Pleiades (*Kruttika*). It will be excellent for viewing, with both objects in the same field of view of a pair of 7 X 50 binoculars, hopefully with a clear and transparent sky. On 17 November, the Moon and Jupiter will rise together; the following day will see an appreciable distance between them.

The Moon passes through the Gateway of Heaven between November 19 and 20. On November 21, it is north of Mars. On 23 November, the Moon will be south of Regulus in the pre-dawn sky. On 27 November, it will be above Arcturus (*Chitra*).

Minimum of Algol

Algol (or β Persei) is one of the most exciting variable stars that can be observed easily even in a moderately light-polluted sky. It is an eclipsing binary star with a period of 2.867328 days, or 2 days, 20 hours, 48 minutes and 57 seconds. The entire eclipse takes place over roughly 10 hours. For nearly 2 days and 15 hours, the star remains at its near-constant magnitude of 2.1. As the eclipse begins, it starts to fade and reaches magnitude 3.4 (called minimum) in about 5 hours. The star then returns to its constant magnitude in the next 5 hours.

The timings that are suitable for Indian viewers to observe the minima of Algol are given in the

list of events above. For more information, please visit <https://skytonight.wordpress.com/2012/10/12/mi-nima-of-algol/> .

Leonid Meteor Shower

The annual Leonid meteor shower is expected to peak on the night of November 16-17. It is not likely to be spectacular as Full Moon is at 3 am on November 16. Light from the Full Moon is expected to affect the observation of the shower significantly. One can expect to see one meteor every five minutes or so.

Events Involving the Moons of Jupiter

In the table below, we have listed events that can be seen from India. The table gives the timings of eclipses, occultations, transits and shadow transits of the moons of Jupiter, suitable for Indian observers. The timings are given in Indian Standard Time (IST).

The output is given as per the following abbreviations and notations:

Columns: 1 = date (given only for the first event listed for that day); 2 = time; 3 = satellite number; 4 = event type; and 5 = phase.

Satellite numbers: 1 = Io; 2 = Callisto; 3 = Europa; and 4 = Ganymede.

Event type: Ec = eclipse; Oc = occultation; Tr = transit; and Sh = shadow transit.

Phase: D = disappear; R = reappear; I = ingress; and E = egress.

Example: Events for 2 and 3 November and what they mean:

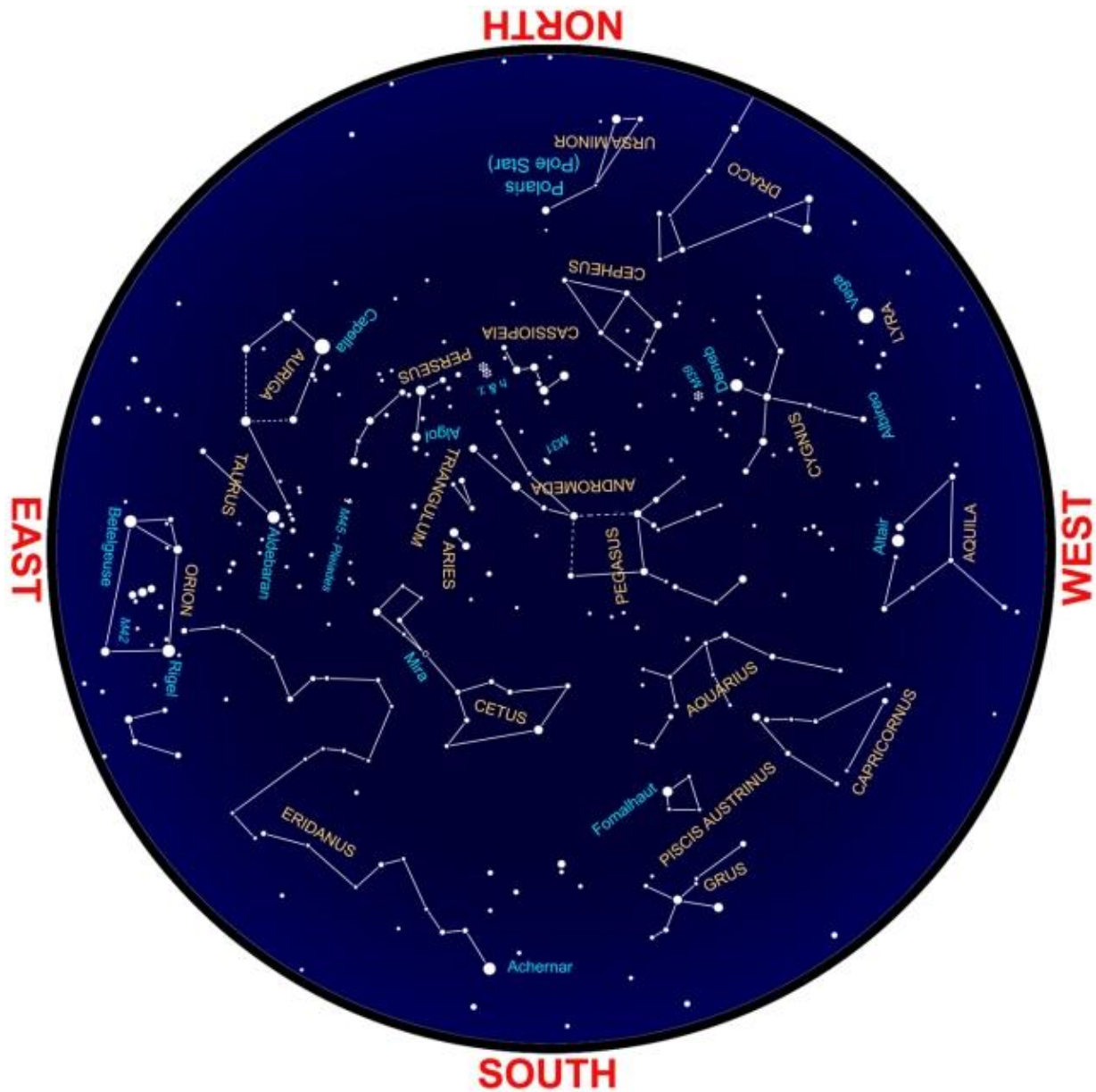
2 05:27:36 1 Sh I
3 02:47:30 1 Ec D

Means that

At 05:27:36 hours on 2 November, the shadow Io will transit Jupiter. The next night, at 02:47:30 hours, Io will be eclipsed by Jupiter and will disappear behind the planet.

Satellites of Jupiter in November 2024														
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	05:27:36	1	Sh	I	12	20:56:30	1	Tr	I	22	03:29:42	2	Sh	I
3	02:47:30	1	Ec	D		22:30:12	1	Sh	E		04:20:12	2	Tr	I
	05:50:18	1	Oc	R		23:07:48	1	Tr	E		06:02:48	2	Sh	E
	23:56:00	1	Sh	I	13	05:43:54	2	Ec	D	23	21:37:30	2	Ec	D
4	00:45:18	1	Tr	I		20:27:54	1	Oc	R	24	00:54:54	2	Oc	R
	02:07:30	1	Sh	E	14	01:56:00	3	Ec	D		20:05:12	3	Sh	I
	02:56:24	1	Tr	E		04:06:24	3	Ec	R		21:34:24	3	Tr	I
	21:16:00	1	Ec	D		04:28:18	3	Oc	D		22:16:24	3	Sh	E
5	00:16:48	1	Oc	R	15	00:53:54	2	Sh	I	25	05:38:06	1	Sh	I
	20:36:00	1	Sh	E		02:04:48	2	Tr	I		05:58:30	1	Tr	I
	21:22:42	1	Tr	E		03:26:36	2	Sh	E		19:20:48	2	Sh	E
6	03:08:30	2	Ec	D		04:36:12	2	Tr	E		19:58:42	2	Tr	E
	21:56:30	3	Ec	D	16	19:01:42	2	Ec	D	26	02:58:54	1	Ec	D
7	00:05:36	3	Ec	R		22:39:48	2	Oc	R		05:29:48	1	Oc	R
	01:06:42	3	Oc	D	17	20:17:30	3	Tr	E	27	00:06:42	1	Sh	I
	03:07:42	3	Oc	R		03:43:54	1	Sh	I		00:24:24	1	Tr	I
	22:18:00	2	Sh	I		04:14:42	1	Tr	I		02:19:00	1	Sh	E
	23:47:54	2	Tr	I		05:55:54	1	Sh	E		02:36:00	1	Tr	E
8	00:50:12	2	Sh	E	18	01:04:30	1	Ec	D		21:27:30	1	Ec	D
	02:19:18	2	Tr	E		03:46:00	1	Oc	R		23:55:36	1	Oc	R
9	20:23:24	2	Oc	R		22:12:24	1	Sh	I	28	18:35:18	1	Sh	I
10	04:41:36	1	Ec	D		22:40:42	1	Tr	I		18:50:18	1	Tr	I
	01:49:54	1	Sh	I	19	00:24:30	1	Sh	E		20:47:36	1	Sh	E
	02:30:24	1	Tr	I		00:52:06	1	Tr	E		21:01:54	1	Tr	E
	04:01:36	1	Sh	E		19:33:06	1	Ec	D	29	06:05:36	2	Sh	I
	04:41:36	1	Tr	E		22:12:00	1	Oc	R		18:21:30	1	Oc	R
11	23:10:18	1	Ec	D	20	00:24:30	1	Sh	E	30	00:13:36	2	Ec	D
12	02:01:48	1	Oc	R		00:52:06	1	Tr	E		03:09:12	2	Oc	R
	20:18:18	1	Sh	I	21	05:56:30	3	Ec	D					
						18:53:06	1	Sh	E					
						19:18:12	1	Tr	E					

This sky map for November is drawn for mid-northern latitudes, to be used around 9:30 p.m. local time



For notes on stargazing [click here](#).

Or visit <https://skytonight.wordpress.com/monthly-sky-notes-and-links/>

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