

**PHENOMENA, 2017**  
 CONJUNCTIONS, OPPOSITIONS ETC. OF PLANETS WITH THE SUN (IN LONGITUDE)

UNIVERSAL TIME

MERCURY

		d	h	m		d	h	m
Superior conjunction		...	...	...	June	21	14	15
Heliacal rising E.		...	...	...	June	30	20	51
Greatest elongation E.		...	...	...	July	30	04	39 (27°.2)
Retrograde		...	...	...	Aug.	13	00	54
Heliacal setting E.		...	...	...	Aug.	15	09	55
Inferior conjunction		...	...	...	Aug.	26	20	43
Heliacal rising W.	Jan.	1	23	53	Sept.	1	19	17
Direct	Jan.	8	09	51	Sept.	5	11	28
Greatest elongation W.	Jan.	19	09	43 (24°.1)	Sept.	12	10	17 (17°.9)
Heliacal setting W.	Feb.	14	23	00	Sept.	26	12	25
Superior conjunction	Mar.	7	00	29	Oct.	8	20	55
Heliacal rising E.	Mar.	17	11	02	Nov.	1	00	55
Greatest elongation E.	Apr.	1	10	18 (19°.0)	Nov.	24	00	27 (22°.0)
Retrograde	Apr.	9	23	23	Dec.	3	07	22
Heliacal setting E.	Apr.	13	23	16	Dec.	8	00	58
Inferior conjunction	Apr.	20	05	53	Dec.	13	01	49
Heliacal rising W.	Apr.	30	04	08	Dec.	17	07	59
Direct	May	3	16	34	Dec.	23	02	08
Greatest elongation W.	May	17	23	24 (25°.8)	...	...	...	
Heliacal setting W.	June	10	19	30	...	...	...	

VENUS

		d	h	m		d	h	m
Superior conjunction		...	...	...	...	...	...	...
Heliacal rising E.		...	...	...	...	...	...	...
Greatest elongation E.	Jan.	12	13	18 (47°.1)	...	...	...	...
Retrograde	Mar.	4	09	07	...	...	...	...
Heliacal setting E.	Mar.	21	16	53	...	...	...	...
Inferior conjunction	Mar.	25	10	17	...	...	...	...
Heliacal rising W.	Mar.	25	08	32	...	...	...	...
Direct	Apr.	15	10	19	...	...	...	...
Greatest elongation W.	June	3	12	30 (45°.9)	...	...	...	...
Heliacal setting W.	Dec.	14	03	08	...	...	...	...

EARTH

		d	h	m		d	h	m		d	h	m	
Perihelion	Jan.	4	14	26	Equinoxes	Mar.	20	10	29	Sept.	22	20	02
Aphelion	July	3	20	23	Solstices	June	21	04	24	Dec.	21	16	28

SUPERIOR PLANETS

	MARS			JUPITER			SATURN					
		d	h	m		d	h	m		d	h	m
Conjunction	July	27	00	57	Oct.	26	18	09	Dec.	21	21	09
Heliacal rising W.	Sept.	8	05	11	Nov.	6	13	20	...	...	...	
Retrograde	...	...	...	...	Feb.	6	06	52	Apr.	6	05	05
Opposition	...	...	...	...	Apr.	7	21	39	June	15	10	18
Direct	...	...	...	...	June	9	14	02	Aug.	25	12	06
Heliacal setting E.	June	6	15	38	Oct.	12	18	10	Dec.	7	12	47

**PHENOMENA, 2017**

## CONJUNCTIONS, OPPOSITIONS ETC. OF PLANETS WITH THE SUN (IN LONGITUDE)

UNIVERSAL TIME  
SUPERIOR PLANETS

	URANUS			NEPTUNE			PLUTO					
		d	h	m		d	h	m		d	h	m
Conjunction	Apr.	14	05	30	Mar.	2	02	45	Jan.	7	06	42
Retrograde	Aug.	3	05	28	June	16	11	10	Apr.	20	12	49
Opposition	Oct.	19	17	35	Sept.	5	05	28	July	10	04	32
Direct	...				Nov.	22	14	24	Sept.	28	19	36

N.B.- The heliacal risings and settings have been calculated for 23° 11' north latitude. Here E. means east of the Sun or the western horizon and W. means west of the Sun or the eastern horizon.

**PHENOMENA, 2017**

## CONJUNCTION OF PLANETS WITH THE MOON AND OTHER PLANETS (IN LONGITUDE)

## UNIVERSAL TIME

	d	h	m		d	h	m		
Jan.	2	07	59	Moon conj. Venus	May	22	14	09	
	3	06	36	Moon conj. Mars		24	02	13	
	19	07	27	Moon conj. Jupiter		27	02	20	
	24	10	38	Moon conj. Saturn		June	4	01	44
	25	23	58	Moon conj. Mercury			10	01	19
31	17	36	Moon conj. Venus	20	22		24		
Feb.	1	02	52	Moon conj. Mars	24	08	12		
	15	16	54	Moon conj. Jupiter	24	19	09		
	20	23	37	Moon conj. Saturn	28	19	50		
	26	00	36	Moon conj. Mercury	July	1	09	32	
Mar.	1	02	54	Moon conj. Venus		7	03	34	
	1	21	48	Moon conj. Mars	20	11	38		
	14	21	52	Moon conj. Jupiter	23	11	41		
	18	12	26	<i>Mercury conj. Venus</i>	25	09	22		
	20	10	38	Moon conj. Saturn	28	22	35		
	27	19	59	Moon conj. Venus	Aug.	3	07	37	
	29	11	32	Moon conj. Mercury		19	04	05	
	30	15	48	Moon conj. Mars		21	03	55	
Apr.	10	22	58	Moon conj. Jupiter	22	09	40		
	16	18	27	Moon conj. Saturn	25	15	31		
May	23	21	34	Moon conj. Venus	30	14	32		
	25	20	29	Moon conj. Mercury	Sept.	3	09	37	
	28	09	15	Moon conj. Mars		16	19	01	
	7	23	01	Moon conj. Jupiter	18	00	34		
	13	22	56	Moon conj. Saturn	18	19	48		
								Moon conj. Mars	

**PHENOMENA, 2017 --- contd.**

CONJUNCTION OF PLANETS WITH THE MOON AND OTHER PLANETS (IN LONGITUDE)

UNIVERSAL TIME

	d	h	m			d	h	m	
Sept.	18	23	20	Moon conj. Mercury	Nov.	17	08	17	Moon conj. Venus
	22	10	27	Moon conj. Jupiter		20	10	37	Moon conj. Mercury
	27	00	16	Moon conj. Saturn		21	00	26	Moon conj. Saturn
Oct.	5	16	53	<i>Venus conj. Mars</i>		28	06	55	<i>Mercury conj. Saturn</i>
	17	11	27	Moon conj. Mars	Dec.	6	12	05	<i>Mercury conj. Saturn</i>
	18	01	57	Moon conj. Venus		13	19	23	Moon conj. Mars
	18	08	54	<i>Mercury conj. Jupiter</i>		14	16	58	Moon conj. Jupiter
	20	05	41	Moon conj. Jupiter		15	14	07	<i>Mercury conj. Venus</i>
	20	11	23	Moon conj. Mercury		17	08	57	Moon conj. Mercury
	24	11	55	Moon conj. Saturn		17	18	34	Moon conj. Venus
Nov.	13	08	16	<i>Venus conj. Jupiter</i>		18	13	10	Moon conj. Saturn
	15	03	09	Moon conj. Mars		25	17	55	<i>Venus conj. Saturn</i>
	17	00	02	Moon conj. Jupiter					

CONJUNCTIONS OF PLANETS WITH BRIGHT STARS (IN R.A.)

	d	h	m			d	h	m	
Jan.	20	20	54	Jupiter 3°.68 N. of <i>Spica</i>	Sept.	5	02	07	Mars 0°.75 N. of <i>Regulus</i>
Feb.	23	15	40	Jupiter 3°.82 N. of <i>Spica</i>	Sept.	5	10	52	Jupiter 3°.38 N. of <i>Spica</i>
May	7	07	29	Mars 6°.24 N. of <i>Aldebaran</i>	Sept.	10	12	18	Mercury 0°.60 S. of <i>Regulus</i>
June	12	10	42	Mercury 5°.07 N. of <i>Aldebaran</i>	Sept.	19	23	11	Venus 0°.49 N. of <i>Regulus</i>
July	3	00	20	Mercury 4°.87 S. of <i>Pollux</i>	Oct.	13	02	31	Mercury 2°.94 N. of <i>Spica</i>
July	11	23	20	Mars 5°.72 S. of <i>Pollux</i>	Nov.	1	15	03	Venus 3°.81 N. of <i>Spica</i>
July	14	11	01	Venus 3°.16 N. of <i>Aldebaran</i>	Nov.	12	14	42	Mercury 2°.25 N. of <i>Antares</i>
July	26	09	16	Mercury 1°.09 S. of <i>Regulus</i>	Nov.	27	23	40	Mars 3°.36 N. of <i>Spica</i>
Aug.	21	18	31	Venus 7°.26 S. of <i>Pollux</i>	Dec.	8	17	26	Venus 5°.08 N. of <i>Antares</i>
Aug.	29	08	47	Mercury 4°.44 S. of <i>Regulus</i>					

## ASTRONOMICAL DIARY, 2017

## UNIVERSAL TIME

	d	h	m		d	h	m			
Jan.	1	06	38	Mars 0°.01 S. of Neptune	Feb.	18	12	51	Moon greatest lat. N 5° 16'	
	2	09	19	Venus 1°.9 S of Moon		18	19	33	LAST QUARTER	
	2	18	14	Moon in descending node		18	21	14	Moon at apogee	
	3	04	13	Neptune 0°.4 S of Moon		20	16	54	Venus at perihelion	
				<i>Occultation</i>		20	23	25	Saturn 3°.6 S of Moon	
	3	06	46	Mars 0°.2 S of Moon		23	15	40	Jupiter 3°.8 N. of <i>Spica</i>	
				<i>Occultation</i>		26	02	25	Mercury 2°.5 S of Moon	
	4	14	26	Earth at perihelion		26	06	27	Moon in descending node	
	4	20	04	Mercury greatest helio. lat N.		26	14	58	NEW MOON, <i>Solar Eclipse</i>	
	5	19	47	FIRST QUARTER		26	21	00	Neptune 0°.1 S of Moon	
	6	02	08	Uranus 3°.3 N of Moon		27	05	17	Mars in ascending node	
	7	06	42	Pluto in conjunction with Sun		27	08	23	Mars 0°.6 N. of Uranus	
	8	09	59	Mercury stationary in RA		27	20	18	Mercury greatest helio lat. S.	
	8	14	31	Moon greatest lat. S 5° 05'		28	19	59	Venus 10°.3 N of Moon	
	10	06	01	Moon at perigee		Mar.	1	16	12	Uranus 3°.6 N of Moon
	10	16	22	Uranus in square with Sun			1	18	58	Mars 4°.3 N of Moon
	12	04	42	Jupiter in square with Sun			2	02	45	Neptune in conjunction with Sun
	12	11	34	FULL MOON			2	14	15	Venus stationary in RA
	12	13	18	Venus greatest elong. E. (47.1)			3	07	33	Moon at perigee
	13	01	40	Venus 0°.4 N. of Neptune			4	05	31	Mercury 1°.1 S. of Neptune
	15	10	46	Moon in ascending node			4	07	52	Moon greatest lat. S 5° 12'
	17	17	43	Venus in ascending node			5	11	32	FIRST QUARTER
	19	05	27	Jupiter 2°.7 S of Moon			7	00	29	Mercury in superior conjunction
	19	09	43	Mercury greatest elong. W. (24°.1)						1° 41' S of Sun
	19	22	13	LAST QUARTER			11	04	16	Moon in ascending node
	20	20	54	Jupiter 3°.7 N. of <i>Spica</i>			12	14	54	FULL MOON
	22	00	14	Moon at apogee			14	05	52	Venus greatest helio. lat N.
	22	09	13	Moon greatest lat. N 5° 10'		14	20	06	Jupiter 2°.5 S of Moon	
	24	10	18	Saturn 3°.6 S of Moon		16	23	21	Mercury 9°.5 S. of Venus	
	26	00	45	Mercury 3°.7 S of Moon		17	16	37	Moon greatest lat. N 5° 11'	
	28	00	07	NEW MOON		17	21	48	Saturn in square with Sun	
28	05	42	Mercury in descending node	18	17	25	Moon at apogee			
29	17	27	Mercury 1°.2 S. of Pluto	18	22	01	Mercury in ascending node			
29	22	21	Moon in descending node	20	10	29	<i>Vernal Equinox</i>			
30	11	25	Neptune 0°.2 S of Moon	20	10	30	Saturn 3°.4 S of Moon			
			<i>Occultation</i>	20	15	58	LAST QUARTER			
31	14	34	Venus 4°.1 N of Moon	23	13	54	Mercury at perihelion			
Feb.	1	01	09	Mars 2°.3 N of Moon	25	10	17	Venus in inferior conjunction		
	2	08	14	Uranus 3°.5 N of Moon				8° 18' N of Sun		
	4	04	19	FIRST QUARTER	25	15	41	Moon in descending node		
	4	17	16	Moon greatest lat. S 5° 11'	26	08	23	Neptune 0°.01 N of Moon		
	6	14	02	Moon at perigee				<i>Occultation</i>		
	6	19	22	Jupiter stationary in RA	27	05	55	Mercury 2°.4 N. of Uranus		
	7	14	15	Mercury at aphelion	27	12	41	Venus 11°.3 N. of Moon		
	11	00	33	FULL MOON,	28	02	57	NEW MOON		
				<i>Penumbral Lunar Eclipse</i>	29	03	03	Uranus 3°.6 N of Moon		
	11	19	49	Moon in ascending node	29	07	15	Mercury 6°.6 N of Moon		
	15	14	57	Jupiter 2°.7 S of Moon	30	12	32	Moon at perigee		
17	07	--	Venus greatest illumination	30	13	03	Mars 5°.5 N of Moon			
17	07	11	Jupiter at aphelion	31	10	37	Moon greatest lat. S 5° 08'			

## ASTRONOMICAL DIARY, 2017

## UNIVERSAL TIME

	d	h	m		d	h	m			
Apr.	1	10	18	Mercury greatest elong. E. (19°.0)	May	23	04	40	Uranus 3°.9 N of Moon	
	2	19	19	Mercury greatest helio. lat N.		24	01	19	Mercury 1°.6 N of Moon	
	3	18	39	FIRST QUARTER		24	16	39	Moon greatest lat. S 4° 55'	
	6	05	20	Saturn stationary in RA		25	19	44	NEW MOON	
	7	09	14	Moon in ascending node		26	01	21	Moon at perigee	
	7	21	39	Jupiter in opposition with Sun		26	19	34	Mercury greatest helio lat. S.	
	9	00	46	Pluto in square with Sun		27	01	57	Mars 5°.4 N of Moon	
	10	01	28	Mercury stationary in RA		31	11	56	Moon in ascending node	
	10	21	22	Jupiter 2°.2 S of Moon		June	1	12	42	FIRST QUARTER
	11	06	08	FULL MOON			2	14	43	Venus 1°.8 S. of Uranus
	12	23	42	Venus stationary in RA		3	12	30	Venus greatest elong. W. (45°.9)	
	14	05	30	Uranus in conjunction with Sun		3	23	59	Jupiter 2°.3 S of Moon	
	14	07	08	Moon greatest lat. N 5° 02'		4	16	14	Neptune in square with Sun	
	15	10	05	Moon at apogee		7	08	26	Moon greatest lat. N 4° 59'	
	16	18	19	Saturn 3°.2 S of Moon		8	22	21	Moon at apogee	
	19	09	57	LAST QUARTER		9	13	10	FULL MOON	
	20	05	53	Mercury in inferior conjunction 1° 39' N of Sun		10	01	05	Saturn 3°.1 S of Moon	
	20	20	39	Pluto stationary in RA		10	04	57	Jupiter stationary in RA	
	21	22	30	Moon in descending node		12	10	42	Mercury 5°.1 N. of <i>Aldebaran</i>	
	22	19	49	Neptune 0°.2 N of Moon <i>Occultation</i>		12	21	04	Venus at aphelion	
	23	17	59	Venus 5°.2 N of Moon		14	21	22	Mercury in ascending node	
	25	15	52	Uranus 3°.7 N of Moon		15	02	39	Moon in descending node	
	25	17	57	Mercury 4°.5 N of Moon		15	10	18	Saturn in opposition with Sun	
	26	04	49	Mercury in descending node		16	12	39	Neptune 0°.7 N of Moon <i>Occultation</i>	
	26	12	16	NEW MOON		16	23	23	Neptune stationary in RA	
	27	13	33	Moon greatest lat. S 5° 00'		17	11	33	LAST QUARTER	
	27	16	15	Moon at perigee		19	13	12	Mercury at perihelion	
	28	07	30	Mars 5°.8 N of Moon		19	15	35	Uranus 4°.1 N of Moon	
28	17	51	Mercury 0°.1 S. of Uranus	20	21	12	Venus 2°.4 N of Moon			
30	04	--	Venus greatest illumination	21	04	24	<i>Summer Solstice</i>			
May	2	14	21	Mercury stationary in RA	21	07	56	Moon greatest lat. S 5° 01'		
	3	02	47	FIRST QUARTER	21	14	15	Mercury in superior conjunction 1° 05' N of Sun		
	4	10	42	Moon in ascending node	23	10	52	Moon at perigee		
	6	13	33	Mercury at aphelion	24	02	31	NEW MOON		
	7	07	29	Mars 6°.2 N. of <i>Aldebaran</i>	24	08	41	Mercury 5°.3 N of Moon		
	7	21	26	Jupiter 2°.1 S of Moon	24	19	53	Mars 4°.4 N of Moon		
	7	23	27	Mercury 2°.2 S. of Uranus	27	16	28	Moon in ascending node		
	9	07	13	Venus in descending node	28	18	17	Mercury 0°.8 N. of Mars		
	10	21	42	FULL MOON	29	18	35	Mercury greatest helio. lat N.		
	11	08	05	Moon greatest lat. N 4° 57'	July	1	00	51	FIRST QUARTER	
	12	19	51	Moon at apogee		1	07	29	Jupiter 2°.7 S of Moon	
	13	22	47	Saturn 3°.1 S of Moon		3	00	20	Mercury 4°.9 S. of <i>Pollux</i>	
	17	23	24	Mercury greatest elong. W. (25°.8)		3	20	23	Earth at aphelion	
	19	00	33	LAST QUARTER		4	09	38	Moon greatest lat. N 5° 07'	
	19	01	30	Moon in descending node		5	03	33	Venus greatest helio lat. S.	
	20	05	31	Neptune 0°.5 N of Moon <i>Occultation</i>		6	02	44	Jupiter in square with Sun	
	22	12	31	Venus 2°.4 N of Moon		6	04	28	Moon at apogee	
						7	03	13	Saturn 3°.2 S of Moon	



## ASTRONOMICAL DIARY, 2017

## UNIVERSAL TIME

	d	h	m		d	h	m		
Oct.	6	16	26	Uranus 4°.2 N of Moon	Nov.	21	00	17	Saturn 3°.0 S of Moon
	7	22	04	Mars at aphelion		21	18	53	Moon at apogee
	8	06	56	Moon greatest lat. S 5° 01'		22	20	48	Neptune stationary in RA
	8	20	55	Mercury in superior conjunction 1° 06' N of Sun		24	00	27	Mercury greatest elong. E. (22°.0)
	9	05	55	Moon at perigee		25	08	22	Moon in descending node
	10	00	09	Pluto in square with Sun		26	17	03	FIRST QUARTER
	12	12	25	LAST QUARTER		27	05	18	Neptune 1°.2 N of Moon
	13	02	31	Mercury 2°.9 N. of <i>Spica</i>		27	23	40	<i>Occultation</i>
	14	22	11	Moon in ascending node		28	09	25	Mars 3°.4 N. of <i>Spica</i>
	17	10	05	Mars 1°.8 S of Moon		30	09	36	Mercury 3°.1 S. of Saturn
	18	00	21	Venus 2°.0 S of Moon	Dec.	1	12	31	Uranus 4°.3 N of Moon
	18	14	56	Mercury 1°.0 S. of Jupiter		3	07	33	Moon greatest lat. S 5° 02'
	19	03	29	Mercury in descending node		3	11	44	Mercury stationary in RA
	19	17	35	Uranus in opposition with Sun		3	15	47	Neptune in square with Sun
	19	19	12	NEW MOON		4	08	46	FULL MOON
	20	03	04	Jupiter 3°.9 S of Moon		4	08	46	Moon at perigee
	20	07	33	Mercury 5°.2 S of Moon		6	11	30	Mercury 1°.3 S. of Saturn
	21	09	54	Moon greatest lat. N 5° 00'		7	19	42	Mercury in ascending node
	24	11	36	Saturn 3°.3 S of Moon		8	00	38	Moon in ascending node
	24	22	31	Venus greatest helio. lat N.		8	17	26	Venus 5°.1 N. of <i>Antares</i>
	25	02	26	Moon at apogee		10	07	51	LAST QUARTER
	26	18	09	Jupiter in conjunction with Sun		12	11	42	Mercury at perihelion
	27	22	22	FIRST QUARTER		13	01	49	Mercury in inferior conjunction 1° 43' N of Sun
	29	06	40	Moon in descending node		13	16	28	Mars 4°.2 S of Moon
	29	12	05	Mercury at aphelion		14	11	13	Moon greatest lat. N 5° 05'
	30	20	55	Neptune 0°.9 N of Moon <i>Occultation</i>		14	14	26	Jupiter 4°.3 S of Moon
Nov.	1	15	03	Venus 3°.8 N. of <i>Spica</i>		15	16	03	Mercury 2°.2 N. of Venus
	3	00	31	Uranus 4°.2 N of Moon		17	08	38	Mercury 1°.8 S of Moon
	4	05	23	FULL MOON		17	17	54	Venus 4°.1 S of Moon
	4	09	27	Moon greatest lat. S 4° 57'		18	06	30	NEW MOON
	6	00	10	Moon at perigee		18	13	09	Saturn 2°.8 S of Moon
	10	20	36	LAST QUARTER		19	01	26	Moon at apogee
	10	22	41	Moon in ascending node		20	00	06	Venus in descending node
	12	14	42	Mercury 2°.3 N. of <i>Antares</i>		21	16	28	<i>Winter Solstice</i>
	13	06	10	Venus 0°.3 N. of Jupiter		21	21	09	Saturn in conjunction with Sun
	15	00	41	Mars 3°.2 S of Moon		22	10	04	Moon in descending node
	16	21	26	Jupiter 4°.1 S of Moon		22	17	04	Mercury greatest helio. lat N.
	17	05	40	Venus 4°.0 S of Moon		23	02	53	Mercury stationary in RA
	17	10	42	Moon greatest lat. N 4° 58'		24	12	39	Neptune 1°.4 N of Moon
	18	11	42	NEW MOON		25	17	48	Venus 1°.1 S. of Saturn
	18	18	06	Mercury greatest helio lat. S.		26	09	20	FIRST QUARTER
	20	09	24	Mercury 6°.9 S of Moon		27	18	02	Uranus 4°.5 N of Moon
						28	16	17	Moon greatest lat. S 5° 07'