

































The Calendar-Sky : General and Planetary


Thursday 27 October 2011

Time	Object (Link)	Event
	Observer Site	Lostock NSW Australia, Australia WGS84: Lon: +151d25m30.3s Lat: -32d18m53.4s Alt: 204m All times in UTC+11
18h00m00s	Sidereal Time	Apparent (true) sidereal time: 19h26m53.74s, at Greenwich (GAST): 9h21m11.72s Mean sidereal time: 19h26m52.81s, at Greenwich (GMST): 9h21m10.79s
18h00m	 Moons of Jupiter	E J G C
18h00m	 Moons of Saturn	j *SRd m e T
19h15.1m	 Sun	Set Azimuth=254.4°, WSW
19.3h	 Venus	Magnitude=-3.9mag Best seen from 19.3h -20.7h ($h_{\text{top}}=17^\circ$ at 19.3h) (in constellation Libra) RA=15h19m40s Dec=-18°24.5' (J2000) Distance=1.591AU Elongation= 19° Phase k=94% Diameter=10.5"
19.4h	 Mercury	Magnitude=-0.3mag Best seen from 19.4h -20.6h ($h_{\text{top}}=14^\circ$ at 19.4h) (in constellation Libra) RA=15h12m01s Dec=-19°37.6' (J2000) Distance=1.300AU Elongation= 18° Phase k=88% Diameter=5.2"
19.4h	 Jupiter	Magnitude=-2.9mag Best seen from 19.4h - 5.9h ($h_{\text{top}}=46^\circ$ at 0.8h) (in constellation Aries) RA= 2h14m14s Dec=+11°54.3' (J2000) Distance=3.970AU Elongation=178° Diameter=49.6"
19h41m	 Sun	End civil twilight
19h50.7m	 Moon	Set Azimuth=248.8°, WSW (in constellation Libra)
19h56m	 Sun	Sun 9° below horizon
20h11m	 Sun	Dusk
20.4h	Zodiacal Light	Good for observation low above the West-Southwest horizon
20.4h	 Uranus	Magnitude= 5.7mag Best seen from 20.4h - 3.4h ($h_{\text{top}}=58^\circ$ at 22.6h) (in constellation Pisces) RA= 0h05m43s Dec= -0°12.7' (J2000) Distance=19.231AU Elongation=148° Diameter=3.6"
20h27m	 Sun	Sun 15° below horizon
20.4h	 Deep-Sky Observing	Best time interval for observing dim objects: 20h27m- 4h49m Prior to midnight
20h40.9m	 Mercury	Set Azimuth=246.1°, WSW (in constellation Libra)
20h43m	 Sun	End astronomical twilight
20h45.0m	 Venus	Set Azimuth=247.6°, WSW (in constellation Libra)
22h38.7m	 Uranus	Transit Altitude=+57.8° (in constellation Pisces) Elongation=147.7° East, Magnitude=5.7mag
23h12.8m	 Jupiter	Transit of Great Red Spot

































Friday 28 October 2011










Time	Object (Link)	Event
0h38.2m	 Sun	Lower Transit Altitude=-44.9°
0h46.8m	 Jupiter	Transit Altitude=+45.7° (in constellation Aries) Elongation=177.8° West, Magnitude=-2.9mag
2h50.3m	 Mars	Rise Azimuth= 71.9°, ENE (in constellation Leo)
2.9h	 Mars	Magnitude= 1.1mag Best seen from 2.9h - 5.6h ($h_{\text{top}}=29^\circ$ at 5.6h) (in constellation Leo) RA= 9h40m25s Dec=+15°33.5' (J2000) Distance=1.617AU Elongation= 71° Phase k=90% Diameter=5.8" planetographic latitude of the Earth=21.5°
4h33m	 Sun	Begin astronomical twilight
4h49m	 Sun	Sun 15° below horizon

4h52.3m	 Jupiter-Moon Io	Eastern Elongation (5.0 mag)
5h05m	 Sun	Dawn
5h	 Meteor	Orionids (ORI) Best seen from 23.8h - 5.1h ($h_{\text{top}}=41^\circ$ at 5.1h) ZHR=4.9 Local hour rate=2 Velocity=67.1km/s (very rapid) Radiant: RA=6.6h/99° Dec=16.1° (J2000) (in constellation Gemini/Gem)
5h20m	 Sun	Sun 9° below horizon
5h35m	 Sun	Begin civil twilight
5h45m	 Jupiter	Closest Approach (distance to earth: 3.970 AU, brightness: -2.9 mag)
6h00.9m	 Sun	Rise Azimuth= 105.8° , ESE
6h40.0m	 Moon	Rise Azimuth= 113.1° , ESE (in constellation Libra)
12h38.2m	 Sun	Transit Altitude= $+70.6^\circ$ (in constellation Virgo)
13h48.3m	 Moon	Transit Altitude= $+77.8^\circ$ (in constellation Libra) Phase k=2.5%
13h54.1m	 Venus	Transit Altitude= $+76.4^\circ$ (in constellation Libra) Elongation= 19.1° East, Magnitude=-3.9mag
17.0h	 Moon	Close to Venus, -3.9mag Separation= 1.48° , PA= 5.3° , h= 46.1° , Sun elevation $h_{\text{sun}}=27.1^\circ$ (in daylight)
18h00m00s	Sidereal Time	Apparent (true) sidereal time: 19h30m50.30s, at Greenwich (GAST): 9h25m08.28s Mean sidereal time: 19h30m49.37s, at Greenwich (GMST): 9h25m07.35s
18h00m	 Moons of Jupiter	E J I C
18h00m	 Moons of Saturn	j e * t * m d R T
19h15.9m	 Sun	Set Azimuth= 254.0° , WSW
19.3h	 Venus	Magnitude=-3.9mag Best seen from 19.3h -20.7h ($h_{\text{top}}=18^\circ$ at 19.3h) (in constellation Libra) RA=15h24m42s Dec= $-18^\circ45.9'$ (J2000) Distance=1.587AU Elongation= 19° Phase k=94% Diameter=10.5"
19.4h	 Mercury	Magnitude=-0.3mag Best seen from 19.4h -20.7h ($h_{\text{top}}=15^\circ$ at 19.4h) (in constellation Libra) RA=15h17m49s Dec= $-20^\circ05.8'$ (J2000) Distance=1.289AU Elongation= 18° Phase k=87% Diameter=5.2"
19.4h	 Jupiter	Magnitude=-2.9mag Best seen from 19.4h - 5.8h ($h_{\text{top}}=46^\circ$ at 0.7h) (in constellation Aries) RA= 2h13m42s Dec= $+11^\circ51.6'$ (J2000) Distance=3.970AU Elongation= 178° Diameter=49.6"
19.7h	 Moon	Close to Venus, -3.9mag Separation= 1.9° , PA= 325.0° , h= 12.7°
19.7h	 Moon	Close to Mercury, -0.3mag Separation= 2.6° , PA= 276.6° , h= 12.0°
19h42m	 Sun	End civil twilight
19h57m	 Sun	Sun 9° below horizon
20.0h	 Moon	Lunar Crescent visible, 37.1 hours after new moon Elongation: 21° , 3.6% illuminated, Position angle of crescent (from Zenith to East): 166.8° - crescent is horizontal like a boat, Width of the crescent: 1.20', Moon sets 106 minutes after the sun
20h12m	 Sun	Dusk
20h28m	 Sun	Sun 15° below horizon
20.5h	 Uranus	Magnitude= 5.7mag Best seen from 20.5h - 3.4h ($h_{\text{top}}=58^\circ$ at 22.6h) (in constellation Pisces) RA= 0h05m36s Dec= $-0^\circ13.4'$ (J2000) Distance=19.241AU Elongation= 147° Diameter=3.6"
20.5h	 Deep-Sky Observing	Best time interval for observing dim objects: 20h28m- 4h48m Prior to midnight
20h44m	 Sun	End astronomical twilight
20h44.2m	 Mercury	Set Azimuth= 245.5° , WSW (in constellation Libra)
20.7h	 Moon	Close to SAO 159330, XZ 21407, 5.5mag Separation= 0.70° , PA= 1.9° , h= 1.9° , Sun elevation $h_{\text{sun}}=-18.2^\circ$
20h47.1m	 Venus	Set Azimuth= 247.2° , WSW (in constellation Libra)
21h01.7m	 Moon	Set Azimuth= 245.0° , WSW (in constellation Libra)




















22h34.6m	 Uranus	Transit Altitude=+57.9° (in constellation Pisces) Elongation=146.7° East, Magnitude=5.7mag
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Saturday 29 October 2011

Time	Object (Link)	Event
0h38.1m	 Sun	Lower Transit Altitude=-44.6°
0h42.3m	 Jupiter	Transit Altitude=+45.8° (in constellation Aries) Elongation=178.4° West, Magnitude=-2.9mag
2h04.7m	 Jupiter-Moon Io	Western Elongation (5.0 mag)
2h48.1m	 Mars	Rise Azimuth= 72.1°, ENE (in constellation Leo)
2.8h	 Mars	Magnitude= 1.1mag Best seen from 2.8h - 5.6h (h _{top} =30° at 5.6h) (in constellation Leo) RA= 9h42m34s Dec=+15°23.8' (J2000) Distance=1.609AU Elongation= 72° Phase k=90% Diameter=5.8" planetographic latitude of the Earth=21.6°
4h32m	 Sun	Begin astronomical twilight
4h44.3m	 Jupiter-Moon Europa	Shadow Begin (5.6 mag)
4h48m	 Sun	Sun 15° below horizon
4h48.6m	 Jupiter-Moon Europa	Transit Begin (5.6 mag)
4h59.6m	 Jupiter	Transit of Great Red Spot
5h04m	 Sun	Dawn
5h	 Meteor	Orionids (ORI) Best seen from 23.8h - 5.1h (h _{top} =41° at 5.1h) ZHR=3.7 Local hour rate=1 Velocity=67.1km/s (very rapid) Radiant: RA=6.6h/100° Dec=16.2° (J2000) (in constellation Gemini/Gem)
5h19m	 Sun	Sun 9° below horizon
5h32.8m	 Saturn	Rise Azimuth= 98.0°, E (in constellation Virgo)
5h34m	 Sun	Begin civil twilight
5h59.9m	 Sun	Rise Azimuth=106.2°, ESE
7h34.5m	 Moon	Rise Azimuth=116.0°, ESE (in constellation Scorpius)
12h38.1m	 Sun	Transit Altitude=+71.0° (in constellation Virgo)
12h42m	 Jupiter	Opposition (distance to earth: 3.970 AU, brightness: -2.9 mag)
13h55.2m	 Venus	Transit Altitude=+76.8° (in constellation Libra) Elongation=19.4° East, Magnitude=-3.9mag
14h50.5m	 Moon	Transit Altitude=+79.8° (in constellation Ophiuchus) Phase k=7.9%
18h00m00s	Sidereal Time	Apparent (true) sidereal time: 19h34m46.86s, at Greenwich (GAST): 9h29m04.84s Mean sidereal time: 19h34m45.92s, at Greenwich (GMST): 9h29m03.90s
18h00m	 Moons of Jupiter	G I J E C
18h00m	 Moons of Saturn	d e j *S* m T
19h16.8m	 Sun	Set Azimuth=253.6°, WSW
19.3h	 Venus	Magnitude=-3.9mag Best seen from 19.3h -20.8h (h _{top} =18° at 19.3h) (in constellation Libra) RA=15h29m46s Dec=-19°06.8' (J2000) Distance=1.584AU Elongation= 19° Phase k=94% Diameter=10.5"
19.5h	 Mercury	Magnitude=-0.3mag Best seen from 19.5h -20.7h (h _{top} =15° at 19.5h) (in constellation Libra) RA=15h23m36s Dec=-20°33.0' (J2000) Distance=1.277AU Elongation= 18° Phase k=86% Diameter=5.3"
19.5h	 Jupiter	Magnitude=-2.9mag Best seen from 19.5h - 5.8h (h _{top} =46° at 0.6h) (in constellation Aries) RA= 2h13m11s Dec=+11°49.0' (J2000) Distance=3.970AU Elongation=178° Diameter=49.6"
19h43m	 Sun	End civil twilight
19h58m	 Sun	Sun 9° below horizon
20h13m	 Sun	Dusk
20.2h	 Moon	Earthshine
20h29m	 Sun	Sun 15° below horizon

20.5h	 Uranus	Magnitude= 5.7mag Best seen from 20.5h - 3.3h ($h_{\text{top}}=58^\circ$ at 22.5h) (in constellation Pisces) RA= 0h05m29s Dec= $-0^\circ14.2'$ (J2000) Distance=19.250AU Elongation= 146° Diameter=3.6"
20.5h	 Deep-Sky Observing	Best time interval for observing dim objects: 20h29m- 4h47m Prior to midnight
20.6h	 Moon	Lunar Crescent visible, 61.6 hours after new moon Elongation: 35°, 9.5% illuminated, Position angle of crescent (from Zenith to East): 159.7° - crescent points to the lower left, Width of the crescent: $3.13'$, Moon sets 172 minutes after the sun
20h45m	 Sun	End astronomical twilight
20h47.4m	 Mercury	Set Azimuth=245.0°, WSW (in constellation Libra)
20h49.3m	 Venus	Set Azimuth=246.7°, WSW (in constellation Libra)
22h08.4m	 Moon	Set Azimuth=243.2°, WSW (in constellation Ophiuchus)
22h30.6m	 Uranus	Transit Altitude= $+57.9^\circ$ (in constellation Pisces) Elongation= 145.6° East, Magnitude=5.7mag
23h18.2m	 Jupiter-Moon Io	Eastern Elongation (5.0 mag)

Sunday 30 October 2011

Time	Object (Link)	Event
0h37.9m	 Jupiter	Transit Altitude=$+45.8^\circ$ (in constellation Aries) Elongation=178.4° East, Magnitude=-2.9mag
0h38.0m	 Sun	Lower Transit Altitude=-44.2°
0h50.9m	 Jupiter	Transit of Great Red Spot
2h45.8m	 Mars	Rise Azimuth= 72.3° , ENE (in constellation Leo)
2.8h	 Mars	Magnitude= 1.1mag Best seen from 2.8h - 5.6h ($h_{\text{top}}=30^\circ$ at 5.6h) (in constellation Leo) RA= 9h44m42s Dec=$+15^\circ14.1'$ (J2000) Distance=1.601AU Elongation= 72° Phase k=90% Diameter=5.8" planetographic latitude of the Earth=21.7°
2h54.6m	 Jupiter-Moon Europa	Western Elongation (5.6 mag)
4h30m	 Sun	Begin astronomical twilight
4h47m	 Sun	Sun 15° below horizon
5h02m	 Sun	Dawn
5h18m	 Sun	Sun 9° below horizon
5h29.2m	 Saturn	Rise Azimuth= 98.1° , E (in constellation Virgo)
5.5h	 Saturn	Magnitude= 0.7mag Best seen from 5.5h - 5.6h (in constellation Virgo) RA=13h24m34s Dec= $-6^\circ27.2'$ (J2000) Distance=10.635AU Elongation= 14° Diameter=15.6" planetocentric latitude of the Earth=12.5°
5h33m	 Sun	Begin civil twilight
5h58.9m	 Sun	Rise Azimuth=106.6°, ESE
7h08.7m	 Moon	Max. Decl. South (declination: -22.61°)
8h33.8m	 Moon	Rise Azimuth=116.9°, ESE (in constellation Ophiuchus)
12h38.0m	 Sun	Transit Altitude=$+71.3^\circ$ (in constellation Virgo)
13h56.3m	 Venus	Transit Altitude= $+77.1^\circ$ (in constellation Libra) Elongation= 19.6° East, Magnitude= -3.9mag
15h51.8m	 Moon	Transit Altitude=$+80.0^\circ$ (in constellation Ophiuchus) Phase k=15.8%

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