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### Shows

Currently, ALL SHOWS are SUSPENDED until further notice due to the Covid-19 pandemic and national state of disaster.

### Moon Phases

Full Moon: 5 Jun  
 Last Quarter: 13 Jun  
 New Moon: 21 Jun  
 First Quarter: 28 Jun

### Sunrise/set and Moonrise/set for Johannesburg – June 2020

Date	Day	Sunrise		Sunset		Moonrise		Moonset	
		h	m	h	m	h	m	h	m
1	Mon	06:48	17:24	14:22	01:51				
2	Tue	06:48	17:24	15:01	02:54				
3	Wed	06:49	17:23	15:42	03:59				
4	Thu	06:49	17:23	16:26	05:05				
5	Fri	06:50	17:23	17:15	06:11				
6	Sat	06:50	17:23	18:08	07:17				
7	Sun	06:50	17:23	19:05	08:20				
8	Mon	06:51	17:23	20:04	09:18				
9	Tue	06:51	17:23	21:03	10:09				
10	Wed	06:52	17:23	22:01	10:54				
11	Thu	06:52	17:23	22:56	11:34				
12	Fri	06:52	17:23	23:49	12:09				
13	Sat	06:53	17:23	--:--	12:42				
14	Sun	06:53	17:24	00:40	13:13				
15	Mon	06:53	17:24	01:30	13:43				
16	Tue	06:54	17:24	02:21	14:14				
17	Wed	06:54	17:24	03:13	14:47				

Date	Day	Sunrise	Sunset	Moonrise	Moonset
		h m	h m	h m	h m
18	Thu	06:54	17:24	04:06	15:23
19	Fri	06:54	17:24	05:01	16:03
20	Sat	06:55	17:25	05:58	16:48
21	Sun	06:55	17:25	06:56	17:39
22	Mon	06:55	17:25	07:53	18:34
23	Tue	06:55	17:25	08:47	19:35
24	Wed	06:55	17:25	09:37	20:37
25	Thu	06:56	17:26	10:23	21:40
26	Fri	06:56	17:26	11:05	22:42
27	Sat	06:56	17:26	11:45	23:44
28	Sun	06:56	17:27	12:22	--:--
29	Mon	06:56	17:27	13:00	00:46
30	Tue	06:56	17:27	13:39	01:48

*Data calculated using MICA, US Naval Observatory*

### **Astronomical Events**

Date	Day	Time	Event
1	Mon		Venus: 3.7° E
3	Wed	05:36	Moon Perigee: 364,400 km
		19:42	Venus Inferior Conj.
4	Thu	14:59	Mercury Elongation: 23.6° E
5	Fri	21:12	Full Moon
		21:25	Penumbral Lunar Eclipse (Visible from SA)
6	Sat	20:10	Moon Descending Node
7	Sun	18:22	Moon South Dec.: 24.1° S
8	Mon	19:19	Moon close to Jupiter: 2.3° N
9	Tue	04:19	Moon close to Saturn: 2.8° N
13	Sat	01:53	Moon close to Mars: 3° N
		08:24	Last Quarter
15	Mon	02:56	Moon Apogee: 404,600 km
19	Fri	10:52	Moon close to Venus: 0.8° S
20	Sat	23:43	Winter Solstice (Southern Hemisphere)
21	Sun	06:24	Moon Ascending Node
		08:40	Annular Solar Eclipse (not visible from SA)
		08:41	New Moon
22	Mon	05:56	Moon North Dec.: 24.1° N
24	Wed	02:33	Moon-Beehive: 1.8° S
28	Sun	10:16	First Quarter
30	Tue	04:09	Moon Perigee: 369,000 km

*Sky Events Calendar by Fred Espenak and Sumit Dutta (NASA's GSFC)*

## Eclipses

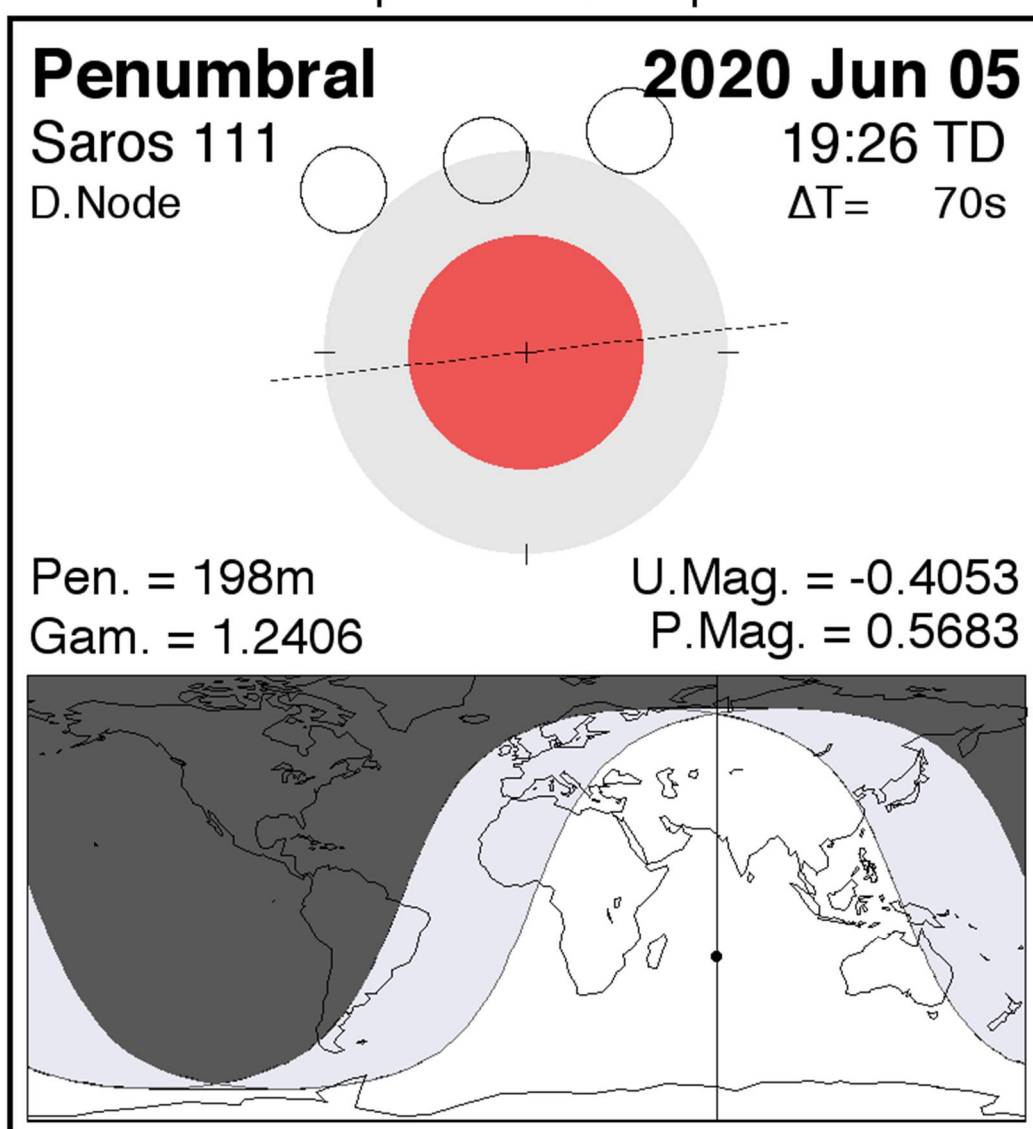
### 5 June

Type of Eclipse: Penumbral Lunar Eclipse  
Time (SAST): 7:46 p.m. - 11:04 p.m.  
Visible from: Europe, Africa, Asia and Australia

### 21 June

Type of Eclipse: Annular Solar Eclipse (NOT visible from South Africa)  
Time (SAST): 5:46 a.m. - 11:34 a.m.  
Visible from: Central Africa, South Asia, China and Pacific

[www.EclipseWise.com/eclipse.html](http://www.EclipseWise.com/eclipse.html)



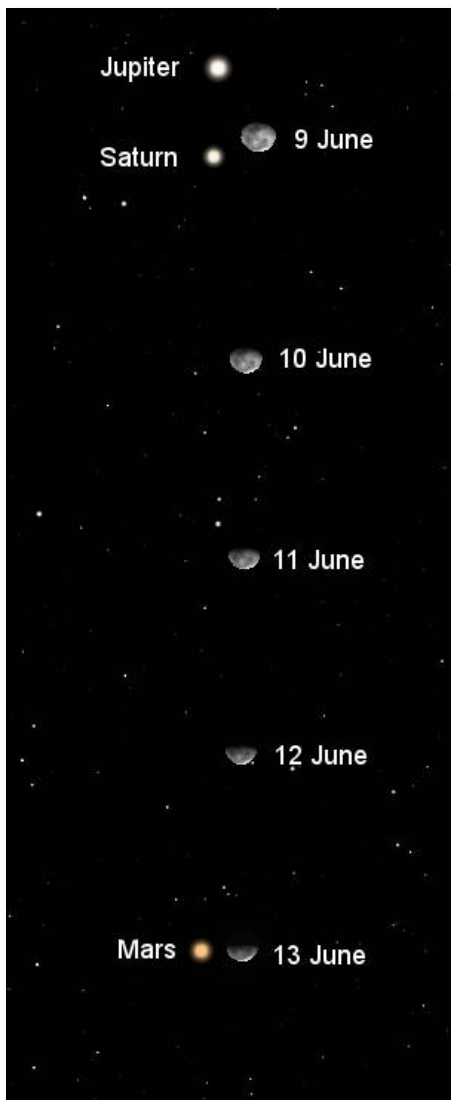
***Thousand Year Canon of Lunar Eclipses***

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## Naked Eye Planets

- Mercury: Will reach greatest eastern elongation on 4 June, it will remain an evening planet until late June.
- Venus: Reach inferior conjunction on 4 June. It will reappear in the eastern morning sky in the second half of June. The thin crescent moon will be close on 19 June.
- Mars: The red planet will reach western quadrature (were the Sun, Earth, and Mars angle is  $90^\circ$ ) on 7 June. Look for the moon next to Mars on the morning of 13 June.
- Jupiter: Jupiter is currently in retrograde (east to west) motion as the earth over took it in May. In the beginning of the month Jupiter rises at 8:30 p.m. and by months end at 6:30 p.m.
- Saturn: In the beginning of the month Saturn rises at 8:56 p.m. and by months end at 6:55 p.m. The moon will be close to Saturn on 9 June.

Moon and Planets at 2 a.m.



*Image: Stellarium*

Venus and moon on 19 June



*Image: Stellarium*

## Word Search

Search up, down, forward, backward, and on the diagonal to find the hidden words.

### Solar System

S A C D V Y E Y N U V A S Z X S G H I E A G U L K  
U N O G Y K B C Q A F U A I P L M S N B G I C D O  
N B N X M A R S S Z C F T S F T E N A L P Q K R R  
L L J S D V M T W O F D U C V H I F S G J P B X A  
Z F U T Y I N V D T U O R X Q A V G J E N I M Y S  
O N N G S U N S P O T M N R Y I A D W R T Y A A D  
M H C G F C W T H S X Z R G F I R E B A L L R T Y  
A F T A S A H N D O M I A S T O X E E N O B V B S  
P L I V S S Z R W B Y E W G J K C N K L S A R E R  
S D O G H T J F O S C C R G H E M O O N D D R Q P  
C V N B H E R W R M B X V C Y X S B J T G E M R Y  
V R Y E A R C F T E O R Y J U J D W R T C G S G S  
L Y C B R O W T Q E R S X G G R I S A G H A C G K  
N T U E Y I R L A E T Y P A X S Y U I P V X R H Z  
A H Y I O D G A L I L E O H S C H T E G Y W Y V S  
N E P T U N E V H I R K C B E N T E C L I P S E F  
A W E B D T H I B K C R A F N R C A D H K B M S R  
P Y G H T R A E S C G B W R Y Y E A B M T E C Z S  
P F G C S D R Y X W P O C O M S T V S R O E T E M  
Q E S O L A R S Y S T E M M Y E J L O C X B M U I  
H W F G K N G D T Q A F G H B E J U P I T E R R S  
Q K K M A N E E N V F G H P G E C U R Y D B G H U  
R O C K W B M J Y R O Y S U N A R U W B P U F S N  
W L H Y E O T R A N S I T K S D B E R E S A D V E  
K G D E C V B E K A N J J U N O R J D J P L J A V

ASTERIOD

CERES

CHROMOSPHERE

COMET

CONJUNCTION

EARTH

ECLIPSE

FIREBALL

GALILEO

JUNO

JUPITER

MARS

MERCURY

METEORS

MOON

NEPTUNE

ORBIT

PLANET

SATURN

SOLAR SYSTEM

SUN

SUNSPOT

TRANSIT

URANUS

VENUS

Enjoy

Clear skies

Constant