

THE SOLSTICES & 1/PHI [.6180339]

1. THE WINTER SOLSTICE: 22 Dec 1991, 8:55 a.m. ♒

a. 22 Dec 1991: Sunrise 7:19 a.m. 09 hrs. 19 min. (9.31667hrs.) of Light
 Sunset 4:38 p.m. 14 hrs. 41 min. (14.68333hrs.) of Darkness

b. 30 Dec - 10 Jan 1991 Sunrise 7:22 a.m.
 01 Dec - 14 Dec 1991 Sunset 4:35 p.m.

LIGHT 09 hrs. 13 min. 09.2167 hrs. 0.3840291 .3819661 = 09 hrs. 10 min. (09.167187 hrs.)
 DARKNESS 14 hrs. 47 min. 14.7833 hrs. 0.6159708 .6180339 = 14 hrs. 50* min. (14.832813 hrs.)
 24 hrs. 00 min. 24.0000 hrs. 1.0000000 1.000000 = 24 hrs. 00 min. (24.000000 hrs.)
 *49.96878 min.

2. THE SUMMER SOLSTICE: 21 Jun 1991, 9:20 p.m. ☊

a. 21 Jun 1991: Sunrise 4:31 a.m. 09 hrs. 01 min. (9.0001667) of Darkness
 Sunset 7:32 p.m. 14 hrs. 59 min. (14.983333) of Light

b. 07 Jun - 22 Jun Sunrise 4:31 a.m.
 23 Jun - 02 Jul Sunset 7:33 p.m.

LIGHT 14 hrs. 59 min. 14.983333 hrs. 0.6243055
 DARKNESS 09 hrs. 01 min. 09.016667 hrs. 0.3756945
 24 hrs. 00 min. 24.000000 hrs. 1.0000000

3. MEDIAN:

	from 'b.' above	from 'a.' above	from 'b.' above	from 'a.' above	
a.	<u>Maximum</u>	<u>at Solstice</u>	<u>Maximum</u>	<u>at Solstice</u>	
Summer	09 hrs. 01 min.	09 hrs. 01 min.	14 hrs. 59 min.	14 hrs. 59 min.	Summer
Winter	09 hrs. 13 min.	09 hrs. 19 min.	14 hrs. 47 min.	14 hrs. 41 min.	Winter

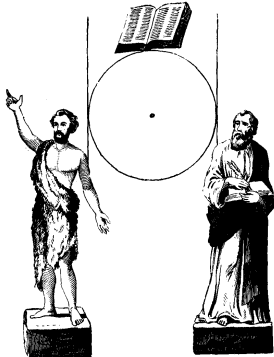
b. Median:

Hours	09 hrs. 06 min.	09 hrs. 09 min.	14 hrs. 53 min.	14 hrs. 50 min.
Decimal	09.001 hrs.	09.15 hrs.	14.88333 hrs.	14.8333 hrs.
Percentage		00.38125		00.6180555

1/Phi (1/Φ) = 00.6180339
 Difference = 00.0000216 % of 24 hours (1 day)
 = .0005184 hrs. of 24 hours
 = .031104 min. of 24 hours
 = 1.86624 sec. of 24 hours

Note: There are 86,400 seconds in a day. 1.86624/86,400 = 2.16 10,000th of a day difference

Obvious question: How may (or may not) this near equivalent to 1/Phi equate to an overall pattern for the Earth and for the regularity with which Phi appears in Life Forms and Nature's building blocks (such as molecular & crystalline structure, DNA &c)?



This Masonic symbol relates to the St. Johns' Days celebrated by the Craft and the church. St. John Day falls on the Summer solstice; St. John the Evangelist on the Winter solstice.

Calculations by:
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 24 November 1990

23 Jun 2018

It has been 28 years since writing the above reflection regarding the Solstices.

What, if any, can be drawn from the nearness of the median difference being nearly identical with $1/\phi$?

When considering such a thing, one must of necessity take into account the sunset and sunset times for each and every point of the planet, for every day of the year. How would this effect any observation relative to a relationship to ϕ ?

Ref.

Sunrise Sunset in the United States
<https://www.sunrisesunset.com/USA/>

Sunrise Sunset in New York
<https://www.sunrisesunset.com/USA/NewYork/>

Sunrise Sunset in Liverpool New York – June 2018
https://www.sunrisesunset.com/calendar.asp?back=USANY&comb_city_info=Liverpool%2C+New+York%3B76.2099%3B43.1059%3B-5%3B1&month=6&year=2018&want_daylen=1&time_type=0&wsom=0

Sunrise Sunset in Liverpool New York – December 2018
https://www.sunrisesunset.com/calendar.asp?back=USANY&comb_city_info=Liverpool%2C+New+York%3B76.2099%3B43.1059%3B-5%3B1&month=12&year=2018&want_daylen=1&time_type=0&wsom=0

23 Jun 2018
rise 5:26 am; set 8:48 pm
15h 22'

21 Jun 2018
Sunrise: 5:25am; Sunset: 8:48pm
Day len: 15h 22'

22 Dec 2018
Sunrise: 7:33am; Sunset: 4:33pm
Day len: 8h 59'

Miami, FL

21 Jun 2018
Sunrise: 6:30am; Sunset: 8:15pm
Day len: 13h 45' [13.75 hrs.] [,.5729167]

22 Dec 2018
Sunrise: 7:03am; Sunset: 5:35pm
Day len: 10h 32'

$1 - .6180339 = .3819661$

6180339 squared (6180339²) is **38196590154921**

38196590154921 is a perfect square number. Its square root is **6180339**

Here $\Phi = 1.6180339... = \phi^{-1}$
and $\phi = 0.6180339... = \Phi - 1 = 1/\Phi = \Phi^{-1}$

Φ power	ϕ power	A + B Φ	C + D ϕ	real value
Φ^5	ϕ^{-5}	3 + 5 Φ	8 + 5 ϕ	11.0901699..
Φ^4	ϕ^{-4}	2 + 3 Φ	5 + 3 ϕ	6.8541019..
Φ^3	ϕ^{-3}	1 + 2 Φ	3 + 2 ϕ	4.2360679..
Φ^2	ϕ^{-2}	1 + 1 Φ	2 + 1 ϕ	2.6180339..
Φ^1	ϕ^{-1}	0 + 1 Φ	1 + 1 ϕ	1.6180339..
Φ^0	ϕ^0	1 + 0 Φ	1 + 0 ϕ	1.0000000..
Φ^{-1}	ϕ^1	-1 + 1 Φ	0 + 1 ϕ	0.6180339..
Φ^{-2}	ϕ^2	2 - 1 Φ	1 - 1 ϕ	0.3819660..
Φ^{-3}	ϕ^3	-3 + 2 Φ	-1 + 2 ϕ	0.2360679..
Φ^{-4}	ϕ^4	5 - 3 Φ	2 - 3 ϕ	0.1458980..
Φ^{-5}	ϕ^5	-8 + 5 Φ	-3 + 5 ϕ	0.0901699..