

COMET C/2012 S1 (ISON)

A BRIGHT COMET THAT WILL RIVAL THE BRIGHTNESS OF THE MOON?

The purpose of this chart is to illustrate the possible visual rendition of how bright C2012 S1 will become and to provide some publically known facts and stats so far about this comet. This finding is of great importance and excitement for those interested in celestial objects and occurrences. Its timing and significance can be a clue as to how world events might be affected by it. Most notably, the comet's closest approach to our Sun will occur 25 days after the very rare *Hybrid* Total Solar Eclipse of Nov 3rd. Coincidentally, the comet will reach Perihelion on the 1st day of Hanukkah on Nov 28, 2013. If scientific projections are correct, this comet is said to become as bright as the Moon in the night sky and will be seen during the day; perhaps a 2nd 'sun' even? Is it a prophetic sign?

Some researchers have suggested that the brightness calculations may be off. They refer to the Comet *Kohoutek* that came around into the Solar System in 1973. This comet was expected to be exceedingly bright but it was not the case. The comet turned out to be mostly made up of rock and not highly reflective ice, which makes it ideal for reflection to occur.

THE COMET'S TAIL

Like the recent comet Lovejoy, ISON will start to move away from the Sun around mid Dec 2013. As it leaves its perihelion, it will throw off a brilliantly long tail. This dazzling display will stretch up from the twilight sky after sunset. As Lovejoy, its tail can stretch for some 70° of arc from the Horizon.

PLANETARY CONJUNCTIONS

MID YEAR 2013 TO PERIHELION OF COMET AND BEYOND

- Aug 24 – Mercury with Sun at *Regulus* in Leo
- Oct 10 – Start of Mercury Retrograde in Virgo
- Oct 14 – Alignment with Mars and Regulus (3 Kings)
- Nov 01 – Mercury with Sun at Virgo & Full Moon
- Nov 80 – ISON crosses the Ecliptic
- Nov 11 – Start of Mercury Retrograde forward in Virgo
- Nov 17 – Conjunction with Spica in Virgo
- Nov 25 – Mercury with Saturn in Libra
- Dec 28 – Sun with Mercury in Sagittarius
- Dec 28 – Mars with *Pornina* in Virgo

*The Lunar Phase on Nov 28, 2013 a Thursday will be a Waning Crescent. The Moon is in zodiac sign Libra

C2012 S1

about 4 months before its Perihelion (on Hanukkah)

-16 TO -18

MAGNITUDE

(conceptual)



MOON*

in comparison to brightness of comet before Perihelion
-16 MAGNITUDE
(conceptual)

SOME PUBLIC FACT MADE KNOWN ABOUT THE COMET SO FAR

- discovered on Sep 21, 2012 by Astronomers in Belarus and Russia
- names of Astronomers are *Vitali Nevski* and *Artyom Novichonok*
- findings announced Monday Sep 24, 2012
- comet is speculated to have never passed through our inner solar system before
- comet is larger and will thus reflect more sunlight making it extremely bright
- it is heading towards Earth from the Oort cloud region of space
- it was first sighted in the Constellation Cancer
- will be most visible in the Northern Hemisphere
- scientists currently predict it could outshine the Moon' brightness of -16
- it tail is expected to be over 186,000 miles, about 3/4 distance Earth to Moon



Comet Hale-Bopp

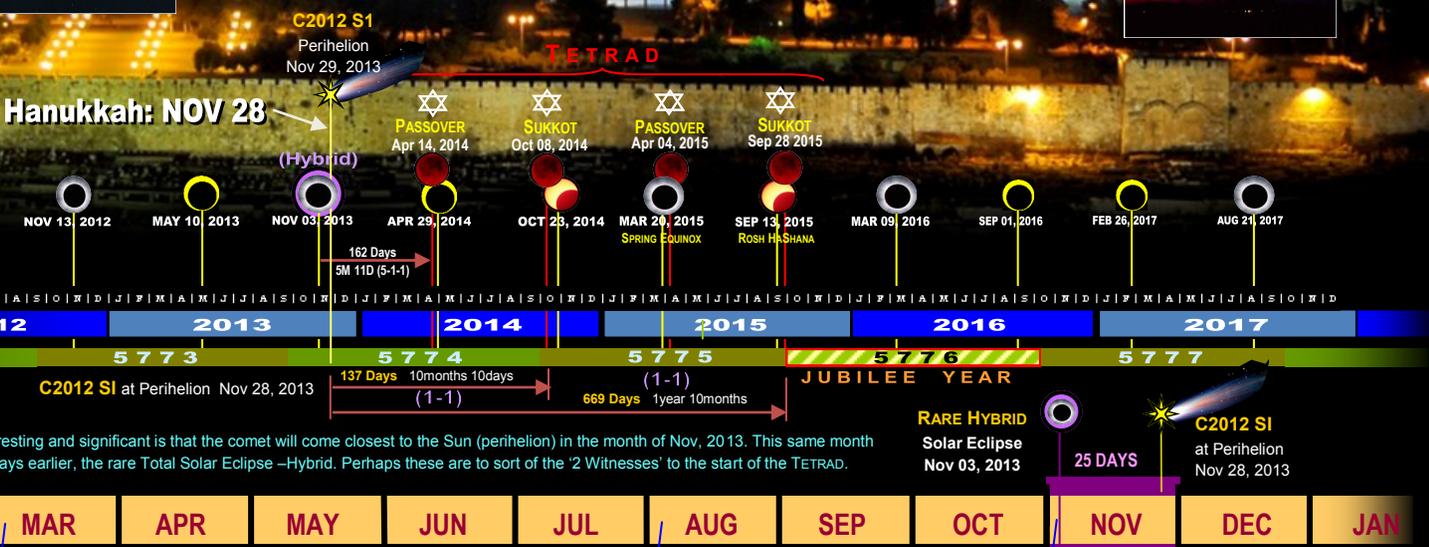
~4 months before reaching perihelion

1997

Brightness magnitude:

-1

Reaching perihelion



What might be interesting and significant is that the comet will come closest to the Sun (perihelion) in the month of Nov, 2013. This same month will also have -25 days earlier, the rare Total Solar Eclipse -Hybrid. Perhaps these are to sort of the '2 Witnesses' to the start of the TETRAD.

MARCH 2013

- visible through small telescopes
- comet *Pan-STARRS* will pass by close to Earth at this time

AUGUST 2013

- it should be visible or binoculars
- becoming visible to the naked eye, depending on location on Earth

OCTOBER 2013

- positioned against the stars of Leo
- can be used as benchmarks to sighting the comet in the night sky
- comet will pass about 0.07 AU (10,000,000 km; 6,500,000 mi) from Mars
- it will be passing very near both *Mars* and the bright star *Regulus*
- barely visible to the unaided eye when it is in the predawn night sky
- will pass about 0.4 from Earth in late October or early November

NOVEMBER 28 2013

Anticipated & projected events

- passes very close to the bright 1st-magnitude star *Spica* in Virgo
- comet reaches its perihelion with Sun
- at a distance of 0.012 AU (1,800,000 km; 1,100,000 mi) from the center point of the Sun
- may be less than 1" from the Sun
- making it difficult to see against the glare of the Sun
- could be as bright as 3rd-magnitude
- it will be the Thanksgiving Day holiday in the USA

DECEMBER 2013

- become visible both in the evening sky after sunset & in the morning sky before sunrise
- from Earth, AU (60,000,000 km; 37,000,000 mi) on Dec 26, 2013, closest point
- comet will then whirl north after perihelion

JANUARY 2014

- remaining until mid-January 2014 when it exits Solar System

MAGNITUDE DEGREES OF BRIGHTNESS

Magnitude is the measure of the brightness of sky objects. In Astronomy, the lower the number, the brighter the object. When this comet ISON was discovered, it was reported to have been shining at magnitude 18.8 on the reverse scale used by astronomers to measure the brightness of sky objects.

-26



THE SUN

The Sun by comparison has a brightness of only -26. The Sun is considered a medium sized or average compared to the other billions of Suns in the known Universe. Other suns can be 100 times larger.

-16



THE MOON

The Moon is about half as bright as our Sun at -16. Scientists currently predict that the comet of 2013, S1 or ISON could outshine the Moon. Some are suggesting that this comet will be the brightest known and recorded one in all of human history.

-(16-18)

-1

THE COMET C2012 S1 (ISON)

This comet is anticipated to be very bright because it is speculated that it has never come around before. The brightness magnitude is expected to be -16 by the time it reaches the vicinity of Earth. By these calculations, it will rival the brightness of a Full Moon! And it will be seen in the Day at its maximum brightness.

COMET HALE-BOPP

In comparison, when Hale-Bopp passed through the Solar System in 1997, it had a magnitude of only -1. Hale Bopp has been the brightest comet in the modern era.

Comet reported to have originated from the Oort Cloud Nebula in the Constellation **CANCER (Beehive Cluster)**
~Dec 2012 - Dec 2013 Inner System range

Perihelion

This is the Ecliptic path that the comet will be taking from Earth's vantage point. It was reported to have originated in the Constellation Cancer. Key positions are highlighted along its path. Ultimately, this 'snapshot' of its path within the Inner Solar System as it reaches the closest point to the Sun beginning on Nov 28, 2013. As the gravity of the Sun pulls the comet in, it will dramatically increase in speed, circumventing the Sun, if not disintegrated, for a duration of about 27 hours from the 29th of November.

Perihelion = the closest distance to the sun
AU = Astronomical Unit – from Sun to Earth, center points
Magnitude = brightness of sky objects (the lower the number, the brighter the object).