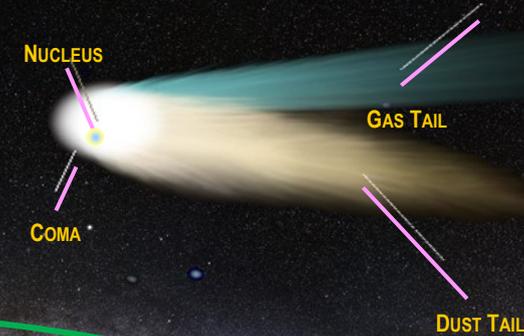


# ISON's TAIL SPECULATED LENGTH

## CONCEPTUAL ILLUSTRATION FROM EARTH TO MOON DISTANCE

The purpose of the Illustration is to help conceptualize the size of comet ISON's tail. If scientist's projections are correct, this comets' tail will be one of the largest if not the largest known to mankind since recordings have been kept. Although some comets can leave a residue of particle and gas clouds of up to 300,000 miles, most comet' tails are no longer than approximately 100,000 miles. Given the known size comparisons of comets since they have been recorded, comet ISON's tail would be considered 'MEGA' in length. For perspective the distance from Earth to the Moon will be shown at just over 238,000 miles. ISON's tail is speculated to be over 186,000 miles long. This will make it almost 3/4 of the distance from Earth to the Moon.

According to the latest scientific observations of comet ISON, it is projected to be the size of a small mountain with a diameter of about 3 miles. As to the weight or mass, it will be anywhere between 7 billion to 7 trillion pounds. According to NASA scientists, this comet has never come into the Inner Solar System. The comet's tail will grow as it approaches the Sun. It will increasingly give off a bright coma and tail. ISON will reach *perihelion* or the closest approach to the Sun at 724,000 miles on Nov 29, 2013. In comparison to prior recorded comets, this one is expected to be unprecedented in size, magnitude (same as the Moons) and length of tail. ISON will be a 'Mega Comet' as never before experienced by humanity, if projections turn out to be accurate.



**SUPER MOON**  
This phenomena occurs when a Full Moon is nearest to the Earth due to the Moon's elliptical orbit called Perigee. Most recently this happened on June 22, 2013 the same day the *Star of David Alignment* occurred. They are very rare occurrences & when they do occur, the Moon is 13% larger and 30% brighter. The next Super Moon is scheduled to occur, according to NASA, on the last eclipse of the Tetrad **Sep 28, 2015** and **Nov 14, 2016**.



**13% 30%**  
LARGER AND BRIGHTER



**MOON (Luna)**

**ORBITAL CHARACTERISTICS**

Perigee	363,295 km (0.0024 AU)
Apogee	405,503 km (0.0027 AU)
Distance from Earth	384,399 km (0.00257 AU)
Orbital period	27.321582
Synodic period	29.530589
Average orbital speed	1.022 km/s

**PHYSICAL CHARACTERISTICS**

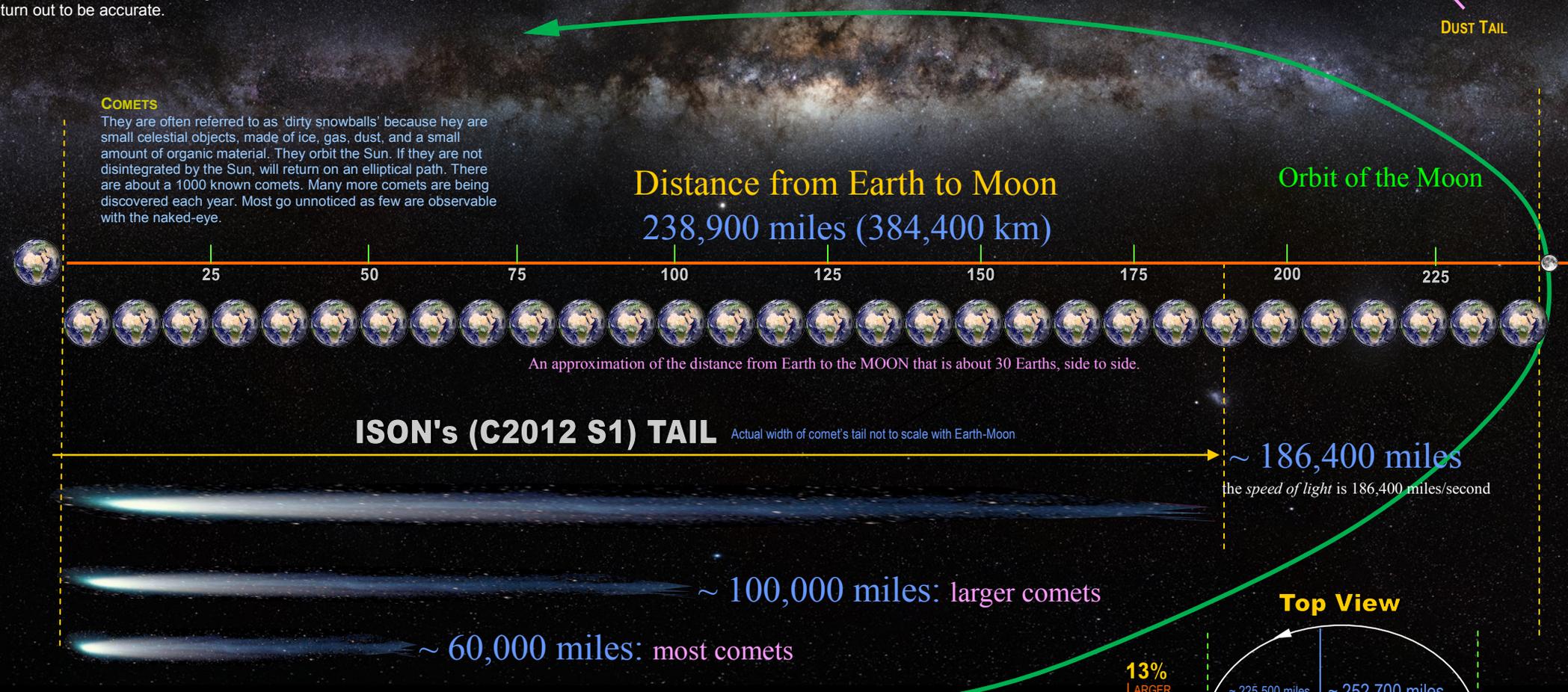
Mean radius	1,737.10 km (.0273 Earths)
Circumference	10,921 km (equatorial)
Surface area	3.793 × 10 <sup>7</sup> km <sup>2</sup> (.074 Earths)
Volume	2.1958 × 10 <sup>10</sup> km <sup>3</sup> (.020 Earths)
Mass	7.3477 × 10 <sup>22</sup> kg (.012300 Earths)

**ATMOSPHERE**

Surface pressure	10 <sup>-7</sup> Pa (day) / 10 <sup>-10</sup> Pa (night)
Composition	Ar, He, Na, K, H, Rn

**COMET ISON: THE VEIL OF THE BRIDE ?**  
As ISON streaks across the night sky in the month of November 2013, it will traverse the constellation of Virgo for the duration of the month. On Nov 3, 2013, ISON will have crossed the Earth's orbital plane. On the same day, the very rare Hybrid Solar Eclipse occurs. Then ISON conjoints Spica on Nov 17, 2013. Spica means 'ears of corn or wheat'. Then on Nov 22, it will be at the Feet of Virgo. On the 27/28th of Nov, it will start to reach perihelion which happens to be *Hanukah*. At this point, the length of ISON's tail will span the entirety of the constellation Virgo.

It is as if the tail of ISON is a bridal veil, starting from the head, the crown of Virgo and flows downward as a train proceeding from Earth's perspective against the night sky. Is this prophetic? Could this be a heavenly sign as Virgo is often depicted as the Bride of Christ. Is she about ready to be betrothed as in having been 'made herself ready' with the wedding apparel -with the tail of ISON as a metaphorical wedding veil as she is soon to be Raptured to the Wedding Chamber in Glory?



7,918 miles (12,742 km)  
Earth, Diameter



**ORBITAL CHARACTERISTICS**

Aphelion	152,098,232 km 1.01671388 AU
Perihelion	147,098,290 km 0.98329134 AU
Semi-major axis	149,598,261 km 1.00000261 AU
Orbital period	365.256363004 days 1.000017421
Average orbital speed	29.78 km/s 107,200 km/h
Mean anomaly	357.51716°

**PHYSICAL CHARACTERISTICS**

Mean radius	6,371.0 km
Circumference	40,075.017 km (equatorial)
Surface area	land 29.2 % / water 70.8 %
Volume	1.08321 × 10 <sup>12</sup> km <sup>3</sup>
Mass	5.97219 × 10 <sup>24</sup> kg 3.0 × 10 <sup>-6</sup> Suns
Axial tilt	23°26'21".4119

**ATMOSPHERE**

Surface pressure	101.325 kPa (MSL)
Composition	78.08% nitrogen (N2) (dry air) 20.95% oxygen (O2) 0.93% argon 0.039% carbon dioxide About 1% water vapor (varies with climate)

**COMETS**  
They are often referred to as 'dirty snowballs' because they are small celestial objects, made of ice, gas, dust, and a small amount of organic material. They orbit the Sun. If they are not disintegrated by the Sun, will return on an elliptical path. There are about a 1000 known comets. Many more comets are being discovered each year. Most go unnoticed as few are observable with the naked-eye.

Distance from Earth to Moon  
238,900 miles (384,400 km)

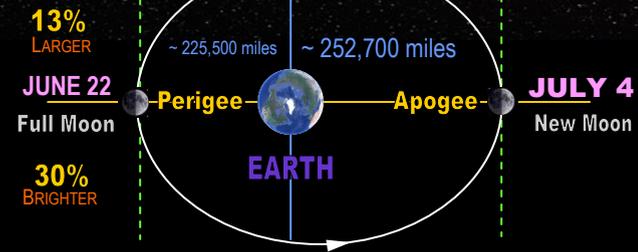
ISON's (C2012 S1) TAIL Actual width of comet's tail not to scale with Earth-Moon

Orbit of the Moon

~ 186,400 miles  
the speed of light is 186,400 miles/second

~ 100,000 miles: larger comets

~ 60,000 miles: most comets



What makes a tail of comets occur is that as they near the Sun, the Solar Winds and heat react with the comet that is made up of dust and ionized gases. There are actually 2 tails that come off a comet, a Dust Tail and other is the Plasma Tail. A third tail of sodium was observed on Comet Hale-Bopp.

**DUST TAIL:** The 'white' portion is the Dust Tail that is made up of the smaller particles. These are the elements that reflect the Sun's light and give it its brightness. Comet ISON brightness is said to equal the Moons at it brightest point. The Dust trails can be up to 600,000 - 6 million miles long.

**PLASMA TAIL:** This is the part that is 'bluish' in color because it contains *Carbon Monoxide* ions or particles. What makes the color bluish is when the comet gets closer to the Sun, the solar ultraviolet light breaks down the gas molecules, causing them to glow. These tails can also stretch across the cosmos but usually don't exceed 100,000 miles.

**Some Sources**  
Lpi.usra.edu/  
NASA.gov  
Telescope.com  
Wikipedia.com

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