

# THE STAR DIAGONAL

THE JOURNAL OF THE OGDEN ASTRONOMICAL SOCIETY



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## Meeting Announcement

Our monthly meeting of the Ogden Astronomical Society will be held on December 11, 2014 at 7:30pm at the Ott Planetarium.

## President's Message

Reflecting on the past year I remember a lot of star parties with nothing to look at but clouds. Even with the bad weather we had a few nights that made it all worthwhile the last Antelope Island and a spring Curlew were good, when all else fails it can be a good camp out.

We should have next year's activities planned before the meeting on Thursday for anyone that needs to plan vacation for next year.

I would like to thank everyone for your support of our club and wish you all a Merry Christmas and a great new year. Hopefully we can have more star parties with clear skies in 2015.

Our meeting this month will be Lisa Largent from Weber State to tell us about the new Science Building and Observatory.

Thanks,  
Lee Priest

## OAS Minutes – November 2014

The monthly meeting of the Ogden Astronomical Society was held on November 13, 2014 at 7:30pm at the Ott Planetarium. President Lee Priest conducted the meeting.

### Announcements

- Donate Brent's finder books to Wayne Sumner to donate to the school where he is teaching.
- St. George will Feb. 19-22

We watched a great courses video on the center of our galaxy.

We then adjourned with many of us going to Village Inn for additional socializing.

Requested

## Proposed Star Parties

### Public

- 4/25 – Antelope Island
- 5/16 – Antelope Island
- 6/20 – Antelope Island
- 8/8 – Antelope Island
- 9/10–9/13 – Great Basin Astronomy Festival
- 9/19 – Antelope Island
- 10/17 – Antelope Island

### Private

- 2/19-2/22 – St. George
- 3/20-3/22 – Messier Marathon (Curlew)
- 4/17-4/19 – Curlew
- 6/11 – Annual BBQ at Doug's
- 7/17-7/19 – Monte Cristo (many arrive by Weds or Thurs)
- 8/14-8/16 – Monte Cristo
- 10/9-10/11 – Messier Marathon (Curlew)

## Where the Heavenliest of Showers Come From

By Dr. Ethan Siegel

You might think that, so long as Earth can successfully dodge the paths of rogue asteroids and comets that hurtle our way, it's going to be smooth, unimpeded sailing in our annual orbit around the sun. But the meteor showers that illuminate the night sky periodically throughout the year not only put on spectacular shows for us, they're direct evidence that interplanetary space isn't so empty after all!

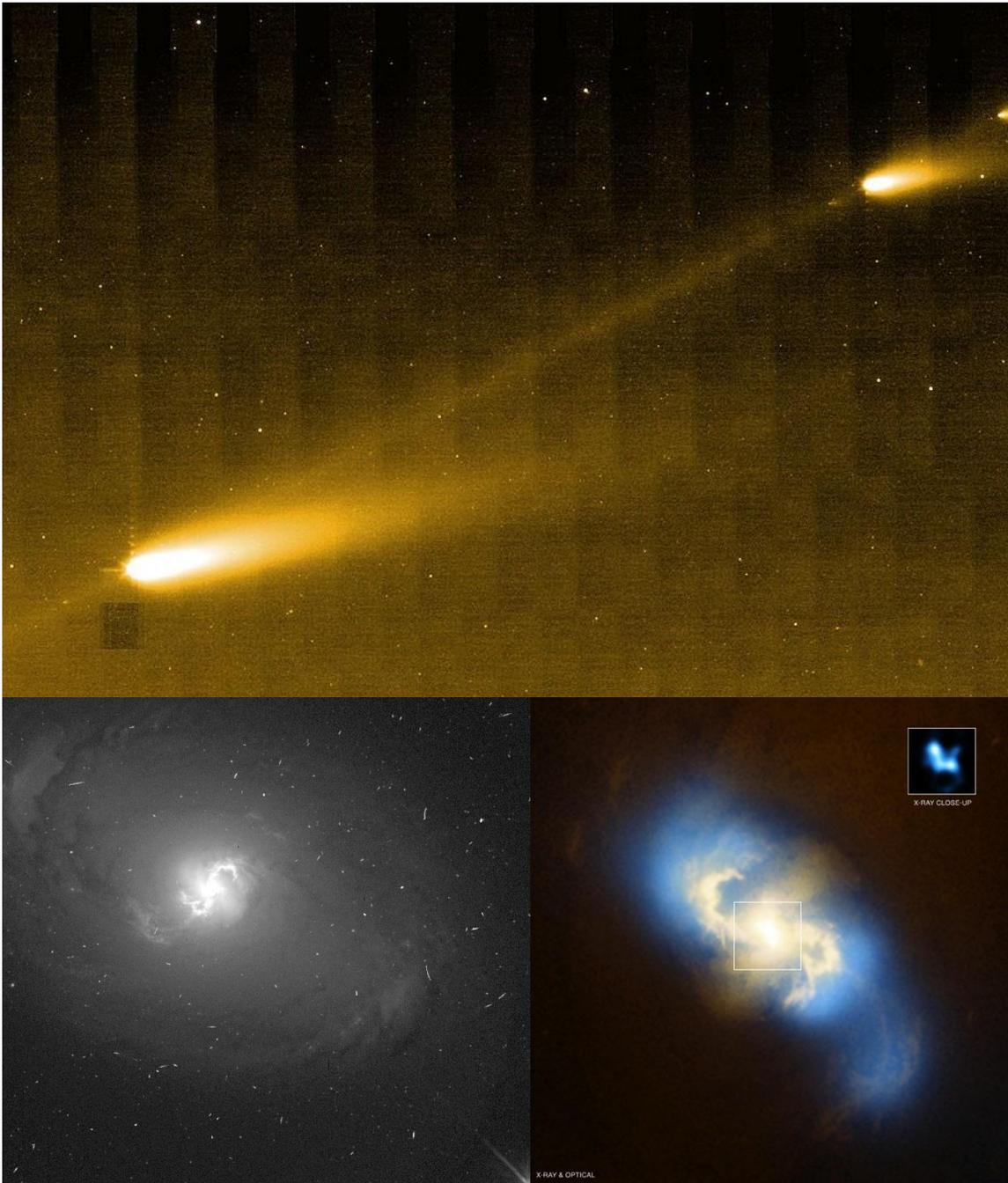
When comets (or even asteroids) enter the inner solar system, they heat up, develop tails, and experience much larger tidal forces than they usually experience. Small pieces of the original object—often multiple kilometers in diameter—break off with each pass near the sun, continuing in an *almost* identical orbit, either slightly ahead-or-behind the object's main nucleus. While both the dust and ion tails are blown well off of the main orbit, the small pieces that break off are stretched, over time, into a diffuse ellipse following the same orbit as the comet or asteroid it arose from. And each time the Earth crosses the path of that orbit, the potential for a meteor shower is there, *even after* the parent comet or asteroid is completely gone!

This relationship was first uncovered by the British astronomer John Couch Adams, who found that the Leonid dust trail must have an orbital period of 33.25 years, and that the contemporaneously discovered comet Tempel-Tuttle shared its orbit. The most famous meteor showers in the night sky all have parent bodies identified with them, including the Lyrids (comet Thatcher), the Perseids (comet Swift-Tuttle), and what promises to be the best meteor shower of 2014: the Geminids (asteroid 3200 Phaethon). With an orbit of *only* 1.4 years, the Geminids have increased in strength since they first appeared in the mid-1800s, from only 10-to-20 meteors per hour up to *more than 100* per hour at their peak today! Your best bet to catch the most is the night of December 13th, when they ought to be at maximum, before the Moon rises at about midnight.

The cometary (or asteroidal) dust density is always greatest around the parent body itself, so whenever it enters the inner solar system and the Earth passes near to it, there's a chance for a **meteor storm**, where observers at dark sky sites might see *thousands* of meteors an hour! The Leonids are well known for this, having presented spectacular shows in 1833, 1866, 1966 and a longer-period storm in the years 1998-2002. No meteor storms are anticipated for the immediate future, but the heavenliest of showers will continue to delight skywatchers for all the foreseeable years to come!

*What's the best way to see a meteor shower? Check out this article to find out:*  
<http://www.nasa.gov/jpl/asteroids/best-meteor-showers>.

*Kids can learn all about meteor showers at NASA's Space Place: <http://spaceplace.nasa.gov/meteor-shower>.*



*Image credit: NASA / JPL-Caltech / W. Reach (SSC/Caltech), of Comet 73P/Schwassman-Wachmann 3, via NASA's Spitzer Space Telescope, 2006.*