



# THE STAR DIAGONAL

THE JOURNAL OF THE OGDEN ASTRONOMICAL SOCIETY



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## Meeting Announcement

Our Annual meeting of the Ogden Astronomical Society will be held on November 13, 2014 at 7:30pm at the Ott Planetarium.

## President's Message

With summer coming to an end and our list of star parties completed we can reflect on the good times we had in spite of the bad weather at some of them. Our last Antelope Island had clear skies and was well attended it was a great way to end the season.

We have an opportunity to help Wayne Sumner with his astronomy outreach in Kiribati; it is an island in the Central Pacific Ocean where he is serving an LDS mission. Wayne would like a set of Brent Watson's finder charts. I will offer a proposal at the November meeting to buy the finder charts and ship them to Wayne. The price for the charts is \$90.00 and shipping will be extra.

At the November 13th meeting we will have a 30 minute video lecture, The Center of the Milky Way, from the Great Courses Series, A Visual Guide to the Universe. With Christmas coming we can also have a discussion on the best Telescopes and accessories to buy.

Thanks,  
Lee Priest

## OAS Minutes – October 2014

The monthly meeting of the Ogden Astronomical Society was held on October 9, 2014 at 7:30pm at the Ott Planetarium. President Lee Priest conducted the meeting.

### Announcements

- Antelope Island 10/18
- Summit (Powder Mountain) 10/17

We watched a telecomm from the Night Sky Network titled "Asteroids, Ion Propulsion and NASA's Dawn Mission".

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

## Picture from Lunar Eclipse

### Space Place in a Snap: Where Does the Sun's Energy Come From?

This month, the Space Place is doing something a little bit different for our monthly column—providing you with a beautifully informative and educational poster about the mechanics of our sun. This poster accompanies our latest "Space Place in a Snap" animation. This "Snap" series is a set of narrated videos and posters that, together, explain basic scientific concepts in a dynamic new medium. Entertaining in their own right, we also wish to bring this new resource to your attention as an educational tool. In this edition, we address the important question of why our sun is so hot.



Dale Hooper

To see the video that goes along with this poster, visit: <http://spaceplace.nasa.gov/sun-heat>.

**Where does the sun's energy come from?**

Every 1.5 millionths of a second, the sun releases more energy than all humans consume in an entire year. Its heat influences the environments of all the planets, dwarf planets, moons, asteroids, and comets in our solar system.

And that light travels far out into the cosmos—just one way among billions and billions.

Create a "solar wind" that pushes against the fabric of interstellar space billions of miles away.

Allows gases and liquids to exist on many planets and moons, and causes icy comets to form fiery halos.

Powers the chemical reactions that make life possible on Earth.

**That Heat...**

How does a big ball of hydrogen create all that heat? The short answer is that it is big. If it were smaller, it would be just a sphere of hydrogen, like Jupiter. But the sun is much bigger than Jupiter. It would take 433,333 Jupiters to fill it up!

That's a lot of hydrogen. That means it's held together by a whole lot of gravity. And THAT means there is a whole lot of pressure inside of it. There is so much pressure that the hydrogen atoms collide with enough force that they literally meld into a new element—helium.

This process—called nuclear fusion—releases energy while creating a chain reaction that allows it to occur over and over and over again. That energy builds up. It gets as hot as 15 million degrees Fahrenheit in the sun's core.

The energy travels outward through a large area called the convective zone. Then it travels outward to the photosphere, where it emits heat, charged particles, and light.

Sub-atomic particles → Energy → Nuclear Fusion

Space Place in a Snap!

National Aeronautics and Space Administration

For more articles, games, and activities, visit [spaceplace.nasa.gov](http://spaceplace.nasa.gov)

## Local Views of our Recent Solar Eclipse

On Thursday afternoon October 23, 2014 I brought out my 4" refractor with the attached sun screen and I had also borrowed the OAS Coronado H-Alpha telescope to observe the partial solar eclipse. My back yard horizon is totally gone now only leaving me a significant oval above the house and between the trees through which I can point my 'scopes. At least I have a significant opening of the ecliptic about 20 degrees either side of zenith. However since this eclipse started a bit after 3:00 p.m. and ran to about 5:30 I decided that I would set up in my front driveway, that's the south side of my house. This allowed a view of the entire event and the added advantage for passers-by to 'take a peek'.



I hadn't looked at the sun in a couple of weeks and was really amazed to see that massive sunspot group almost dead center. That made the focusing even easier and the detail I was getting from both of



the telescopes was terrific. The images of the eclipse on this page were taken with my Nikon D70S and its 18 – 70 mm lens, zoomed up a bit. Not too scientific I'm afraid.. I only photographed the image on the sun screen mounted on the draw tube under the eyepiece. The image may appear a bit foreshortened because it was snapped slightly to the side of the eyepiece not directly above.

As predicted, at about 3:04 p.m. I could see the first



contact. Some of my neighbors came by to see and some of the school kids returning home stopped by too. My own kids and grandkids also stopped over. The weather was perfect, except for the few high clouds. It was a lot of fun and the questions from the 'observers' were fun to answer. When you point out a tiny sunspot and tell them "That is about the size of the Earth" the responses are varied and



more than amusing. I had a reasonably sized crowd of folks for almost the entire eclipse. By around 4:45 though the sun had reached the heavier cloud bank on the western horizon and I had to

call it quits. I didn't get to see or time the Final Contact.

I hope you guys all had as much fun with this one as we all did. I have included a few photos of the local observers from our observing station in Roy.



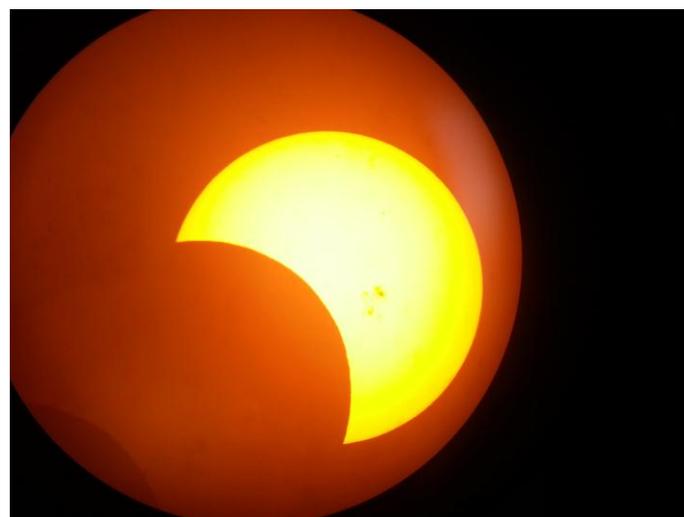
Bob T.

### More Pictures of the Eclipse

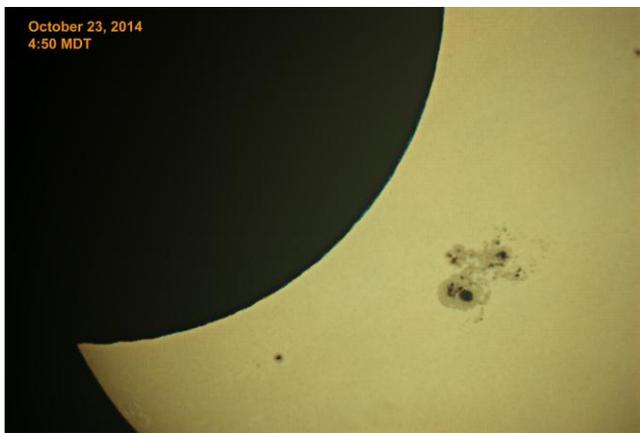


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