



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 April 9, 2015 at 7:30pm at the Ott Planetarium. Edward Allen will be our speaker. Membership cards will be handed out in the meeting and mailed afterward to those not attending.

President's Message

It's been great to shake off a little cabin fever and get out and do some observing with the mild spring we have had. We had clear skies at Burton Elementary, and Antelope Island star parties. Our Curlew weekend observing wasn't as good but it was nice to get out after being inside all winter. We have another school star party at Bountiful Jr. High Thursday April 16th, and another Curlew camp out April 17th, and 18th. Our first Antelope Island star party will be Saturday April 25th at our usual White Rock Bay spot; we need to set up solar scopes by 6:00pm. Your membership card will get you on the Island for free after 5:00pm.

Our April meeting will be Thursday the 9th at 7:30 in the Ott Planetarium. We will have Edward Allen from Weber State talking about Spectra Analysis of the Orion nebula M-42. Our May meeting will be the last formal meeting until September and I don't have anything scheduled for it yet. If someone has a topic they would like to share with the group let me know, even something for 10 or 15 minutes would be good.

I hope to see you at the meeting,
Lee Priest

OAS Minutes – March 2015

The monthly meeting of the Ogden Astronomical Society was held on March 12, 2015 at 7:30pm at the Ott Planetarium. President Lee Priest conducted the meeting.

Announcements

- Curlew Mar. 20-22
- Mar 27th Scouts at Whiterock bay.
- 4/16 – Bountiful Jr.

- 5/? – Perry Preparatory

Dr. Stacy Palen spoke to us about some of the early results from the ALMA radio telescope. The Atacama Large Millimeter/submillimeter Array is located in the Atacama Desert in northern Chile. It has only been doing science for a short time now but it is already showing some neat things.

Meeting adjourned at about 9:00.

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

Requested

- 4/16 – Bountiful Jr.
- 5/? Perry Preparatory

Private

- 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)

Curlew – Messier Marathon

Lee Priest, Doug Say and I went to Curlew Friday night (March 20th) for the 2015 Messier Marathon. The weather reports weren't making things look too promising. But, it looked like the clouds would at least cooperate for a while.

In spite of dealing with some clouds all night, the marathon went pretty well for me. I was also surprised how dry it was. Normally we end up fighting dew later in the evening, but I kept checking my table and books and they were

completely dry all night long. Since the marathon was earlier this year I was actually able to get all but one of the three tough early objects. I could see M77 with averted vision and I also could barely see M33. But I missed M74 as usual.

I was able to get through M104 (which was pretty washed out by the clouds) by midnight. Because of the clouds a lot of my notes indicated that many objects looked cometary. I needed to wait for the objects in Hydra to get somewhat higher so I was able to take a nap until a bit after 3am before catching M68 and M83 in Hydra. From there things went pretty well in spite of the continued clouds - until I got to Sagittarius. I was surprised that I made it through the Sagittarius open clusters because the clouds were getting worse. By the time I got to M20 and M8 the clouds were really starting to get bad - so I could just barely make out a bit of the nebulosity. I was able to barely see the two globulars M28 and M22 just a bit after 6am. When M22 looks bad - you know you are in trouble. At that point I could see that the clouds were telling me that I was done.

I was able to see 99 of the 110 Messier objects (I used NGC 5866 for M102). So this is the best I've done in about the past seven or eight years.

Clear skies,
Dale.



Curlew Star Party by Doug Say



I took this and many others Saturday morning at Flaming Gorge. Used a Sony a77 at 640 ISO, 135mm, f/5.6, 2.0 seconds. The red appeared and seemed to last for five to six minutes. Tony

The Cold Never Bothered Me Anyway

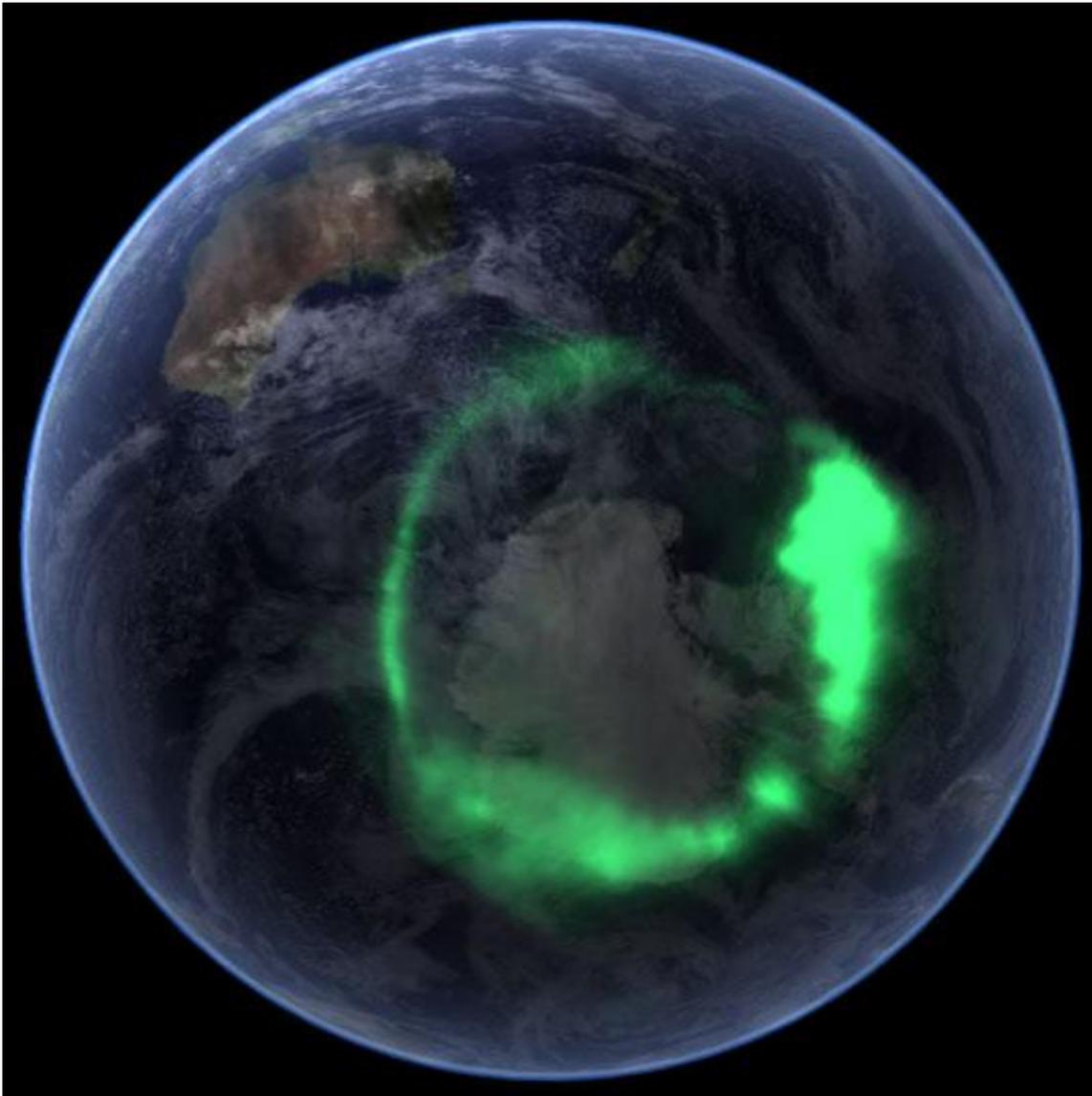
By Ethan Siegel

For those of us in the northern hemisphere, winter brings long, cold nights, which are often excellent for sky watchers (so long as there's a way to keep warm!) But there's often an added bonus that comes along when conditions are just right: the polar lights, or the Aurora Borealis around the North Pole. Here on our world, a brilliant green light often appears for observers at high northern latitudes, with occasional, dimmer reds and even blues lighting up a clear night.

We had always assumed that there was some connection between particles emitted from the Sun and the aurorae, as particularly intense displays were observed around three days after a solar storm occurred in the direction of Earth. Presumably, particles originating from the Sun—ionized electrons and atomic nuclei like protons and alpha particles—make up the vast majority of the solar wind and get funneled by the Earth's magnetic field into a circle around its magnetic poles. They're energetic enough to knock electrons off atoms and molecules at various layers in the upper atmosphere—particles like molecular nitrogen, oxygen and atomic hydrogen. And when the electrons fall back either onto the atoms or to lower energy levels, they emit light of

varying but particular wavelengths—oxygen producing the most common green signature, with less common states of oxygen and hydrogen producing red and the occasional blue from nitrogen.

But it wasn't until the 2000s that this picture was directly confirmed! NASA's Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) satellite (which ceased operations in December 2005) was able to find out how the magnetosphere responded to solar wind changes, how the plasmas were energized, transported and (in some cases) lost, and many more properties of our magnetosphere. Planets without significant magnetic fields such as Venus and Mars have much smaller, weaker aurorae than we do, and gas giant planets like Saturn have aurorae that primarily shine in the ultraviolet rather than the visible. Nevertheless, the aurorae are a spectacular sight in the evening, particularly for observers in Alaska, Canada and the Scandinavian countries. But when a solar storm comes our way, keep your eyes towards the north at night; the views will be well worth braving the cold!



Auroral overlays from the IMAGE spacecraft.

Image credit: NASA Earth Observatory (Goddard Space Flight Center) / Blue Marble team.

Editors: Download this image from

http://spaceplace.nasa.gov/partners/2015-03/2014_12_nasa_image_earth_obs.jpg .