

IO – May 2007

Issue 2007-05
Eugene Astronomical Society



Eugene Astronomical Society,
Annual Club Dues \$25, Board Members:
President: Sam Pitts - 688-7330
Secretary: Jerry Olton - 343-4758
Jacob Strandlien, Tommy Lightning Bolt
& Fred Domineack

www.eugeneastro.org

EAS is a Proud Member of:



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Io (EYE-oh) is nearest to Jupiter and fastest orbiting of the four Galilean moons

Monday- May 7th MEETING EUGENE ASTRONOMICAL SOCIETY

Held at:

"Science Factory Children's Museum & Planetarium"
2300 Leo Harris Parkway, Eugene
SW of Autzen Stadium

Imaging the Moon & Planets



By: Jeff Phillips

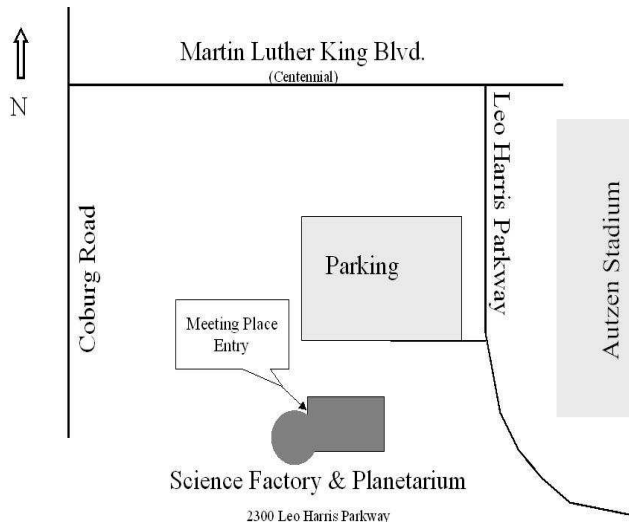
Jeff Phillips will show you the basics for capturing great images of the Moon & Planets with an inexpensive web camera and your telescope. Jeff is very knowledgeable and his images are featured in Celestron's 2007 catalogue. Don't miss this opportunity to learn webcam imaging and to enjoy some of Jeff's outstanding pictures of the moon and planets.

Rick Kang, Outreach educator for Friends of Pine Mountain Observatory, will go over the details on visiting the University of Oregon's Pine Mountain Observatory 25 miles East of Bend, Oregon. FOPMO is gearing up for another fun season of observing and is looking for volunteer tour guides. This is a great opportunity to learn about Pine Mountain Observatory's upcoming events and what is new.

Jacob Strandlien will keep you up to date with his monthly presentation on current events and news in Space & Astronomy. Jacob always has some interesting news and great images to share with the group.

Come and enjoy the wonders of the night sky with the Eugene Astronomical Society at The Science Factory's comfortable Planetarium. The meeting will begin at **7:00 PM** in the Planetarium.

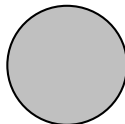
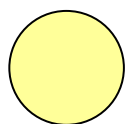
The Eugene Astronomical Society is a group of amateur astronomers dedicated to observing the night sky, learning about the Universe, and sharing that understanding and appreciation of astronomy with students and the general public. EAS has been doing astronomy education and public outreach for many years. The EAS holds club meetings on the first Monday of each month at 7 PM at The Science Factory Children's Museum & Planetarium. Guests are welcome to visit; we ask for a \$1 guest contribution. Meetings feature speakers with presentations on topics of interest to club members, current viewing opportunities, telescope help, and star party planning.



EAS thanks the Science Factory Children's Museum & Planetarium for providing the Planetarium for our monthly meetings.



Observing in May



May 2	May 9	May 16	May 23
Mercury Set 8:15 PM	Mercury Set 9:10 PM	Mercury Set 9:59 PM	Mercury Set 10:31 PM
Venus Set 11:59 PM	Venus Set 12:07 AM	Venus Set 12:12 AM	Venus Set 12:14 AM
Mars Rise 4:15 AM	Mars Rise 3:59 AM	Mars Rise 3:43 AM	Mars Rise 3:27 AM
Jupiter Rise 11:09 PM	Jupiter Rise 10:39 PM	Jupiter Rise 10:08 PM	Jupiter Rise 9:37 PM
Saturn Set 3:07 AM	Saturn Set 2:40 AM	Saturn Set 2:13 AM	Saturn Set 1:47 AM
Uranus Rise 4:06 AM	Uranus Rise 3:39 AM	Uranus Rise 3:12 AM	Uranus Rise 2:41 AM
Neptune Rise 3:04 AM	Neptune Rise 2:36 AM	Neptune Rise 2:09 AM	Neptune Rise 1:38 AM
Pluto Rise 11:26 PM	Pluto Rise 10:58 PM	Pluto Rise 10:29 PM	Pluto Rise 10:01 PM

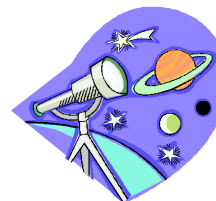
All times: U.S. Pacific Daylight Time (March 11-November 4, 2007) = UT - 7 hours. Pacific Standard Time (Nov.-March) = UT-8

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
5/01/2007	20:05	05:24	06:04	20:15	04:10	22:10
5/02/2007	21:12	05:46	06:03	20:17	04:08	22:12
5/03/2007	22:18	06:13	06:01	20:18	04:06	22:14
5/04/2007	23:22	06:47	06:00	20:19	04:04	22:16
5/05/2007	-----	07:31	05:59	20:20	04:02	22:18
5/06/2007	00:19	08:24	05:57	20:21	04:00	22:19
5/07/2007	01:08	09:28	05:56	20:22	03:58	22:21
5/08/2007	01:48	10:38	05:55	20:24	03:56	22:23
5/09/2007	02:20	11:52	05:53	20:25	03:54	22:25
5/10/2007	02:46	13:08	05:52	20:26	03:52	22:27
5/11/2007	03:09	14:24	05:51	20:27	03:50	22:29
5/12/2007	03:31	15:42	05:50	20:28	03:48	22:31
5/13/2007	03:51	17:01	05:49	20:29	03:46	22:33
5/14/2007	04:14	18:23	05:48	20:30	03:44	22:35
5/15/2007	04:40	19:48	05:47	20:32	03:42	22:37
5/16/2007	05:13	21:13	05:45	20:33	03:40	22:38
5/17/2007	05:54	22:31	05:44	20:34	03:39	22:40
5/18/2007	06:47	23:38	05:43	20:35	03:37	22:42
5/19/2007	07:52	-----	05:42	20:36	03:35	22:44
5/20/2007	09:05	00:30	05:41	20:37	03:33	22:46
5/21/2007	10:18	01:09	05:41	20:38	03:32	22:48
5/22/2007	11:30	01:38	05:40	20:39	03:30	22:50
5/23/2007	12:38	02:01	05:39	20:40	03:28	22:51
5/24/2007	13:43	02:20	05:38	20:41	03:27	22:53
5/25/2007	14:46	02:38	05:37	20:42	03:25	22:55
5/26/2007	15:49	02:54	05:36	20:43	03:23	22:57
5/27/2007	16:51	03:11	05:36	20:44	03:22	22:59
5/28/2007	17:56	03:29	05:35	20:45	03:20	23:00
5/29/2007	19:02	03:50	05:34	20:46	03:19	23:02
5/30/2007	20:08	04:15	05:34	20:47	03:18	23:03
5/31/2007	21:13	04:47	05:33	20:47	03:16	23:05

Current Occultations & Other Events

Visit Derek C Breit's web site
"BREIT IDEAS Observatory"
www.poyntsource.com/New/Paths.htm

Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often. Thanks, Derek for such a fine site and becoming an EAS member.



All times are for Eugene, Oregon Latitude 44° 3' 8"
 Longitude 123° 5' 8" for listed date

Events

MAY 2007

4	Space Day; 40th Anniversary (1967), Lunar Orbiter 4 Launch; Asteroid 2007 GQ3 Near-Earth Flyby (0.033 AU)
5	Eta Aquarids Meteor Shower Peak
7	Asteroid 1998 VO Near-Earth Flyby (0.063 AU)
8	Asteroid 1862 Apollo Near-Earth Flyby (0.071 AU); Asteroid 2000 LG6 Near-Earth Flyby (0.079 AU)
11	Lecture: The Search for Earth-like Planets - Looking for Signs of Life, Pasadena, California
12	Cassini, Titan Flyby
13	Texas Star Party, near Fort Davis, Texas
17	Comet 2P Encke Closest Approach To Earth (0.507 AU); Asteroid 2007 FK1 Near-Earth Flyby (0.077 AU) 7.2 million miles; 3rd Annual Central Nevada Star Party, Monte Cristo's Castle, Nevada; Moon within 2.5° on Mercury.
19	Asteroid 2006 WN3 Near-Earth Flyby (0.087 AU); 1st International Sidewalk Astronomy Night; Jet Propulsion Laboratory Open House, Pasadena, California. Moon within 1° of Venus.
22	Asteroid 2003 YN107 Near-Earth Flyby (0.062 AU) 5.8 million miles; 26th Annual Symposium on Telescope Science, Big Bear, California
23	Asteroid 2003 HB Near-Earth Flyby (0.089 AU)
24	45th Anniversary (1962), Aurora 7 Launch (Scott Carpenter)
28	Cassini, Titan Flyby; Comet Machholz 1 Closest Approach To Earth (0.618 AU)
31	2 nd Full Moon in a month "Once in a BLUE MOON"

AU=Astronomical Unit (92,955,800 miles)

Star Party - June 7th (Thursday): Springfield School Star Party at Church Camp in Cottage Grove, Oregon
 Rick Kang will have further details & sign-up sheet at our May 7th meeting.

Star Party - June 9th (Saturday): Mary's Peak See Page #3

Star Party - June 14-16th this is a FREE event sponsored by Oregon Parks and Recreation and includes all sorts of family activities including Nature Hikes, free Kayaking, OMSI High Desert Museum, John Day Fossil Beds, speakers (mostly SRNC speakers and one from NASA) as well as door prizes. Camping is free in the parking lot by your set up---priority is given for paid camping to attendees. Location for Star party (this is the 7th annual one) is on the side of the Prineville Reservoir at about 3500 feet and 14 miles out of Prineville all on paved roads and NO dust... Skies are just about as dark as OSP with NO light dome at all from Prineville. We have had several Eugene astronomers come in the past and they have been enthusiastic about this star party.

Join the EAS mail list→<http://eugeneastro.org/mailman/listinfo/org.eugeneastro.general>

Keep up to date on opportunities to join local amateur astronomer outings to observe the night skies. This is a great opportunity to get advice in setting up your own equipment from seasoned veterans or just to look through different scopes. They always have fun and enjoy helping newcomers.

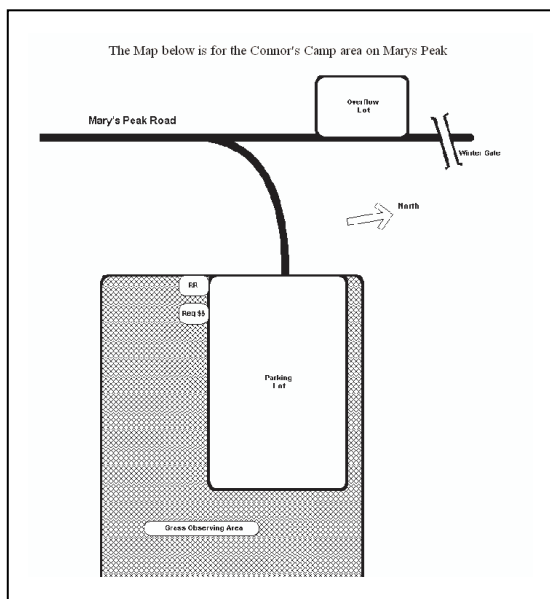
Mary's peak Star Party June 9th

5:00-7:00	Arrival and setup
7:00-8:00	Welcome, announcements, introductions, get to know people
7:30-8:00	Equipment & book swap meet ?
8:00	Sunset
8:00-9:00	Telescope tune up and help
10:00	Twilight ends

Directions:

CONNOR'S CAMP on MARY'S PEAK

To reach Mary's Peak from I-5: Take the Route 34 exit (to Corvallis) off I-5 and turn west onto Route 34. As you're approaching Corvallis (before the bridge over the Willamette) the route turns left at a stop light. Take this turn and continue on Route 34 all the way to Philomath. After passing the downtown portion of Philomath, you'll come upon an intersection (just past the wood mill to the left) indicating a continuation of Rt. 34 by turning to the left - staying straight will put you on Rt. 20 to Newport. Take this left turn, Rt 34 to Waldport, and drive for several miles. Route 34 eventually takes you on a winding journey through the Mary's Peak foothills, then leads you to a hillcrest where the Mary's Peak access road (marked by a sign to the right) begins. Turn right onto this road and drive for just over 5 miles. After this distance, you'll encounter a brief patch of gravel road; just beyond is an intersection for a road to the left. Do NOT turn on this, just continue on the paved road for another hundred yards and the Conner's Camp turn-off (marked by signs) will be seen to the right. Take this turn and continue to the parking area, which is only a few hundred yards away.



North Sky 45 Club

<http://www.nightsky45.com/>

&

Heart of the Valley Astronomers

<http://www.hvastronomy.com/>



Thank You Castle Storage

Board member Tommy Lightning Bolt was instrumental in getting a storage unit from the owners of Castle Storage for EAS to store its telescopes and equipment. EAS would like to thank Castle Storage for their generosity and support for our group. Please give them a call if you need a storage space and tell your friends. They are great people and offer secure and quality units.

Some Great Astronomy Links:

Submitted by Bill Murry

Constellations and their Stars:

<http://www.astro.wisc.edu/~dolan/constellations/>

Hypertext Textbooks (from the U of O!):

<http://zebu.uoregon.edu/text.html>

Skynews (from Canada):

<http://www.skynewsmagazine.com/>

Photo-Echoes (Click on the Lunar thumbnail in the masthead):

http://www.photon-echoes.com/lunar_images.htm

Celestia (planetarium program):

<http://www.shatters.net/celestia/index.html>

Deep Space Timeline:

<http://www.pbs.org/deepspace/timeline/>

Royal Observatory Greenwich and National Maritime Museum:

<http://www.rog.nmm.ac.uk/>

SpaceRef.com (space news as it happens)

<http://www.spaceref.com/>

European Space Agency:

<http://www.esa.int/esaCP/>

Cool Cosmos Collection (videos with a read-along script, music and more):

http://coolcosmos.ipac.caltech.edu/image_galleries/collection/

Everything You wanted to know about Quasars (from a university in the news unfortunately): <http://www.phys.vt.edu/~jhs/faq/quasars.html>

Astronomy Online (news, forums, resources):

<http://www.astronomyonline.org/>

Panther Observatory:

<http://panther-observatory.com/>

Earth and Sky:

<http://www.earthsky.org/skywatching/>

Space Wallpapers:

<http://www.spacewallpapers.net/wallpapers/>

Atlas of the Universe:

<http://www.answers.org/free/universe/>

Astronomy Headlines:

<http://www.amsky.com/headlines/>

And the best one:

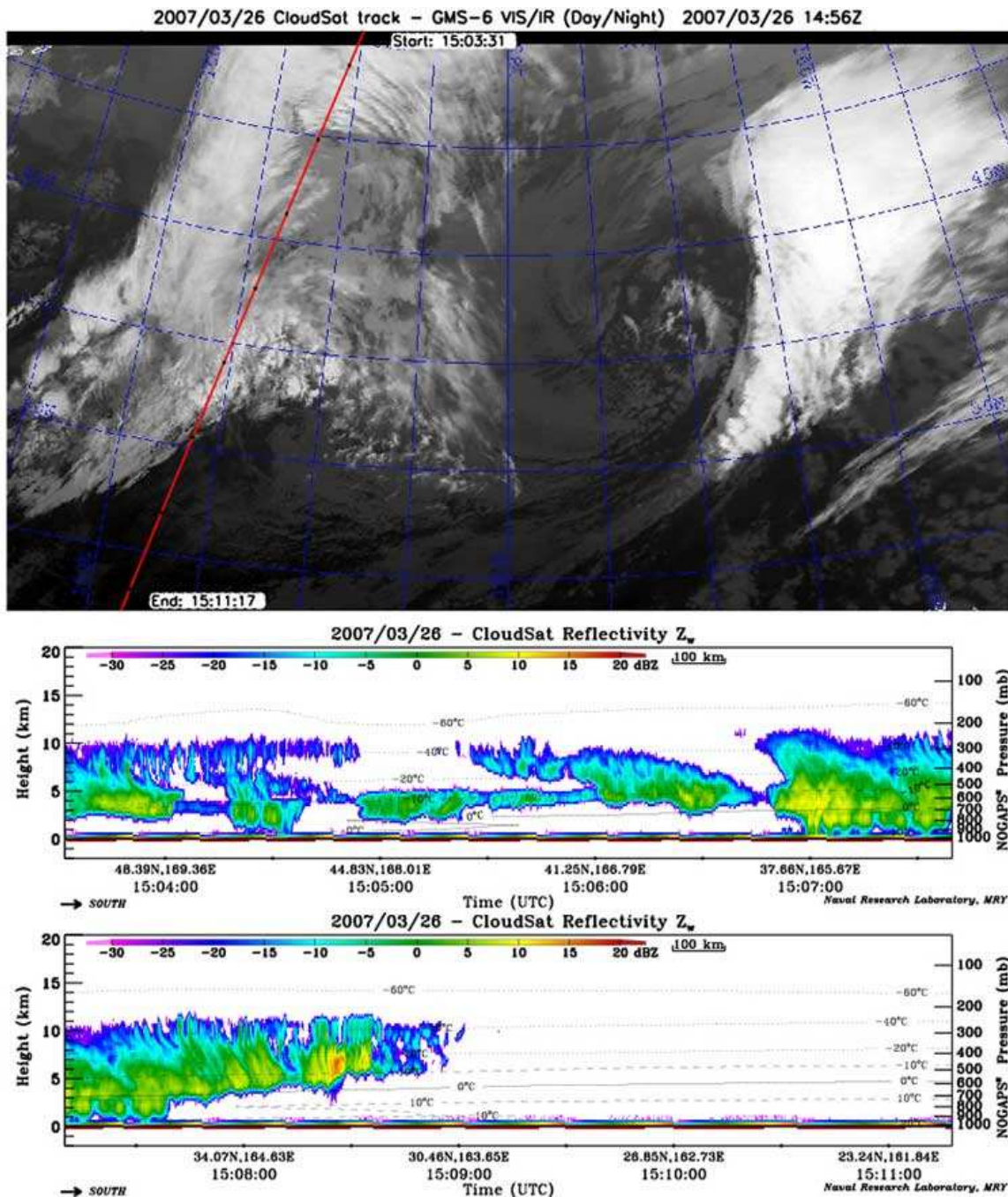
<http://n.ethz.ch/student/stadleja/>

Clouds from Top to Bottom

By Patrick L. Barry

During the summer and fall of 2006, U.S. Coast Guard planes flew over the North Pacific in search of illegal, unlicensed, and unregulated fishing boats. It was a tricky operation—in part because low clouds often block the pilots' view of anything floating on the ocean surface below.

To assist in these efforts, they got a little help from the stars. -Continued page 7-



A CloudSat ground track appears as a red line overlaid upon a GMS-6 (a Japanese weather satellite) infrared image. CloudSat is crossing the north-central Pacific Ocean on a descending orbit (from upper-right to lower-left) near a storm front. The radar data corresponding to this ground track (beginning in the center panel and continuing into the lower panel) shows a vertical cloud profile far more complex than the two-dimensional GMS-6 imagery would suggest. Thicker clouds and larger droplets are shown in yellow/red tones, while thinner clouds are shown in blue.

Actually, it was a satellite—CloudSat, an experimental NASA mission to study Earth's clouds in an entirely new way. While ordinary weather satellites see only the tops of clouds, CloudSat's radar penetrates clouds from top to bottom, measuring their vertical structure and extent. By tapping into CloudSat data processed at the Naval Research Laboratory (NRL) in Monterey, CA, Coast Guard pilots were better able to contend with low-lying clouds that might have otherwise hindered their search for illegal fishing activity.

In the past, Coast Guard pilots would fly out over the ocean not knowing what visibility to expect. Now they can find out quickly. Data from research satellites usually takes days to weeks to process into a usable form, but NASA makes CloudSat's data publicly available on its QuickLook website and to users such as NRL in only a matter of hours—making the data useful for practical applications.

"Before CloudSat, there was no way to measure cloud base from space worldwide," says Deborah Vane, project manager for CloudSat at NASA's Jet Propulsion Laboratory.

CloudSat's primary purpose is to better understand the critical role that clouds play in Earth's climate. But knowledge about the structure of clouds is useful not only for scientific research, but also to operational users such as Coast Guard patrol aircraft and Navy and commercial ships at sea.

"Especially when it's dark, there's limited information about storms at sea," says Vane. "With CloudSat, we can sort out towering thunderclouds from blankets of calmer clouds. And we have the ability to distinguish between light rain and rain that is falling from severe storms." CloudSat's radar is much more sensitive to cloud structure than are radar systems operating at airports, and from its vantage point in space, Cloudsat builds up a view of almost the entire planet, not just one local area. "That gives you weather information that you don't have in any other way."

There is an archive of all data collected since the start of the mission in May 2006 on the CloudSat QuickLook website at cloudsat.atmos.colostate.edu. And to introduce kids to the fun of observing the clouds, go to spaceplace.nasa.gov/en/kids/cloudsat_puz.shtml.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Tony Dandurand Completes Telescope Rebuild

(From EAS email list)

Finally got my 12.5" dob rebuild project (mostly) done!! Sigh. And got her out under the stars.

I know I'm not the first person to feel/say this: when you really want to do the best job you can, and haven't done this much before (made a base under a 6"F8, mostly for practice for this), and your tools are few, and skills are modest, a scope project like this can take much effort and a long time.

But, I feel good, pleased for each time I made extra effort, rethought things, sanded more, added another coat. Made plenty of mistakes, redid a part or two; I see more flaws than anyone else would, but all in all... Took Friday off for a 3 day marathon of workin' on it - and last night wheeled it out under the stars!!

Medium haze, gonna cloud up soon, atrocious seeing, a fair Oregon spring night. First light - Luna - ahh, lovely. Craters, seas, rilles, mountains, all swimming gently at 64X, then Saturn nearby. Sweet, tried 169X with 9mm BO planetary; iffy with this seeing, but nice every now & then. Then Mizar, then called it a night, was beat.

Bought parts for the wheelbarrow handles today; still need to add bigger, better feet, make the round mirror box cover, install fan battery, clean & lube Formica. That should do it! Oh yeah - get to our local DARK site for some long hours of binoviewing the spring sky (Need half dozen or so Messiers to get a certificate).

Couple of details: Astrosystems secondary kit, altitude bearings, pivot kit & secondary holder, 4 vane Destiny curved spider, Moonlite 2-speed focuser and lower truss clamps, Protostar black 'paper' in secondary and mirror box, stainless steel (mostly) hardware. Balanced for binos.

I'm thankful for the much good advice in the BOOK "The Dobsonian Telescope", as well as a couple email replies from Dave Kreig on questions about 12.5s that weren't covered in book. And for the inspiration, ideas, and thoughts from all who post here. I don't post much, mostly lurk and read; always amazed at range of ideas & methods on this ATM side of our hobby. Thanks. Though occasionally challenging & frustrating, I loved building this scope (might not be my last).



Here's a picture of it (she?, needs a name).

Nice job Tony! Can't wait to look through it.

Stay tuned → Tom Conlin is working on a huge trackball telescope.

I can't wait for clear weather and being able to see these masterpieces of creation at work from the dark skies of Eagle's Rest.