Issue 2017-04

IO – April 2017

The Newsletter of the Eugene Astronomical Society

PO Box 7264
Springfield, OR 97475

Next Meeting: *Thursday, April 20*

Deep Among the Star-Groups, Part 2

At this month's EAS meeting, Larry Deckman will present Part 2 of his "Deep Among the Star Groups" program.
Part I was fascinating and immensely popular; we had standing room only in the planetarium during the presentation. The visuals that Larry uses to illustrate his topic are stunningly beautiful, and Larry's observations about the patterns and symmetries to be found in the night sky are thought provoking and fun. Don't miss this meeting!

EAS

President
Diane Martin (541-554-8570)

Secretary
Jerry Oltion (541-343-4758)

Additional Board members
Jim Murray
John Loper
Andy Edelen

Annual Club Dues $25
Meetings at 7:00 at the Science Factory, Eugene

EAS is a proud member of the Astronomical League

First Quarter Friday Report

Amazingly enough, our First Quarter Friday on March 31 was clear! (Well... it was hazy, but adequate.) We had about a half-dozen telescopes and 30 or so interested members of the public. Objects observed included the pre-First Quarter Moon (including a lunar occultation of the star Gamma Tauri!), Jupiter, the Beehive Cluster, and a couple of impressive passes of the ISS.

The remainder of our First Quarter Fridays for 2017 are:

May 5 (80% lit)	June 2 (66% lit)	June 30 (51% lit)
July 28 (35% lit)	September 1 (83% lit)	September 29 (69% lit)
October 27 (52% lit)	November 24 (34% lit)	December 29 (87% lit)

June, and September have two FQFs each, while April and August have none; this is due to the timing of the Moon cycle.

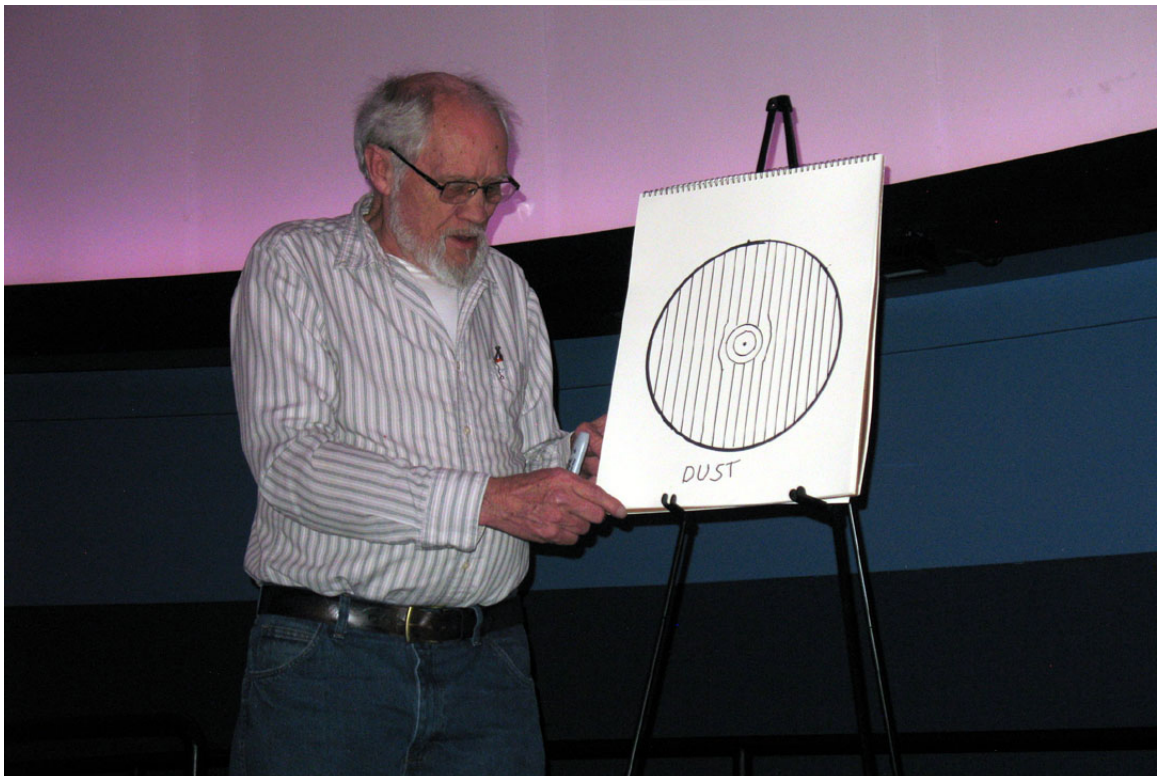
March Meeting Report

At our March 16th meeting, John Walley talked about his experience in making flats and lenses. Optical flats are used as reference planes to test the accuracy of other flats such as secondary mirrors. When one flat is placed upon another and the two are illuminated with monochromatic light (such as what you get from a neon bulb), they generate an interference pattern in the air space between them. By studying the interference pattern you can tell if your test subject is optically flat or not.

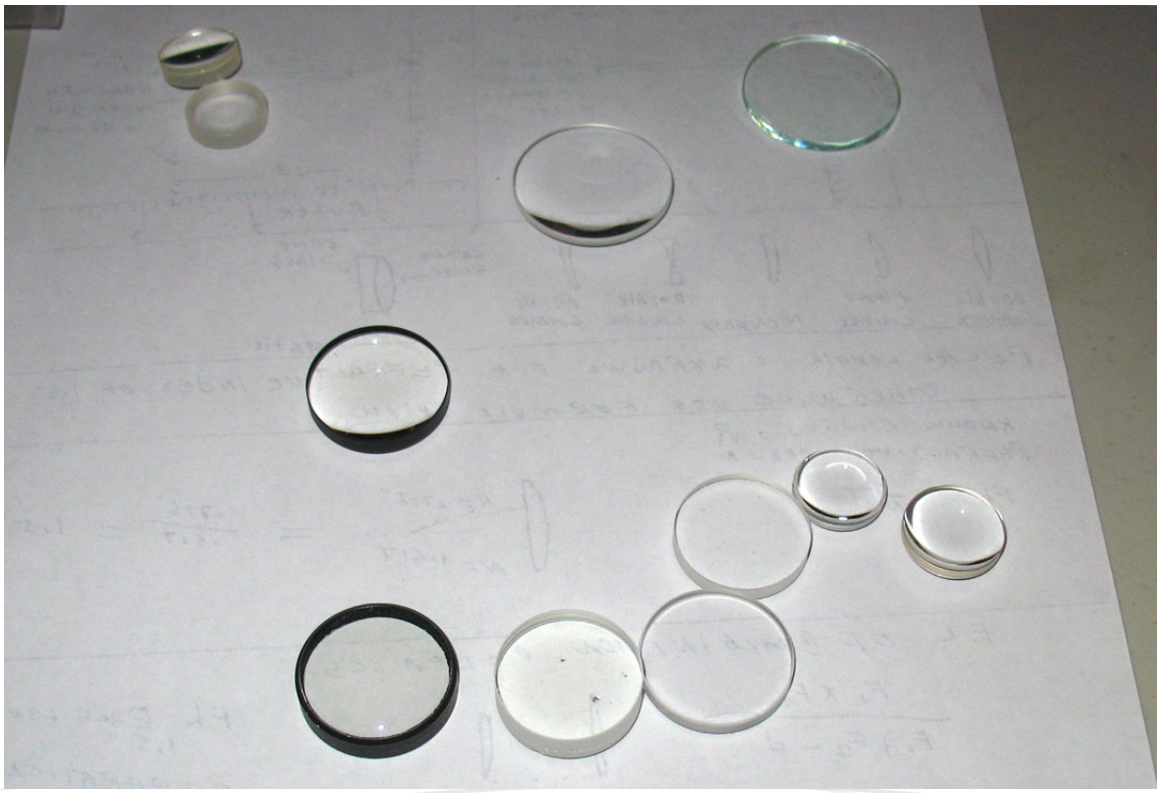
Flats are much more difficult to make than curved mirrors. Any surface tends to become curved while polishing, and the only way to keep it flat is to polish several surfaces against one another so their errors will cancel one another out. John learned to use polishing paper rather than pitch because the paper doesn't deform as readily as pitch. He produced four flats for the Lawrence Livermore National Laboratory's hydrogen fusion experiments, and they let him keep one, which he demonstrated on a new (dust free) secondary mirror brought by Jerry Oltion. It produced nicely parallel interference bands, a sign that the secondary mirror was good.

John also talked about making lenses, and showed us several lenses that he had made. He intends to assemble some of those lenses into an Erfle eyepiece, a project that Mike Curtin volunteered to help with. Look for a truly homemade Erfle -- made quite literally from scratch -- at a star party sometime in our future.

Thanks, John!



Above: John Walley demonstrates an interference pattern in an optical flat. *Below*: A series of lenses for use in eyepiece making. *Photos by Jerry Oltion*.



EAS Partners with Eugene Public Library

The Eugene Public Library has acquired two Orion StarBlast 4.5" tabletop telescopes to kick off a new telescope lending program. These hardy, user-friendly scopes have become popular among libraries after their introduction by Mark Stowbridge of the New Hampshire Astronomical Society. The Astronomical League got behind the concept and popularized them through a massive telescope giveaway a couple of years ago. The Eugene library didn't receive an AL scope, but they had enough budget to buy two of their own. Children's librarian Michele "Pigg" Green was instrumental in spearheading the campaign to acquire the scopes.

Jerry Oltion has modified them to make them more child resistant and user-friendly. Modifications include locking a zoom eyepiece in place so it can't be removed, replacing the collimation screws with tamper-proof bolts, putting strings and Velcro on all caps, cutting a Moon Port in the front dust cap, and replacing the red-dot finder with a peepsight. Jerry also wrote a new manual for the scopes, since the original Orion manual no longer applied. Pigg found rolling duffel bags that would hold the scopes safely for transport, so they're literally ready to roll.

The scopes will be officially unveiled on Monday, April 24th from 6:30 to 7:30 at the downtown library. Library patrons who wish to borrow the scopes can put their names in a hat and two winners will be drawn for first check-out.

These scopes should help introduce another generation of amateur astronomers to the beauty and excitement of the night sky. Here's hoping to see these scopes at some of our star parties!

Above: a modified "library telescope." *Photo by Jerry Oltion*.

In addition to the telescope-lending program, EAS has also contributed to the library by temporarily acquiring the use of one of the library's display cases, to promote both the hobby of astronomy and EAS itself. Ken and Diane Martin and Rick Nelson did a great job setting up the display case, as you can see from the photos below (photos by Ken Martin). Thanks to Jerry, Ken, Diane, Rick, and everyone who contributed to our library projects, and to Michele Green for giving us the space and freedom to promote our hobby!

EAS Members' Gallery

Above: The Moon, March 12th. *Photo by Alan Gillespie.*

Below: Sunset clouds at First Quarter Friday. *Photo by Bill Basham.*

Above: the Moon, March 22nd. *Below*: Jupiter and the Galilean Satellites. *Photos by Alan Gillespie.*

Sun & Moon rise and set for April

Date	Moon Rise	Moon Set	Twilight Begin	Sun Rise	Sun Set	Twilight End
4/1/2017	10:18	00:11	05:13	06:53	19:40	21:20
4/2/2017	11:10	01:18	05:11	06:51	19:41	21:22
4/3/2017	12:08	02:19	05:09	06:49	19:42	21:23
4/4/2017	13:10	03:12	05:07	06:48	19:44	21:25
4/5/2017	14:14	03:58	05:05	06:46	19:45	21:26
4/6/2017	15:19	04:37	05:03	06:44	19:46	21:28
4/7/2017	16:23	05:12	05:00	06:42	19:47	21:30
4/8/2017	17:26	05:44	04:58	06:41	19:48	21:31
4/9/2017	18:29	06:13	04:56	06:39	19:50	21:33
4/10/2017	19:30	06:41	04:54	06:37	19:51	21:34
4/11/2017	20:30	07:09	04:52	06:35	19:52	21:36
4/12/2017	21:29	07:38	04:50	06:34	19:53	21:38
4/13/2017	22:27	08:09	04:48	06:32	19:55	21:39
4/14/2017	23:23	08:43	04:45	06:30	19:56	21:41
4/15/2017		09:21	04:43	06:28	19:57	21:43
4/16/2017	00:17	10:02	04:41	06:27	19:58	21:44
4/17/2017	01:07	10:49	04:39	06:25	19:59	21:46
4/18/2017	01:54	11:40	04:37	06:23	20:01	21:48
4/19/2017	02:38	12:36	04:35	06:22	20:02	21:50
4/20/2017	03:17	13:36	04:32	06:20	20:03	21:51
4/21/2017	03:53	14:40	04:30	06:19	20:04	21:53
4/22/2017	04:27	15:47	04:28	06:17	20:05	21:55
4/23/2017	05:00	16:56	04:26	06:15	20:07	21:57
4/24/2017	05:33	18:08	04:24	06:14	20:08	21:58
4/25/2017	06:07	19:22	04:22	06:12	20:09	22:00
4/26/2017	06:43	20:38	04:20	06:11	20:10	22:02
4/27/2017	07:23	21:53	04:17	06:09	20:11	22:04
4/28/2017	08:09	23:04	04:15	06:08	20:13	22:06
4/29/2017	09:01		04:13	06:06	20:14	22:08
4/30/2017	09:58	00:10	04:11	06:05	20:15	22:09

STORAGE JUNCTION

Thank you, Storage Junction

Storage Junction has donated the use of a storage unit for us to hold our loaner telescopes when they're not in use. EAS would like to thank Storage Junction for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. Storage Junction is located at 93257 Prairie Road (at the intersection of Hwy 99 and Hwy 36, 3 miles south of Junction City) Phone: 541-998-5177

Observing In March

1st Q  Full   Last Q New 

April 3, 11:39 AM	April 10, 11:08 PM	April 19, 2:57 AM	April 26, 5:16 AM
Mercury Set: 9:25 PM	Mercury Set: 9:08 PM	Mercury lost in Sun	Mercury lost in Sun
Venus lost in Sun	Venus Rise: 5:20 AM	Venus Rise: 4:54 AM	Venus Rise: 4:38 AM
Mars Set: 10:38 PM	Mars Set: 10:37 PM	Mars Set: 10:34 PM	Mars Set: 10:32 PM
Jupiter Rise: 7:53 PM	Jupiter Set: 6:47 AM	Jupiter Set: 6:09 AM	Jupiter Set: 5:39 AM
Saturn Rise: 1:44 AM	Saturn Rise: 1:16 AM	Saturn Rise: 00:41AM	Saturn Rise: 00:12 AM
Uranus Set: 8:29 PM	Uranus lost in Sun	Uranus lost in Sun	Uranus Rise: 5:48 AM
Neptune Rise: 5:49 AM	Neptune Rise: 5:22 AM	Neptune Rise: 4:47 AM	Neptune Rise: 4:20 AM
Pluto Rise: 3:12 AM	Pluto Rise: 2:45 AM	Pluto Rise: 2:10 AM	Pluto Rise: 1:42 AM

Items of Interest This Month

APRIL

NOTE: No First Quarter Friday this month

All month: Comet 41P/Tuttle-Glacobini-Kresak cruising through Draco between the two dippers, may reach 5th mag.

Good month for asteroids Psyche and Amphitrite in Leo.

4/14 Jupiter's moons line up diagonally 10:10 PM

4/16 Europa shadow transit 7:29 - 9:57 PM

4/18 - 4/24 Mars near Pleiades.

4/21 Ganymede shadow transit 7:27 - 9:50 PM

4/22 peak of Lyrid meteor shower

4/25 Io shadow transit 8:42 - 10:54 PM

4/28 morning: Moon near-misses Aldebaran 9:35 AM (in daylight). Graze line is 13 miles south of Eugene.